



**Kwame Nkrumah University of  
Science and Technology**

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**VICE-CHANCELLOR'S  
REPORT**

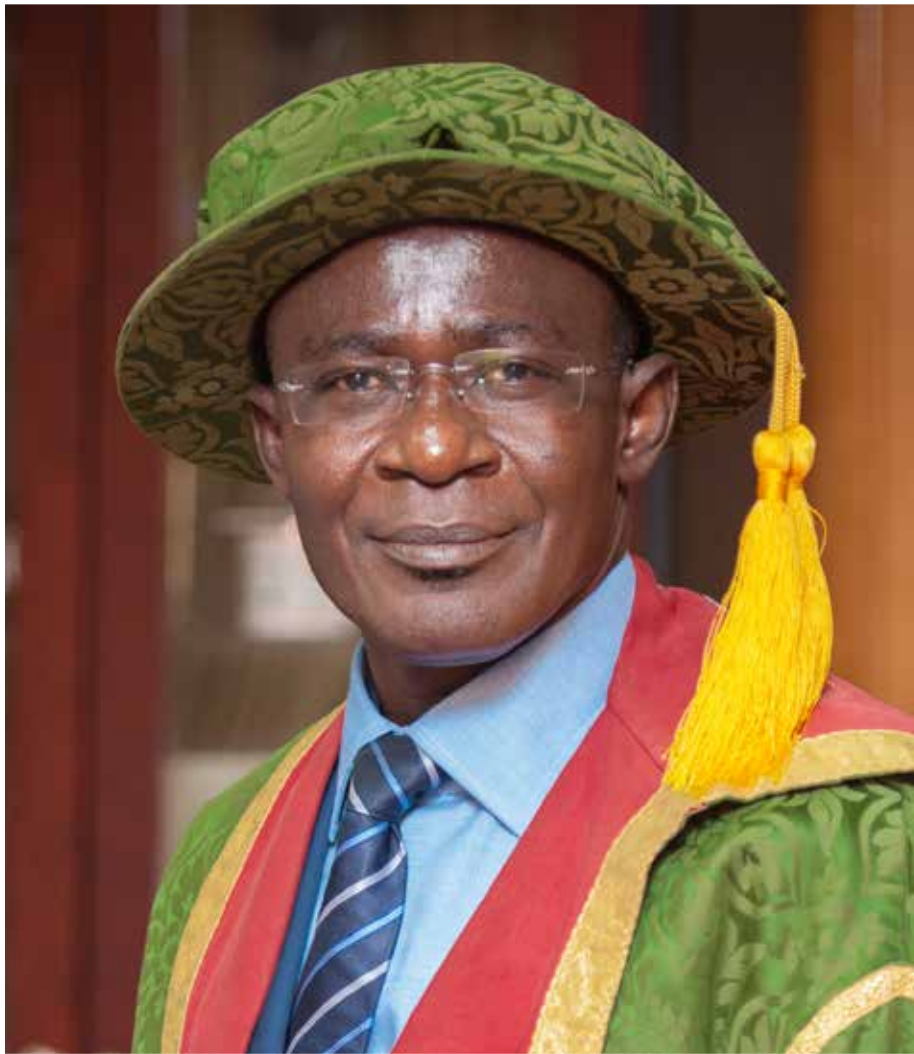
52nd Congregation  
July, 2018



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**Professor Kwasi Obiri-Danso**  
*Vice-Chancellor*

## **PRINCIPAL OFFICERS OF THE UNIVERSITY**

### **CHANCELLOR**

Otumfuo Osei Tutu II, Asantehene

### **VICE-CHANCELLOR**

Professor Kwasi Obiri-Danso

### **OTHER OFFICERS**

#### **PRO VICE-CHANCELLOR**

Professor Charles Ansah

### **REGISTRAR**

Mr. Andrew Kwasi Boateng

## **ADMINISTRATION OF THE UNIVERSITY**

### **VICE-CHANCELLOR**

**Professor Kwasi Obiri-Danso**

*BSc MPhil Kumasi PhD Lancaster*

### **PRO VICE-CHANCELLOR**

**Rev. Professor Charles Ansah**

*BPharm Kumasi MSc PhD London FWPGCP, FPSG*

### **REGISTRAR**

**Mr. Andrew Kwasi Boateng**

*Dip. Ed., BA, MPhil (Cape Coast) CEMBA, Kumasi*

### **FINANCE OFFICER**

**Mr Yaw Nimo-Baffour**

*ICA Ghana EMBA (Finance) Ghana*

### **LIBRARIAN**

**Dr. Samuel Kotei Nikoi**

*BLS Lough. UK MA Ghana PhD Lough. UK PGCTHE Aberystwyth UK*

### **DIRECTOR OF WORKS & PHYSICAL DEVELOPMENT**

**Dr. Arc. Jimmy Nkrumah**

*BSc, MSc, AGIA, PhD, DTMSI*

### **INTERNAL AUDITOR**

**Mr. Daniel Bart-Plange**

*ICA Ghana, MBA Kumasi*

### **DIRECTOR OF UNIVERSITY HEALTH SERVICES**

**Dr. Osei Kwaku Wusu-Ansah**

*BSc MB ChB Kumasi FWACS*

## **PROVOSTS OF COLLEGES**

### **AGRICULTURE AND NATURAL RESOURCES**

**Professor Steve Amisah**

*BSc, Dip. Ed. (Cape Coast) MPhil Kumasi MSc PhD Hull*

### **ART AND BUILT ENVIRONMENT**

**Professor Joshua Ayarkwa**

BSc MPhil, Kumasi, PhD Japan

### **ENGINEERING**

**Professor Mark Adom-Asamoah**

BSc, Kumasi, MSc, DIC, London, PhD, Bristol MGHLE

### **HEALTH SCIENCES**

**Professor Yaw Adu-Sarkodie**

BSc, Kumasi, BMedSci Sheffield, MBChB, Kumasi, MSc London, PhD

### **COLLEGE OF HUMANITIES AND SOCIAL SCIENCES**

**Professor Imoro Braimah**

BSc, MSc, Kumasi Dr. rer Pol Kassel-Germany

### **COLLEGE OF SCIENCE**

**Professor Ibok Nsa Oduro**

BSc, MSc Ibadan, PhD, Cranfield

### **DIRECTOR, INSTITUTE OF DISTANCE LEARNING**

**Professor I. K. Dontwi**

MSc, Moldova, PhD Ukraine, Ed. Cert., Texas CEMBA, Kumasi.



# COLLEGE OF AGRICULTURE AND NATURAL RESOURCES



## **FACULTIES AND RESEARCH CENTRES**

### **INTRODUCTION**

The College comprises three Faculties and four Research Centres. The Faculties are Faculty of Agriculture, Renewable Natural Resources (FRNR) and Forest Resources Technology (FFRT). The research centres are; Bureau of Integrated Rural Development (BIRD), KNUST Dairy/Beef Cattle Research Station, and Agricultural Research Station, Anwomaso.

### **COLLEGE ADMINISTRATION**

Provost	– Professor Steve Amisah
College Registrar	– Owusu Ansah Debrah, Esq
College Finance Officer	– Mr. Johnson Owusu
College Librarian	– Mr Kwabena Ofori Asiamah
Principal Administrative Assistant	– Mrs. Vida Boateng

### **ACADEMIC PROGRAMMES**

Academic programmes in the College are hosted by the three Faculties while the Research centres provide research support and outreach but in addition they also offer some teaching services in many instances. The Faculty of Agriculture and Faculty of Renewable Natural Resources both run composite and non-composite BSc programmes.

### **STAFF AND STUDENT STATISTICS**

In the year under review registered students at the CANR were 3,726 and distributed as follows:

Faculty of Agriculture	2,292
Faculty of Renewable Natural Resources	1152
Faculty of Forest Resources Technology	282

The number of postgraduate students stands approximately at 250.

Total number of staff at the College is 265 and are made up of 113 Senior Members, 76 Senior Staff and 76 Junior Staff.

### **RESEARCH COLLABORATIONS**

The College is making considerable efforts to support the “One Village One factory” initiative by the President of the Republic of Ghana. To this end, the CANR with support from mainstream university administration has commenced the establishment of a fruit processing factory at Mantukwa in the Brong-Ahafo Region. Installation of some crucial equipment are ongoing and a Farm Manager has already been appointed.

### **New Research frontiers**

Departments in the Faculty of Renewable Natural Resources are making considerable efforts for additional research grants. The Department of Silviculture and Forest Management has begun an aggressive collaborative drive for funds with UK Space Agency to establish a Ghanaian Remote Sensing site for atmospheric carbon columns towards developing a Pan-African carbon network. The project seeks to primarily establish a sustainable ground-based carbon remote sensing site at KNUST that produces high quality CO<sub>2</sub> and CH<sub>4</sub> columns. It also seeks to develop new local measurement and modelling capabilities associated with atmospheric CO<sub>2</sub> and CH<sub>4</sub>. The Department of Fisheries and Watershed Management continues to collaborate with several American universities and Danish universities in research and capacity building through funding

from the USAID and DANIDA. The Department also has on-going research on reservoir cage farming in northern Ghana mainly at Libga, Bolinga and Bontanga with funding from the

### **Australian Government**

Joint actions on collaborative researches with the University of Rhode Island, Purdue University, Virginia Tech and State University all in the USA, are on course and that would not only enhance research but build human resource capacity and training.

The Faculty of Agriculture continues to benefit from various grants which include the Royal Society-DFID programme grant of £1,132,162.00 for capacity building in Soil Science in collaboration with Imperial College London, INERA-Burkina Faso and FUNAAB-Nigeria. The Faculty also has a research grant of (£18,640 from The Royal Society SABMiller Exchange Programme in Soil Science in collaboration with Imperial College London and University of Aberdeen, Scotland. The AGRA project is gradually winding up after providing so much support to graduate students at Masters and PhD levels while building research capacity among students.

Its major research Centre, the Bureau of Integrated Research and Development (BIRD) is coordinating the Education for Sustainable Development in Africa (ESDA) programme. The ESDA, initiated by the United Nations University (UNU), Tokyo is designed to assist African universities to develop programmes to address sustainable development issues in Africa. The Centre has also been commissioned by the Ministry of Finance, Real Sector Division Agriculture and Agribusiness Unit to undertake an assessment of the performance of private sector investment in agriculture in Ghana.

Faculty members in the College continue to research in their fields of specialisations. The table below provides publication by the three Faculties and BIRD in the year under review.

Sr. No	Faculty/Centre	No. of Journal Publications
1	Agriculture	182
2	Renewable Natural Resources	62
3	Forestry Resources Technology	8
4	BIRD	7

Details of these can be found in this year's Quality Assurance Bulletin.

Over the past academic year seven Faculty members were promoted from Lecturer to Senior Lecturer category.

### **SERVICE TO THE COMMUNITY**

Faculty members continue to offer services to the University Community, nation and the international community. The services include membership in the various Boards and Committees (statutory and ad hoc) international agencies such as USAID, reviewers of academic and professional journals, moderators and external examiners to sister universities in Ghana and outside the country, etc.

## **FACULTY OF AGRICULTURE**

### **INTRODUCTION**

The Faculty is made up four (4) Departments and two (2) Research Centres. Because of sponsorship support from a number of international organisations, some international students from the Francophone and Anglophone West African countries as well as the East African countries have been attracted to the Faculty.

The Faculty offers both undergraduate and postgraduate courses in all the Departments.

### **DEANSHIP AND HEADSHIP POSITIONS**

The Faculty is headed by a Dean who is assisted by the various Heads of Department and a Faculty Registrar.

### **TEACHING AND RESEARCH**

The Faculty runs six undergraduate programmes: B.Sc. Agriculture (with 4<sup>th</sup> Year Options), B.Sc. Agribusiness Management, B.Sc. Agricultural Biotechnology, B.Sc. Dairy and Meat Science and Technology, B.Sc. Postharvest Technology, and B.Sc. Landscape Design and Management. A wide range of programmes are run at the graduate level by the Departments. Additionally, an MPhil Postharvest Technology programme is run at the Institute of Distance Learning.

### **FACULTY OF AGRICULTURE LIBRARY**

The Faculty Library has a seating capacity of 135 with 6 staff manning the place. The Library has e-learning resources used by both undergraduate and postgraduate students.

### **SERVICE TO COMMUNITY**

The Faculty continued to provide services to the community at both local and national levels. Staff of the Faculty served on many statutory and non-statutory committees of the University.

### **COLLABORATIONS**

The Faculty continues to enjoy sponsorship from a number of funding agencies including Alliance for Green Revolution in Africa (AGRA), West Africa Agricultural Productivity programme (WAAPP-Gambia, Ghana and Sierra Leone), International Institute of Tropical Agriculture (IITA), USAID, SAOEC-Liberia, Enhancing Higher Education for Liberia's Development (EHELD) and Intra-ACP STREAM.

### **VISITS**

A number of Senior High Schools, particularly students offering Agriculture, continue to visit the Faculty to acquaint themselves with activities at the farms and laboratories and learn more about our programmes and career opportunities.

## **DEPARTMENT OF ANIMAL SCIENCE**

### **INTRODUCTION**

The Department is made up of the Poultry and Livestock Sections, Meat Science Unit and the Nutrition and Microbiology Laboratories. The Meat Processing Unit with a capacity to process 60 metric tons of meat annually has undergone minor repair works and is currently in operation to satisfy the University community and its environs with quality and safe meat/ meat products.

The refurbished Olympio Hatchery Unit at the Department produces day-old chicks for poultry farmers in the Ashanti region and beyond.

These facilities, in addition to the Nutrition and Microbiology Laboratories are used mainly to facilitate students' practical training programmes.

### **STAFF MEMBERS**

The Department has six Professors (out of which three are on part-time and one on post retirement contract), one Associate Professor, seven Senior Lecturers (one on post retirement contract) and two Assistant Research Fellows.

### **UNDERGRADUATE, POSTGRADUATE PROGRAMMES AND SERVICES RENDERED BY THE DEPARTMENT**

During the year under review, the Department offered high-quality and challenging graduate programmes leading to the MSc, MPhil and PhD degrees in areas of specialisation such as Animal Nutrition, Animal Breeding and Genetics, Meat Science and Reproductive Physiology.

### **SERVICE TO THE COMMUNITY**

The farms of the Department still served the practical training needs of students and farmers with the 'hands-on' training models it operates. For a 6-week period during each long vacation, students are allotted to Sections of the Department's farm for training in raising of poultry, pigs, processing of milk and meat.

Several students from various levels of education including other sister Universities visited the various Sections of the Department during the year.

### **RESEARCH BY DEPARTMENT AND STAFF**

The Poultry Research Group continues to collaborate with poultry farmers to identify the potential of the local breeds of birds that can adapt to and perform well under hot and humid environmental conditions. This strategic research is in anticipation of the effects of climate change on animal production.

Members of the Department collaborated with colleagues in other Departments, Colleges of the University and Research Institutions. The Department believes such collaboration would help improve the livelihoods of smallholder farmers in a holistic way.

Members of staff, individually and in collaboration with graduate and undergraduate students, as well as international organisations continued to conduct research in the various fields of animal science. Some of the research and development activities during the period under review, focused on the following areas:

#### **PROF. D.B. OKAI**

- Agro-industrial by-products and alternative feed resources.
- Variations in the proximate composition of SBM samples.

#### **PROF. S. A. OSEI**

- False yam influence on the reproductive performance of chickens.
- Effects of dietary tomatoes on the performance of chickens.

#### **PROF. (MRS.) C.C. ATUAHENE**

- Bacteria and E. coli load on hatching eggs.

- Microbial load on hatching eggs from the farm house and cold room.

**PROF. A. DONKOH**

- Nutritional and Health Benefits of Quail (*Coturnix coturnix*) eggs.
- Studies on the protein requirements of Quails.

**PROF. E.L.K. OSAFO**

- Assessing the chemical, nutritive value and in-vitro gas production, rate and extent of degradation of 3 browses and 3 grasses.
- Assessing the chemical composition and in –vitro gas production of three grasses and three browses as feed for small ruminants.

**PROF. A.B. OMOJOLA**

- Soymilk as cow milk replacer in yoghurt manufacture: Effects on textural and consumer acceptability.
- Effects of soymilk as cow milk replacer on the keeping quality of yoghurt.

**PROF. P.K. KARIKARI**

- Pasteurization temperature and Sodium benzoate effects on the shelf life of drinking yoghurt.
- Problems associated with rabbit keeping in the Kumasi metropolis and some possible solutions.

**DR. O.S. OLYMPIO**

- Computer based analysis of poultry businesses.
- Financial losses incurred through poor management practices on poultry farms.

**DR. (MRS.) V. ATTOH-KOTOKU**

- Climate smart agricultural practices for sustainable livelihoods of vulnerable communities in Ghana.
- Assessment of Ackee and Almond foliages on the performance of Albino rats as models.

**DR. C. ANTWI**

- Developing Livestock Emission factors using the TIER 2 approach of IPCC.
- Haulm of Bambara groundnut as supplement to sheep fed a basal diet of maize stover and their methane mitigation potential.

**DR. J.A. HAMIDU**

- Hatchery residue analysis: reflection on layer breeder performance.
- Intermittent use of re3® (direct-fed microbial) on growth performance and health status of indigenous Guinea fowl keets (*Numida meleagris*).

**DR. K. ADOMAKO**

- Molecular characterisation of naked neck chickens.
- Production and reproductive performance of different naked neck chicken lines.

**DR. M.K. BOATENG**

- Nature of feed additives on the Ghanaian market.

- Improving the nutritive value of rice straw through solid state fermentation by use of *Pleurotus ostreatus*.

#### **MR W.Y. AKWETEY**

- Using some indigenous spices in meat product formulations.
- *Ocimum gratissimum* and common salt as cure ingredients in beef bacon, streaky bacons and chicken fillet.

#### **MR. DEKU**

- Yield, Nutritional and Bacteriological Quality of Milk Produced by Smallholder Cattle Farmers in Ejisu/Juaben Municipal Assembly.
- Effect of Moringa and Leucaena Leaf Meal on Milk Yield and Composition.

#### **ALHASSAN OSMAN**

- Effects of feeding graded levels of ackee leaf meal on the growth performance, blood profile and carcass characteristics of grower rabbits.
- Effects of supplementation with locally compounded concentrates and probiotics on the performance and nutrient digestibility of white Fulani cattle feed napier grass basal diet.

*\*Further details on the above can be obtained from the Department.*

#### **PUBLICATIONS IN THE 2017/ 2018 ACADEMIC YEAR**

Senior members published twelve (12) refereed journal articles, thirty-six (36) edited conference proceedings and three (3) technical reports and books.

#### **DEPARTMENT/ INDUSTRY COLLABORATION**

The Department worked closely with the animal and allied industries within and outside the University.

- The Department continually provides technical support to interns from KOSMOS Energy Innovation Centre.
- The Department took delivery of 5,020 grandparents from Akate Farms through the collaborative works of Dr. O.S. Olympio and Dr. A. Adomako with a projected average daily egg production of 30 trays of table eggs and 10,000 Day Old Chicks per month.
- Also, the MoU for public-private partnership with ASPIRE Food Group from USA to use palm weevil larvae (“akokono”) as source of protein for human consumption has been signed during the year under review, and the building to house the project has since been completed and commissioned by the Vice – Chancellor.
- The Department signed an MoU with Ghana Poultry Project in collaboration with funding support from the USDA to train poultry farmers in the Ashanti and Brong Ahafo Regions.

#### **GRANTS TO THE DEPARTMENT**

The Central Administration and the College of Agriculture and Natural Resources supported the Department with an amount of GH¢150,000.00 and GH¢100,000.00 respectively to revamp production activities. Through this support, the production (table eggs, day-old-chicks, chickens, beef, mutton etc.) and processing (sausages, meat loaf, minced meat, bacon etc.) capacities have been enhanced and the Department is now operating a store at the commercial area market.

The Department, through Professor E. L. K. Osafo (Principal Investigator), Prof. P.K. Karikari, Dr. (Mrs) V. Attoh-Kotoku, Dr. C. Antwi (Team Members) has completed 'the Development of Innovative Project-Based Mode and Modules to train dairy producers and processors in Ghana. Under the grant of One Million and Seventy-Two Thousand Seven Hundred and Seventy-two Ghana cedis (GH¢1,072,772.00) from the Council for Technical and Vocational Education Training. The Department has installed Dairy Processing equipment with a bottling unit for the processing and packaging of raw milk into milk products (yoghurt etc.) through this fund.

AMPLIFIES grant for Omega-3 eggs outreach (GH¢ 2,600)– Dr. J. A. Hamidu, Principal Investigator  
The Department has completed the nation-wide training of the members of Ghana National Association of Poultry Farmers under the GH¢ 600, 000.00 funding support from SDF-COTVET Project.

## **DEPARTMENT OF AGRICULTURAL ECONOMICS, AGRIBUSINESS & EXTENSION**

### **INTRODUCTION**

The Department offers training in Agricultural Economics and Farm Management, Agribusiness Management and Entrepreneurship, Agricultural Extension and Rural Sociology, Sustainable and Integrated Rural Development and also provides service teaching in other Departments in the University.

### **STAFF AND STUDENT NUMBERS**

The Department currently has eighteen (18) fulltime staff, comprising sixteen (16) academic staff and two (2) support staff.

On staff promotion in the year under review, one Senior Lecturer was promoted to Associate Professor, one Lecturer to a Senior Lecturer and a Snr. Admin. Asst. to Principal Administrative Assistant.

### **STUDENT NUMBERS, PROGRAMMES OFFERED, ENROLMENT AND GRADUATES/GRADUANDS**

<b>Level</b>	<b>Programme/Option</b>	<b>Current No. of Students</b>	<b>Enrolment</b>	<b>Graduates/ Graduands</b>
<i>Undergraduate</i>	Agricultural Economics option (Year 4)	12	11	11
	Agricultural Extension option (Year 4)	6	6	6
	Agribusiness Management (Year 1-4)	537	143	124
<i>Postgraduate</i>	MPhil Agricultural Economics	15	4	3
	MPhil Sustainable and Integrated Rural Devt.	21	6	8
	PhD Agricultural Economics	13	4	5
	PhD Agribusiness Management	7	3	1
	PhD Agricultural Extension	3	-	1
<b>Total</b>		<b>614</b>	<b>177</b>	<b>159</b>



The Department will run the MSc Agribusiness Management programme on the IDL platform in the 2018/2019 Academic Year.

### ACTIVITIES IN THE YEAR

Activities, including collaborations and linkages, undertaken by the Department in the year under review include the following:

Faculty in the Department continue to serve as External Examiners/Assessors for other Universities and Research Institutions such as University of Ghana, University for Development Studies, University of Cape Coast and Valley View University.

The Department will host the 2018 Conference of the Ghana Association of Agricultural Economists (GAEE) in August 2018.

In 2017, the Department collaborated with the Ghana Poultry Project (GPP) and ACIDI-VOCA to conduct “Capacity Needs Assessment for all Poultry Associations in Ashanti, Brong-Ahafo and Greater Accra Regions in Ghana”. This study was led by Dr. Robert Aidoo, Dr. James Osei Mensah, Dr. Amos Mensah and Dr. Camillus A. Wongnaa.

Dr. Robert Aidoo and Dr. James Osei Mensah led the Department to conduct the “End of Project Evaluation of the Sorghum Value Chain Project” in Ghana for Concern Universal (Ghana) and Alliance for Green Revolution in Africa (AGRA) for the period March to July 2017.

In 2018, Dr. Robert Aidoo and Dr. James Osei Mensah led the Department to collaborate with United Nations World Food Programme (WFP-Ghana Office) to “Profile and Assess the Capacities of all Farmer Based Organisations, Nucleus Farmers and Aggregators under their Enhanced Nutrition and Value Chain (ENVAC) Project” in Ashanti, Brong-Ahafo, Northern, Upper East and Upper West Regions in Ghana.

Since January 2018, Dr. Robert Aidoo has been collaborating with the United Nations High Commission on Refugees (UNHCR-Ghana office) to “Identify and Develop Value Chains for Sustainable Livelihoods for Refugee Camps in Western, Central and Brong-Ahafo Regions in Ghana”.

### PUBLICATIONS BY FACULTY IN THE DEPARTMENT

Refereed Journals Articles: 42

Conference presentations: 17

### SERVICE TO COMMUNITY

#### STAFF CONTRIBUTION TO COMMUNITY/SOCIETY

**Dr. Fred Nimoh**, Head of Department during the year under review continued to serve on the Faculty and College Boards and also the College Representative of the University Research and Conferences Committee. He was appointed as the Vice-Dean of the Faculty of Agriculture and Chairperson of the Faculty of Agriculture Inter-Programmes Academic Competition Committee.

**Mr. Maxwell T. Asiamah** continued as a member of the Research and Development (R&D) Committee in the Department.

**Dr. Robert Aidoo** continued to serve as the Coordinator of the Agribusiness Section and Chairman of the Research and Development (R&D) Committee in the Department and Patron of the Agribusiness Students Association in the Faculty of Agriculture. In 2018, Dr. Robert Aidoo was elected as the Non-Professorial Representative on the College of Agriculture and Natural

Resources Board. In 2017, Dr. Robert Aidoo was elected as the Presiding Member for the Bibiani-Anhwiaso-Bekwai Municipal Assembly for a two-year renewable term, following his nomination as government appointee to the Assembly. Since 2017, he has also been serving as a member of the Western Regional Lands Commission Board.

**Dr. Victor Owusu** continued as the Chairman of Graduate and Examinations Committee at the Department.

**Dr. J. Osei Mensah** continued as the Departmental Examinations Officer and Patron of the Agribusiness Students' association at the Faculty of Agriculture as well as member of the Graduate and Examinations Committee at the Department.

**Dr. Amos Mensah** was appointed as the Assistant Departmental Examinations Officer and also continued as the Coordinator for the Postgraduate Programme in Sustainable Integrated and Rural Development (SIRD) and member of the Research and Development (R&D) Committee at the Department. He is a member of the University Counselling Team. Dr. Amos Mensah was nominated as the Local Organising Committee Chairperson for the upcoming 2018 Conference of the Ghana Association of Agricultural Economists (GAAE) to be hosted by the Department in August 2018. He was also nominated by the Department to collaborate with BIRD to develop a proposal for the establishment of a new Master of Science Study Programme in Sustainable Development Practices. He was also appointed as an Associate Editor of the Ghana Journal of Agricultural Economics and Agribusiness (GJAEAB).

**Dr. Camillus A. Wongnaa** continued as Team Leader, Promotion of Knowledge Exchange, Creation and Sharing between Africa and Asia in Support of Africa's Sustainable Development, funded by the African Development Bank Japan Trust Fund ("JTF"). United Nations University (UNU) project on "Education for Sustainable Development in Africa (ESDA)". He also continued as member of the Graduate and Examinations Committee at the Department.

**Dr. Faizal Adams** was appointed the Departmental Representative on the Vacation Training Committee in the Faculty of Agriculture.

**Dr. Kwadwo Amankwah** was appointed as a member of the Faculty of Agriculture Inter-Programmes Academic Competition Committee.

## DEPARTMENT OF CROP AND SOIL SCIENCES

### INTRODUCTION

The Department of Crop and Soil Sciences provides students with options for specialisation in Soil Science, Plant Breeding, Plant Protection and Agronomy.

### ACADEMIC PROGRAMMES OFFERED

The Department continues to contribute to the running of the composite BSc (Agriculture), BSc (Post-Harvest Technology), BSc (Landscape Design and Management) etc degree programmes through a number of courses it offers.

Postgraduate studies leading to the award of MPhil and PhD degrees in Agronomy, Crop Physiology, Plant Breeding, Soil Science, Forage Crop Production and Management, Weed Science, Entomology, Plant Pathology, Plant Virology, Nematology, among others, are offered. The Department trained foreign and local students leading to MPhil degrees sponsored by Alliance for Green Revolution in Africa (AGRA). Some students were sponsored by the Royal

Society – DFID, West Africa Agricultural Productivity Programme (WAAPP-Gambia, Ghana and Sierra Leone), International Institute of Tropical Agriculture (IITA), USAID, SAPEC-Liberia and Intra-ACP STREAM, etc.

### **ACADEMIC STAFF MEMBERS**

The Department has 17 academic Senior Members of which two are on Part-time appointment. The Department has pressing need for Agronomists, Plant Pathologist/Plant Virologist to support programmes in the Faculty. Efforts are being made to employ lecturers in these areas of specialisation.

### **MAJOR RESEACH ACTIVITIES**

Research activities of Senior Members include the following:

#### **Prof. R.T. Awuah**

- Biological control of blackpod disease of cocoa with a yam Rhizobacterium
- Aflatoxins studies.

#### **Prof. Richard Akromah**

- Transfer and genetics of fresh seed dormancy in peanuts.
- Marker-assisted selection of ACMV-Resistant lines in Cassava.

#### **Prof. J.V.K. Afun**

- Assessment of insecticidal properties of crude ethanolic plant extracts (botanicals) for the management of legume and vegetable pests.
- Identification and management of mealybugs attacking yams in storage.

#### **Prof. J. Sarkodie-Addo**

- Bambara groundnut agronomy and environmental responses.
- Soybean Nitrogen fixation.

#### **Dr. V. Logah**

- Integrated soil fertility management under tropical cropping systems.
- Soil carbon dynamics and nutrient cycling in ecosystems.

#### **Dr. Charles Kwoseh**

- Host plant resistance studies of nematodes, fungi and viruses.
- Evaluation of phytochemicals/essential oils for plant parasitic nematodes and disease management.

#### **Dr. E. A. Osekre**

- Pest management using pesticides.
- Storage insect pests' management using botanicals.

#### **Mr. Thomas Adjei-Gyapong**

- Distribution of macro-nutrients (Fe, Ma, Zn and Cu) in the Ashanti Region.
- Simulating site specific optimal fertilizer recommendation for maize production in Ghana.

**Dr. Nana Ewusi-Mensah**

- Enhancing the quality of manure through composting.
- Biological nitrogen fixation.

**Dr. A. Opoku**

- Nutrient cycling and balances in crop-livestock systems.
- Use of natural and synthetic nitrification inhibitors to control N leaching.

**S. Duku (Mrs.)**

- Integration of forage-legume-grass.
- Plant hormones on rooting and sprouting of stem cuttings.

**Dr. Alice A. Amoah (Ms.)**

- Effect of mulching and fertilizer application on seedling growth of cocoa.
- Nursery management and the effect of alternative soil media and seedling age on establishment, growth and yield of Jasmine 85 rice variety.

**Dr. E. A. Oyewo**

- Some aspects of the biology of *Callosobruchus maculatus* on stored cowpea and its control using some selected botanicals under tropical conditions.
- Damage and loss assessment of the red flour beetle, *Tribolium castaneum* (Coleoptera, Tenebrionidae) on seven food media.

**Dr. H. O. Tuffour**

- Measurement and modelling of water and solute transport in field soil and groundwater systems.
- Spatial variability and site-specific soil management.

**Dr. Alexander Wireko Kena**

- The application of the CRISPR/Cas9 genome-editing tool in designing novel transgenic mitigation strategies to reduce the risks of gene flow using a rice-weedy rice model.
- Unraveling the genetic control of important quantitative traits of agronomic importance such as resistance to flower bud thrips (*Megalurothrips sjostedti*) in cowpea, pro-vitamin.

**PUBLICATIONS IN THE 2017/2018 ACADEMIC YEAR**

In all, Sixty-one (61) papers were published by academic staff in peer reviewed journals in the year under review.

**COLLABORATIONS**

In the year under review, the Department initiated collaboration with several bodies among which are:

- i Alliance for a Green Revolution in African (AGRA), Bill Gates Foundation and the Rockefeller Foundation, Nairobi, Kenya in the establishment of Postgraduate in Plant Breeding and Seed Science Centre.
- ii. United States Department of Agriculture (USDA).
- iii. United States International Development Agency (USAID).
- iv. Intra-ACP Mobility Scheme and training a PhD student from Ethiopia under the Scheme.

- v. Royal Society –DFID for funding PhD and MPhil students in Soil Science and the purchase of laboratory equipment including the state – of – the – art CN Analyzer as well as funding capacity building workshops.
- vi. Michigan State University in Soil health and Nematology with a number of equipment to enhance studies.
- vii. Imperial College London for exchange programme in Soil Science involving one PhD student and one academic staff of the Department.
- viii. Root and Tuber Improvement and Marketing Programme in yield assessment of 15 cassava fields.

\*Details of these can be obtained from the Department.

## RESEARCH GRANTS

The Department's various grants to support academic and research activities includes the following:

A third Cohort to train 10 students was approved for funding by AGRA at a cost of US\$383,200. Five (5) students each from Liberia and Sierra Leone benefitted on this Cohort and were trained in Plant Breeding and Seed Science. A special PhD in Soil Science degree for 20 foreign and local students was also funded by AGRA at a cost of US\$2,100,000.

Royal Society – DFID programme grant (£1,132,162.00) for capacity building in Soil Science in collaboration with Imperial College London, INERA-Burkina Faso and FUNAAB-Nigeria.

Royal Society SABMiller Exchange Programme grant (£18,640) in Soil Science in collaboration with Imperial College London and University of Aberdeen, Scotland.

A GH¢34,000 for Soil Fertility Management Technologies for efficient and profitable production of cocoyam comels and leaves from the Root and Tuber Crops Improvement and Marketing Project (a GoG/IFAD-sponsored project).

A US\$21,000 integrated management of onion leaf browning disease project from the Food and Agriculture Budgetary Support (FABS) implemented by the Ministry of Food and Agriculture, Ghana.

A US\$36,000 collaborative research in soil health with Michigan State University, USA for capacity building.

## SERVICE TO THE COMMUNITY

**Prof. R.T. Awuah** reviewed several CIRCLE application materials and African Academy of Sciences (AAS) Junior Fellows nomination materials for the AAS.

**Prof. R. Akromah** is a representative of KNUST on the Academic Board of the Graduate School of Governance and Leadership in Accra which is affiliated to KNUST and Coordinator of the AGRA (Alliance for a Green Revolution in Africa) MPhil. Programme in Plant Breeding and Seed Science, which is training students from, Ghana, Liberia and Sierra Leone in West Africa. He serves on the Centre of Specialization Management Committee (COSMAC) at Crops Research Institute (CRI) of the Council of Scientific and Industrial Research (CSIR).

**Prof. J. V. K. Afun** served as Internal Examiner for Post-graduate Theses at KNUST, a Referee to review application document for promotion to Principal Research Scientist at Cocoa Research Institute of Ghana, Member of Interview panel to appoint Research Scientist (Entomologist) at Cocoa Research Institute of Ghana, Member of Interview panel to appoint Director for Oil Palm

Research Institute of the Council for Scientific and Industrial Research, Kade. He also served as Referee to review application document for promotion to Principal Lecturer/Associate Professor from Accra Polytechnic, and Member of the National Fruit Fly Management Committee.

**Prof. J. Sarkodie-Addo** is the Dean of the Faculty of Agriculture. He reviews manuscripts for Journal of Science and Technology, Kumasi, and Journal of Ghana Science Association. He is the Coordinator of Intra-ACP scholarships in the Faculty of Agriculture, Moderator for University College of Agriculture and Environmental Studies, External Examiner for Departments of Agronomy and Horticulture, University for Development Studies and Faculty of Agriculture Education, University of Education. He also served as Interview Panel member for Research Officers, Cocoa Research Institute of Ghana, New Tafo-Akim.

**Dr. E. A. Osekre** is the College's representative on the Journal of Science and Technology, Convener of the Working Group for the Development of Post-graduate Programme on the IDL Platform, Editorial Board Member of ARTHROPODS (Journal), and Reviewer for Journal of Stored Products Research. He is the Principal Investigator for the USAID-Feed the Future Innovation Lab for the Reduction of Post-harvest Losses of Maize in Ghana.

**Dr. Charles Kwoseh** is a moderator of examination questions and marking schemes for the University for Development Studies (UDS). He is also the External Examiner for the School of Graduate Studies and the Department of Agronomy (Leader), UDS, Tamale. Reviews manuscripts for Crop Protection, Journal of Ghana Science Society and Agricultural and Food Science. He is Member of Unity Hall Council. He served in several capacities on various committees of the University.

**Dr. Vincent Logah** is currently the Head of the Department and is the Coordinator of the Royal Society-DFID grant (£1,132,162.00) for capacity building in Soil Science in collaboration with Imperial College London, INERA-Burkina Faso and FUNAAB-Nigeria. He is also PI of the Royal Society SABMiller exchange programme in Soil Science in collaboration with Imperial College London and the University of Aberdeen, Scotland. He is an External Examiner with North-West University, Mafikeng Campus, South Africa and the University of Cape Coast. He is an Assessor, appointment of Africa Science Leadership Fellows, University of Pretoria, South Africa, in addition to being an Assessor, Promotion of Senior Member from Lecturer to Senior Lecturer Rank for Sunyani Technical University. He is a Moderator of examination questions and marking schemes for the Sunyani Technical University. He was the Examinations Officer for Department of Crop and Soil Sciences, KNUST in 2017. He was a member of the Committee for Revision of Criteria for Promotions and Appointment of Academic Senior Members, KNUST and a member of the 2017 KNUST Summer School Planning Committee. Dr. Logah is a Reviewer for Archives of Agronomy and Soil Science and Journal of Soil Science and Water Conservation and a Convener of KNUST SOFIIA Capacity building workshops.

**Mr. T. Adjei-Gyapong** is a team member of Participatory Technology Development for Sustainable production of Root and Tuber Crops (Cassava, yam and Cocoyam) in the Ashanti Region – under the MOFA/IFAD Root and Tuber Crops Improvement and marketing programme (RTIMP). Supports training tour of International travel course for students of Iowa State University in Ghana. Sectional Head of the Department of Crop and Soil Sciences Research Farm, Anwomaso. Principal Investigator of a 50,000.00 DKK DANIDA Sponsored Project under the Building Stronger Universities (BSU II-KNUST) “The effect of land use changes on carbon sequestration in the

Owabi catchment”. He was Team Member of personnel undertaking studies on “The feasibility of sustaining Sustainable Land and Water Management Project (SLWMP) activities through Payment for Environmental Services (PES) Market Mechanism. The project was sponsored by the Ministry of Environment, Science Technology and Information (MESTI). He is a member of a team working on the implementation of the Ghana Soil Information System (GhaSIS), a sub component of the Africa Soil Information System (AfSIS). He worked on soil suitability assessment of portions of the KNUST Agricultural Research Station, Anwomaso for assorted crops, Enhancing KNUST-Private Partnership in developing the University.

**Dr. Nana Ewusi-Mensah** is an External Examiner and Moderator of three Polytechnics of National Board for Professional and Technician Examinations, Ghana. Supported COMPRO II (Institutionalization of quality assurance mechanism and dissemination of top quality commercial products to increase crop yields and improve food security of smallholder farmers in sub-Saharan Africa) project implementation, An IITA/KNUST Project. He is a Technical Editor of the South Asian Journal of Experimental Biology and Editorial Board Member, International Journal of Plant Physiology and Biochemistry. He is a Reviewer for the Journal of Science and Environmental Management. He was an awardee of the 2017 CIRCLE Fellowship Programme.

**Dr. Andrews Opoku** is the Principle investigator of the N2Africa Project on Rehabilitation of Non-Responsive soils in Northern Ghana. He is also the Coordinator of the Research and Product Development sub-committee of the Ghana Soil Health Consortium.

**Dr. Henry Oppong Tuffour** is the Coordinator for practical attachment training in the Department and serves as the Coordinator for marking of multiple choice questions (MCQs) in the Faculty of Agriculture. He was a member of the Committee for drafting strategic plan for the Department of Crop & Soil Sciences and also a member of the Committee responsible for drafting guidelines for student satisfaction survey & tracer studies for the Department.

## DEPARTMENT OF HORTICULTURE

### INTRODUCTION

The Department runs the B.Sc. (Agriculture) composite degree programme, the B.Sc. (Post-Harvest Technology) degree and the B.Sc. (Landscape Design and Management) degree programmes. The Department also runs postgraduate degree programmes leading to the award of M.Sc., MPhil and PhD. Diploma in Horticulture Management. MPhil Post-Harvest Technology degree programme is also run on the Distance Learning mode.

### TEACHING

Staff continued to teach courses leading to the award of degree in B.Sc. (Agriculture) programme, B.Sc. (Post-Harvest Technology) programme and B.Sc. (Landscape Studies) programme at the undergraduate level. At the postgraduate level, programmes leading to the award of MPhil and PhD degrees are offered in the regular academic stream. In addition, an MPhil (Post-Harvest Technology) and a Diploma in Horticulture Management programmes are taught in the distance learning mode by the Department in collaboration with the Institute of Distance learning

### Postgraduate Programmes (Regular Stream and Distance Learning Mode)

Programmes offered include Seed Science and Technology, Post-Harvest Technology, Landscape Studies, Vegetable Crops Production, Fruit Crops Production, Ornamental Horticulture. These

programmes continue to attract applicants from all the five public Universities, Research Institutions and Employees of various Organisations as well as the International Community. For the 2017/18 academic year, students enrolled for various PhD programmes.

### **COLLABORATIONS**

The Department has collaboration with bodies/institutions like:

- The World vegetable Centre (AVRDC)
- Federal University of Agriculture, Abeokuta, Nigeria
- University of Cape Coast, Ghana
- Higher Education Institutions in Sierra Leone, Republic of Benin and Liberia
- CSIR Institutes, Ghana
- Ministry of Food and Agriculture, Ghana

### **EXTERNALLY FUNDING RESEARCH SUPPORT AND GRANTS**

The Department, through the initiative of Dr. Francis Appiah, secured a \$23,000.00 student project sponsorship from the World Vegetable Centre.

Sponsorship was obtained for AGRA Seed Science students to pursue MPhil Seed Science and Technology.

The Department in collaboration with the AGRIMPACT Consult Ltd. constructed a 390m<sup>2</sup> tunnel (Greenhouse) for commercial Vegetable Production.

### **ON-GOING RESEARCH ACTIVITIES**

Academic Staff at the Department continue to conduct research as a key component of their core responsibilities to generate new information to enhance teaching and learning.

### **CURRENT ACTIVITIES IN DEPARTMENT**

- Rehabilitation of Orchard in the Department.
- Raising over 5,000 grafted Mango Seedlings for ADRA Ghana.
- Introducing of Diploma Programme in Horticulture Management at the IDL level.
- Introducing BSc Horticulture management at the IDL level.
- Department is preparing to host vacation Training Students of the Faculty of Agriculture during the holiday period.
- Green houses in the Department are flourishing.
- Department is hosting M. PHIL Seed Science & Technology Programme funded by USAID.

### **COMMUNITY SERVICE**

#### **Dr. F. Appiah**

- Vice President of Ghana Institute of Horticulturists.
- Member, Department of Horticulture Examination Questions Vetting Committee.

#### **Prof. Ben K. B. Banful**

- Chairman of Committee for the Development of M.Sc. Programme under NPT/NUFFIC/ CANR project.
- Member of Committee to organise the International Conference on use of INRM principles in higher education.



**Mr. P. Kumah**

- Reviewed manuscripts for ISHS Acta Horticulture, Notulae Scientia Biologica and International Journal of Agricultural Sciences.
- Member, Governing Council of Ghana Institute of Horticulturist.

**Dr. B.K. Maaleku**

- Member, Management Board of CRIG, Tafo.
- Departmental Seminar co-ordinator (Regular stream and Distance Learning).
- Chairman, Examination Questions Vetting Committee.

**P.D. Kaledzi**

- Honorary Treasurer of Ghana Institute of Horticulturists.

**Mrs. Hannah-Victoria Adzraku**

- Continued to serve as the Landscape Consultant to the University.

**Dr. Laura Atuah**

- Faculty Examinations Officer.
- Departmental Exams Officer for Regular stream and Distance Learning-B.Sc. Agric., LDM, PHT and MPhil Post Harvest Technology programmes.
- Member, Governing Council of Ghana Institute of Horticulturists.

## **DAIRY/BEEF CATTLE RESEARCH STATION**

### **INTRODUCTION**

The Station currently stocks Cattle, Sheep and Goats for research purposes. It also runs a 100-doe unit rabbitry for commercial and research purposes. Livestock production and dairy processing are the main fields of research at the Station.

### **RESEARCH**

The Station's on-going research programmes include the following:

- Effect of Supplementing Millet Mash Residue-Based Concentrate on the Growth Performance and Blood Profile of Growing Rabbits Fed Guinea Grass (*Panicum Maximum*) Basal Diet.
- Productive and Reproductive Performance of Two Rabbit Lines.
- Baseline Survey of Smallholder Cattle Farmers in Ejisu/Juaben Municipal Assembly
- Yield, Nutritional and Bacteriological Quality of Milk Produced by Smallholder Cattle Farmers in Ejisu/Juaben Municipal Assembly
- Effect of Moringa and Leucaena Leaf Meal on Milk Yield and Composition
- Yield and Composition of Milk Produced by Sanga Cows at Various Stages of Lactation
- Effects of Graded Levels of Sodium Cyclamate on Ice Cream Quality
- Keeping Quality of Drinking Yoghurt: A Case Study on KNUST Campus

### **PUBLICATIONS**

Senior Members working at the Research Station published thirteen journal papers.

## **TRAINING**

In order to inculcate entrepreneurial skills in students, the Station offered several undergraduate students the opportunity to train in livestock production and milk processing. All first year students in the Faculty of Agriculture were trained in yoghurt and ice cream preparation as part of their vacation training. Most of third year students from the Faculty did their vacation training at the Station in the course of the year under review and had the rare opportunity to learn ruminant and rabbit production as well as yoghurt and ice cream preparation. Several final year students of this University undertook their final year projects at the Station in areas such as ecto-parasites infestation, biodiversity, soil analysis, ruminant production, rabbit production and milk processing. The Station also received several tertiary and second cycle students on educational visits in the course of the year.

## **COMMUNITY SERVICE**

During the year under review the Station offered training in yoghurt preparation to some staff of the Department of Post Harvest/ Food Technology at the Koforidua Technical University. Several students and non –students were also trained in yoghurt and ice cream preparation during the year. Officers of the Station also provided extension services to some ruminant and rabbit farmers as well as milk processors in the Kumasi Metropolis and some other parts of the country.

## **INCOME GENERATION**

About Twelve Thousand Ghana Cedis (GH₵ 12,000) was generated by the Station in the course of the year. This allowed the Station to take care of its basic needs and to continue with the various research works. The Station is in the process of receiving Five Hundred Thousand Ghana Cedis (GH₵ 500, 000) from the Skill Development Fund (SDF) to develop training modules in rabbit production.

# **FACULTY OF RENEWABLE NATURAL RESOURCES**

## **INTRODUCTION**

Conscious of the nature of its contribution to the sustainable development of Ghana and the West African sub-region, the Faculty runs its academic, research and outreach programmes and projects on principles of integration, inclusiveness and environmental ethics.

The Faculty has five Academic Departments namely; Agroforestry, Fisheries and Watershed Management, Silviculture and Forest Management, Wildlife and Range Management and Wood Science and Technology.

## **ACADEMIC PROGRAMMES**

The Faculty offers undergraduate programmes namely; B Sc. Natural Resource Management and B Sc. Aquaculture and Water Resources Management. All the five (5) Departments run MSc, MPhil and PhD programmes. The various Departments continue to build synergies and collaboration with many international agencies including DANIDA and USAID, resulting in a number of research projects in the Departments.

## **FACULTY ADMINISTRATION**

The Faculty's central administration consists of the following:

Dean

– Prof. Boateng Kyereh

Senior Assistant Registrar  
Chief Administrative Assistant

– Mrs. Oluwakemi Titiloye  
– Mrs. Catherine Emelia Enchill

### **STAFF STRENGTH**

The Faculty consists of thirty-four permanent teaching staff and are made up of two Professors, five Associate Professors, 11 Senior Lecturers, one Senior Research Fellow, thirteen Lecturers, one Assistant Lecturer and one Assistant Research Fellow.

### **STUDENT POPULATION**

The Faculty has an undergraduate student population of one thousand and seventy-two (1072) and one hundred and four (104) graduate students. Females constitute about 43% of the student population.

### **INTRODUCTION OF NEW PROGRAMMES**

The introduction of new undergraduate and graduate programmes in response to changing socioeconomic needs of the country has started.

A new MPhil programme in Packaging will be rolled out next academic year whilst at least two new BSc. Programmes will soon be presented to the Planning and Resources Committee for consideration.

### **FUNDING OF RESEARCH ACTIVITIES**

The Faculty has been successful in attracting funding for its research projects with the major donors being USAID and DANIDA. Others are presented in the reports of the various Departments.

### **EXPANSION OF TEACHING AND RESEARCH FACILITIES**

The Faculty continues to expand its tree plantation on the KNUST land at Kwamo. In the current planting season 6ha has been planted to bring the total area to 31 ha. Over 25,000 teak trees have been planted and are doing well. The Faculty has established a modern integrated fish farm at the Faculty Demonstration Farm to train fish farmers, and also run short courses for professionals to update their skills. Research on tilapia strains in Ghana is on-going at the Faculty Farm with sponsorship from USAID/ Virginia Tech and Purdue Universities.

### **SERVICE TO THE COMMUNITY**

Through Department and individual activities, staff of the Faculty have been offering considerable service to local, national and the international community. These services include participation in national and international policy processes, implementation of development projects and delivery of consultancy services. Details are provided in the Departments' reports.

## **DEPARTMENT OF AGROFORESTRY**

### **INTRODUCTION**

The Department of Agroforestry provides support to FRNR in the teaching of undergraduate courses in Soil Science, Technical Communication, Agroforestry, Agriculture, Natural Resources Extension and Economics, Social and Urban Forestry. The Agroforestry option in BSc Natural Resources Management Programme continues to be attractive to students.

The Department's graduate programmes have seen steady improvements in students numbers. In the year under review a sizeable number of students registered for the MPhil/PhD programmes.

## ACADEMIC STAFF

The Department has five full time academic members of staff and one post retirement contract member. Some members of the Department provide service lectures to other Colleges and Departments.

## RESEARCH AND TRAINING

The Department is involved with several national and international universities and research institutes in research and training for advance degrees. Currently the Department has ten (10) PhD students from Council for Scientific and Industrial Research and other sister universities and non-governmental organisations; and nine (9) MPhil students. The Department has a soil and plant analytical laboratory that serves students and the scientific community within and outside the Department.

The Department has a research farm that is used for field research and practical training of students. Part of the land has been planted with cocoa, oil palm and timber species for a dual objective of income generation and practical training for our students. **Some staff research focus areas are detailed below:**

### Dr. (Mrs) Olivia Agbenyega

- Socio-economic assessments of agroforestry systems.
- Gender mainstreaming in natural resources management.

### Dr. Evans Dawoe

- Nutrient management in shaded cocoa systems.
- Agrarian communication network and consequences for agroforestry.

### Dr. Rex Barnes

- Climate change effects on vegetation distribution, composition and increment in different riparian ecosystems of the Ghanaian northern savanna.
- Optimizing productivity and perennial intercrop diversity tradeoffs in West and Central African cocoa farms.

### Dr. Akwasi A. Abunyewa

- Soil fertility improvement using multipurpose trees and shrubs.
- Reclamation of degraded lands using multi-purpose trees and shrubs.

### Dr. James Seutra Kabah

- Nutrient management in cocoa agroforestry systems.
- Nitrogen fixation and dynamics.

\*Further details on staff research can be obtained from the Department.

## COMMUNITY SERVICE

Academic staff of the Department offer services to local communities, national and international institutions as shown below:

**Dr. (Mrs) Olivia Agbenyega** is a technical team member on the Ministry of Food and Agriculture (MOFA), Root and Tuber Improvement and Marketing Programme (RTIMP), Global Environmental Facility (GEF)/promoting a Value Chain Approach to Climate Change Adaptation in Agriculture

in Ghana (ProVACCA) collaboration. She is the facilitator on the collaboration with The Energy Center and Basic Schools in Kumasi on Environmental Education and Tree Planting.

**Dr. Victor Rex Barnes** is a resource person and a facilitator on Agroforestry Practices to Enhance Resource-poor Livelihoods Project being implemented at Fiapre, Dumasua and Ayakomaso communities around Tain II Forest Reserve by FRNR, CANR in collaboration with University of Guelph with support from the CIDA. He is also a member of the Ashanti Regional Disaster Management Committee of the National Disaster Management Organisation. Dr. Barnes is also a resource person (Ecologist) for FSC/Kumasi Wood Cluster Association Forest Certification Project to Identify High Conservation Values in Six Timber Utilization Contract Forest Reserves in Ghana, and a member of National Inter-Ministerial Pesticides Technical Committee of the Environmental Protection Agency, Ministry of Environment and Science.

**Dr. Evans Dawoe** served as reviewer of Plant Biosystem, Journal of Soil Science and Environmental Management and Journal of Agric Extension and Rural Development.

**Dr. Akwasi Adutwum Abunyewa** serves as External Examiner for University of Energy and Natural Resources as well as the University for Development Studies and Kumasi Technical University. He also a Peer reviewer for international journals like Agronomy Journal and Journal of Plant and Soil Nutrients

## COLLABORATION

The Department collaborates with local and international institutions in enhancing teaching and research activities of academic staff and students. Some of these collaborations are:

- In collaboration with University of Guelph, members continue to provide support to the Ghana – Canada APERL Project funded by CIDA. The Project seeks to enhance resource poor livelihood using Agroforestry technologies. In addition, the APERL Project has provided the Department a state of the art Plant and Soil Analysis Laboratory, trained two laboratory technicians and also provide internship training at University of Guelph for MSc/MPhil Agroforestry students.
- The Department is collaborating with the Energy Center of the College of Engineering on Biofuels and also with the United Nations Environmental Programme (UNEP) on management of invasive Alien Plant species in Africa.
- The Department is collaborating with the Ministry of Food and Agriculture (MOFA), Root and Tuber Improvement and Marketing Programme (RTIMP), Global Environmental Facility (GEF)/ Promoting a Value Chain Approach to Climate Change Adaptation in Agriculture in Ghana (ProVACCA).
- The Department is collaborating with the Kumasi Centre for Collaborative Research (KCCR) in socio-economic studies in Tropical Medicine Human Behavior as determinants for coronaviralzoonoses. Dr. (Mrs.) Olivia Agbenyega is the principal investigator.

\*Further details can be obtained from the Department.

## PUBLICATIONS IN THE YEAR UNDER REVIEW

The Department had 9 peer reviewed articles published in 2017.

## **DEPARTMENT OF FISHERIES AND WATERSHED MANAGEMENT**

### **INTRODUCTION**

The Department trains students and personnel for the management of fisheries, aquaculture, watersheds and wetlands to facilitate sustainable utilization and management of fisheries and aquatic resources.

### **ACADEMIC STAFF**

The Department has one Professor who is the Provost of the College, five Senior Lecturers, three Lecturers and one Assistant Lecturer who is on study leave.

### **ACADEMIC PROGRAMMES OFFERED**

The Department continues to effectively teach the composite BSc (Natural Resources Management) degree programme through a number of courses it offers and also services other Departments in the Faculty of Agriculture and College of Engineering.

The Department continues to attract graduate students (MPhil and PhD degrees). Taught courses have been introduced for all graduate students in the Department and this is improving student intake and graduation. The number of graduate students enrolled in the Department during the year under review was 15 MPhil and 6 PhD students.

Graduate research is mainly focused on aquaculture, aquatic ecology, aquatic toxicology, climate change and impacts on livelihoods, watershed management.

### **RESEARCH FACILITIES**

The Department set up a water quality and feed analysis laboratory to improve students training and research. This was made possible through collaborations with various national and international institutions.

### **RESEARCH ACTIVITIES**

Research activities in the Department are focused in the following areas:

- Development of fish feeds using agro-by-products.
- Enhancing the delivery of farm-made feeds in the production of tilapia.
- Establishment of broodstock for tilapia and catfish fingerling production at the Department fish farm.
- Development of a hatchery protocol for the breeding and larviculture of the freshwater prawn *Macrobrachium volleihenii*.
- Assessment of aquaculture agriculture integration and aquaponics systems.

### **AWARDS AND RESEARCH GRANTS**

The Department has been awarded a number of research grants from local and international institutions and is currently undertaking the following funded research projects:

- Introducing Cage Aquaculture in Reservoirs in the Upper East Region (2015-2017) funded by World Bank through the WARF project.
- KNUST research grant for preliminary studies on the breeding and larviculture of the freshwater prawn *Macrobrachium volleihenii*.
- KNUST research grant for a study of solar powered aerators to enhance dissolved oxygen during fish culture in pond. (2017 – 2018).

- “Sustainable Fish Feed Development in Ghana” with DTU Aqua, Denmark as its Northern partner funded by DANIDA.
- USAID/AquaFish Innovation Lab project, ‘Enhancing the nutritional value of tilapia for human health’, in collaboration with University of Arkansas at Pine Bluff, USA (Ending 2018).

### **INCOME GENERATION (FISH PRODUCTION)**

The Department continues to produce tilapia for sale. Production has been modest and students and teaching assistants continue to gain a lot of practical experience in pond management, culture operations and marketing of tilapia. During the year under review the Department generated Gh¢ 3,000.00 every quarter in the year under review to support student research, field activities and maintenance of the ponds.

### **CONFERENCES AND WORKSHOPS ATTENDED BY MEMBERS**

The Department presented eight papers at national and international conferences

### **PUBLICATIONS IN THE YEAR UNDER REVIEW**

The Department has 18 peer reviewed articles and 4 conference papers.

## **DEPARTMENT OF SILVICULTURE AND FOREST MANAGEMENT**

### **INTRODUCTION**

The Department’s objectives are to train professional foresters through undergraduate and postgraduate programmes; conduct quality research into forestry and its allied sciences; carry out extension, consultancy services and other income generating activities.

### **ACADEMIC STAFF**

The Department currently has seven full-time senior members and four supporting staff.

### **ACADEMIC PROGRAMMES**

The Department provides opportunity for a specialisation in Silviculture and Forest Management in the BSc.Natural Resources Management Degree offered by the Faculty of Renewable Natural Resources.

The Department offers the following postgraduate programmes:

- 2-Year taught and research MPhil Programme in Natural Resource and Environmental Governance.
- MPhil and PhD in Silviculture and Forest Management.

### **RESEARCH ACTIVITIES**

The Department’s research programme is organised around the following thematic areas:

Thematic Area	Research Issues	Lead Scientists
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<b>Forest governance and livelihoods</b>	Good/responsible forest governance	Dr. Emmanuel Acheampong (Dr.) Mrs. Joana Beulah Echeruo
	Policy analysis	
	Stakeholder roles in forest management	
	Small and medium scale forest business management	
	Education, extension and good governance	
	Spatial knowledge management in forest fringe communities	
	Indigenous knowledge and livelihoods	
	Sustainable energy and livelihoods	
	Forest conflicts in the forest zone of Ghana	
<b>Biodiversity and forest health</b>	Invasive species	Dr. Michael Ansong Dr. Dompkeh
	Biodiversity (conservation, assessment, enhancement, etc)	
	Forest genetics	
	Tree protection (Forest pathology, entomology)	
<b>Natural forest management and plantation development</b>	Sustainable harvesting systems	Prof. Boateng Kyereh Dr. Winston Asante Dr. Michael Ansong
	Logging impacts on vegetation and soils	
	Post logging regeneration	
	Alien species invasion of forest reserves in Ghana	
	Plantation Silviculture	
	Sustainable energy (Charcoal production, firewood, biofuel)	
	Tree improvement	
<b>Climate change and land use</b>	Climate change and biodiversity	Dr. Winston Asante Dr. Emmanuel Acheampong Prof. Boateng Kyereh Ms. Veronica Nana Ama Asare Mrs. Joana Beulah Echeruo
	Climate change and livelihoods	
	Climate smart agriculture	
	Adaptation to climate change	
	Climate change mitigation	

## PLANTATION PROJECT

The Department is currently establishing cassia and teak plantations at Kwamo. So far, it has established 24.5 acres of cassia and 45 acres of teak. It intends to add 5 more acres of cassia, making a total of 29.5 acres of cassia. We also plan to do 15 more acres of teak, giving a total of 60 acres of teak. This makes it a total of nearly 90 acres of cassia and teak plantations.



## DEPARTMENT RESEARCH PROJECTS

### **Access and exclusion along the charcoal commodity chain in Ghana (AX) Project**

The Department is currently implementing the “Access and exclusion along the charcoal commodity chain in Ghana (AX) project,” funded by DANIDA with a total grant of DKK 8,876,494 over a period of 5 years. The AX Project examines how each set of actors along Ghana’s charcoal chain gain or maintain access to benefits. The Project, started in January 2015, is a collaboration among the Department of Food and Resource Economics of the University of Copenhagen, Institute of African Studies of the University of Ghana, Department of Silviculture and Forest Management of KNUST and Tropenbos International Ghana. Three PhD students are being trained under the Project, two in KNUST and one in the University of Ghana. The Project is also supporting the fieldwork of a number of MSc and MPhil students in both KNUST and University of Ghana. The Principal Investigators of the Project in KNUST are Prof. Boateng Kyereh and Dr. Emmanuel Acheampong.

### **Forests 2020 Project**

The Department is collaborating with the Resource Management Support Centre (RMSC) of the Forestry Commission (FC) of Ghana, University of Edinburgh, CarboMap UK, University of Leicester and Ecometrica Ltd., UK to implement the Forests 2020 Project in Ghana. The Project seeks to overcome technical and infrastructure limitations in low and middle-income countries to implement effective forest monitoring, evaluation, reporting and learning, in order to measure forest change and understand risks and drivers of forest loss using Earth Observation. The Project is being implemented in six countries: Ghana, Kenya, Indonesia, Brazil, Mexico, and Columbia, and is funded by the UK Space Agency (UKSPA) and Ecometrica through the UKSPA International Partnership Programme (IPP). It is a three-year project which started in December 2016 with a total grant of GBP 1,300,000. The Principal Investigators are Dr. Emmanuel Acheampong and Dr. Winston Asante.

### **Decision support for restoring ecological networks in rapidly developing biodiverse countries Project (Conditis Project)**

The project seeks to develop an online spatial decision support tool to help decision-makers in developing countries plan robust and resilient habitat networks. This tool will ultimately improve the resilience efforts of countries facing rapid land-use change challenges under a changing climate. It is a collaboration between the Department of Silviculture and Forest Management, University of Liverpool and University of York, all in the UK. Dr. Winston Asante is the Principal Investigator on the Project.

## **INSTITUTIONAL COLLABORATION**

The Department collaborated with key forest sector institutions and overseas universities on various development and research projects in the country. The Projects and Senior Members who participated on such projects are listed below.

The Department is partnering the Department of Food and Resource Economics of the University of Copenhagen, Institute of African Studies of the University of Ghana, and Tropenbos Ghana to implement a Charcoal value chain project in Ghana. This project is training two PhD students at the Department of Silviculture and Forest Management. Prof. Boateng Kyereh and Dr. Emmanuel Acheampong are the Pls.

The Department is collaborating with the Resource Management Support Centre (RMSC) of the Forestry Commission (FC) of Ghana, University of Edinburgh, CarboMap UK, University of Leicester and Ecometrica Ltd., UK to implement the Forests 2020 Project in Ghana. Dr. Emmanuel Acheampong and Dr. Winston Asante are the PIs.

The Department is collaborating with University of Liverpool and University of York, all in the UK, to implement the decision support for restoring ecological networks in rapidly developing biodiverse countries Project (Conditis Project). Dr. Winston Asante is the PI.

### **SERVICE TO COMMUNITY**

In the year under review, members of the Department rendered several services to the University, the National and International communities. Examples include the ff:

**Dr. Emmanuel Acheampong** served as an Examiner of Environmental Systems and Society for the International Baccalaureate Organisation (IBO), under their Diploma Programme.

**Prof. Boateng Kyereh** served as a member of scientific coordinating team of Tropenbos Ghana projects, responsible for the scientific direction and quality of Tropenbos supported research projects in the country.

**Dr. Winston Asante** is a facilitator for sustainable cocoa platform in the Western Region.

### **PUBLICATIONS**

During the year under review the Faculty of the Department published a total of 16 peer reviewed articles in highly reputed international journals and one book.

## **DEPARTMENT OF WILDLIFE AND RANGE MANAGEMENT**

### **INTRODUCTION**

The Department offers courses leading to the award of BSc Natural Resources Management, MPhil and PhD in Wildlife and Range Management degrees. The Department also houses the MSc programme in GIS for Natural Resources Management, a collaboration between KNUST and the Faculty of Geo-Information Science and Earth Observation (ITC), Enschede, The Netherlands. There are currently 22 graduate students in the Department with 7 pursuing PhD degrees.

### **ACADEMIC AND TECHNICAL STAFF**

The Department has a staff strength of 12 made up of a Professor (On Contract) two Associate Professors, two Lecturers with one on study leave and two part-time Lecturers. These are supported by three technicians and an Administrative Assistant.

### **RESEARCH ACTIVITIES**

The Department is presently conducting research on the biodiversity of KNUST campus titled “KNUST Biodiversity Inventory Project” with funds from the KNUST Research Fund (KReF). It is hoped that the outcome of this research will help shape the university's development policy. Dr. Evans Ewald Nkrumah has been selected to participate in the Quarry Life Project being organised by Ghana Cement Limited His research is on the “Impact of mining on foraging bats at the Beposo Quarry Site in Ghana”. Should his research get to the top, he may compete for the International Award. The Department is fully supporting his effort to get to the top. He is also a

member of a team at the College working on the “Assessment of the Contribution of Non-Timber Forest Products (NTFP) to sustainable rural and urban livelihood”.

### **CONFERENCES AND WORKSHOPS ATTENDED BY MEMBERS**

The academic staff of the Department presented five papers at national and international conferences

### **PUBLICATIONS IN THE YEAR UNDER REVIEW**

Staff publications in the year under review were 10 peer reviewed journal articles and 3 book chapters.

## **DEPARTMENT OF WOOD SCIENCE AND TECHNOLOGY**

### **INTRODUCTION**

The Department contributes to the teaching of several undergraduate courses in the Faculty of Renewable Natural Resources’ composite programme in Natural Resources Management and also undertakes graduate Programmes in MSc., MPhil. and PhD in Wood Science and Technology with focus on timber engineering, furniture design and production. New programmes being developed for the Department, are Packaging Technology, Wood Industry Business, Coating Technology and Wood Recycling Technology together with a Supervised Internship Programme (Practical Training) during the long vacation.

### **STAFF**

The Department has two Associate Professors with one of them on post retirement contract, one Senior Lecturer and four Lecturers out of which one is on post retirement contract and two on parttime. These academic staff are supported by two technical staff and one administrative Assistant.

### **RESEARCH BY STAFF**

Staff in the Department continue to undertake research in their various areas of specialisation. Some of these research is listed below:

#### **Prof. Charles Antwi-Boasiako**

- Microbiology and Pathology of forest timber/wood species.
- Plant/Tannin adhesive production, formulation and Chemistry for the Wood Composite and Leather Industries.

#### **Mr. Jonny Osei Kofi**

- Microbiological applications in wood preservation.
- Investigations into non-timber industrial materials as supplements to traditional timber species.

#### **Prof. K. Frimpong-Mensah**

- Forest Policy on Wood Residue Utilization in the timber Industry.
- Identification of durable Lesser Utilized Species for Construction (Bridges, Timber Frame Houses).

**Dr. K. A. Afrifah**

- Biodegradable and compostable wood plastic composites (WPCs). WPC properties and applications in construction, automobile and packaging industries.
- Optimization of formulations and processing variables of composites with design of experiments (DOE).

**Dr. Kwadwo Boakye Boadu**

- Timber Furniture Technology – Joint Strengths.
- Mechanical properties of Lesser Known/Utilized Timber Species.

\*Further details on the above can be obtained from the Department.

**PROJECT FUNDING**

A proposal on Bamboo for affordable Housing Project submitted to IITO has been approved awaiting decision for funding. Collaborating institutions for the project are Ministry of Science and Technology and CSIR-FoRIG

**SERVICE TO COMMUNITY**

Members of the Department provide support service to the Community in various ways some of which are detailed below:

**Prof. C. Antwi-Boasiako**

- As the Head of Department, he supervises the administrative and academic issues concerning the Staff and students of the Department. Provision of chemicals and equipment for Chemical Laboratory and Wood workshop and is also the first and current Secretary of the Moringa Association of Ghana (MAG).
- Patron: Renewable Natural Resources Students Association (RENARSA) and RENARSA Christian Fellowship (RCF), AROCHA, KNUST.
- Member and Secretary: The International Moringa Association (IMA) and Moringa Association of Ghana (MAG) respectively.

**Mr. J. Osei Kofi**

- Team Leader – Tannin Adhesive Project (DWST-FRNR) with Bern University of Applied Sciences, Biel, Switzerland (2009 to date).
- Team Member, Organisation of Disabled Peoples Organisations (DPOs) to participate as frontline partners in the Disability Project of SMS with respect to capacity building, identifying research sites, allocating research students to PWDs for field assistance.
- Team member, Integrated Natural Resource Management (INRM) project, NUFFIC NPT Project 278 at College of Agriculture and Natural Resources:

**Prof. Nana K. Frimpong-Mensah**

- Board Chairman, Oweriman Schools, Domeabra, – Ashanti-Akim.
- External Moderator/Examiner, Department of Renewable Natural Resources, UDS, Tamale.
- Member, National Accreditation Board panel on College of Technology Education programme on Wood Science and Technology.
- Member, Board of Directors of GACON, an Environmental NGO.

**Dr. K. A. Afrifah**

- Member, Institute of Professional Foresters, Ghana.
- Member, Society of Plastic Engineers.
- College Examination Officer, College of Agriculture and Natural Resources.

**Dr. Kwadwo Boakye Boadu**

- Examinations Officer, Department of Wood Science and Technology.

**SEMINARS, CONFERENCES AND WORKSHOPS**

Staff attended three international conferences in the year under review.

**PUBLICATIONS**

The Department had 9 peer reviewed articles published in the year under review.

## **FACULTY OF FOREST RESOURCES TECHNOLOGY (FFRT)**

**INTRODUCTION**

The Faculty of Forest Resources Technology (FFRT) runs its programme in close collaboration with industry and also contributes to the country's forestry sector's effort in exploring new frontiers in ecotourism and forest recreation.

**DEPARTMENTS**

There are four Departments:

Department of Ecotourism and Forest Recreation

Department of Wood Processing and Marketing

Department of Land Reclamation and Rehabilitation

Department of Social Forestry

**STAFF STRENGTH**

The Faculty has eleven permanent academic staff. They are made up of one senior lecturer, one senior research fellow, eight lecturers and one assistant lecturer. The academic staff is supported by one administrative and one technical staff.

**STUDENT POPULATION**

The Faculty has one undergraduate programme with a student population of 281 distributed as follows:

Year	Number of Students		Total
	Female	Male	
One	37	81	118
Two	18	48	66
Three	23	46	69
Four	1	27	28
Total	79	202	281

## **THE BROSANKRO FIELD TRAINING STATION**

Located at the fringes of the Tinte Bepo Forest Reserve, the Brosankro Field Training Station is the Faculty's out-station for training and research. Besides FFRT, the facility is used by Departments in the Faculty of Renewable Natural Resources, Land Economy, University of Energy and Natural Resources and the University for Development Studies for practical training schedules ranging from a full semester to day-return visits. However, the Facility is deteriorating and needs urgent repairs.

## **OUTREACH STUDENT DRIVE PROGRAMME**

The Science, Mathematics and Technology (SMAT) Outreach Programme promotes the importance and study of natural resources and the environment, and the Faculty's visibility by interacting with some senior high schools within the country.

## **DEPARTMENT OF ECOTOURISM AND FOREST RECREATION**

### **INTRODUCTION**

The Department of Ecotourism and Forest Recreation contributes to the Bachelor of Science in Forest Resources Technology Programme by offering an option for specialisation in Ecotourism and Forest Recreation. Currently seventeen students are specializing in this option.

### **ACADEMIC STAFF**

Academic staff strength of the Department is five, made up of four full-time and one part-time Lecturer.

### **COLLABORATIONS AND LINKAGES**

The Department continues to link up and collaborate with various institutions and stakeholders for purposes of research and training of students. One key stakeholder of the Department is the Wildlife Division of the Forestry Commission through whom it works closely with the following Wildlife Protected Areas: Mole National Park, Kakum National Park, Shai Hills Resource Reserve, Bomfobiri Wildlife Sanctuary and Kumasi Zoological Gardens. Other key stakeholders are Ghana Tourist Authority, district assemblies all over the country and non-governmental organisations.

### **SERVICE TO THE COMMUNITY**

**Dr. E. Acquah** continues to serve as a member of both the Quality Assurance sub-committee of the College of Agriculture and Natural Resources and Central University Admissions Committee. He is also editorial board member, International Journal of Wildlife and Endangered Species and a reviewer for Human Dimensions of Wildlife Journal. **Mrs. L. A. Gyiele** is the Coordinator for the SMAT Outreach Programme for the Faculty and embarks on outreach activities in senior and junior high schools in the Kumasi Metropolis and beyond. **Dr. C. A. Nsor** is a reviewer for the Journal of Applied Life Sciences International.

### **FUTURE PROJECTION**

The Department plans to develop and roll out a postgraduate programme and short-term courses for the ecotourism industry players such as tour guides of wildlife protected areas. It also seeks to deepen relationship with wildlife protected areas and other ecotourism organisations in the country.

## DEPARTMENT OF LAND RECLAMATION AND REHABILITATION

### INTRODUCTION

The Department seeks to promote land rehabilitation education and research through a search for innovative theories and practices to strike a balance between land use and ecological restoration, remediation and conservation. Currently most students in the third and final year of the Forest Resource Technology Programme are specializing in the Department.

### ACADEMIC STAFF

The academic staff strength of the Department is three out of which one is on post retirement contract.

### SERVICE TO THE COMMUNITY

The Department, during the year under review maintained its woodlot project at the Anwomaso Research Station as part of the activities to restore the ecological integrity of the disturbed landscape due to sand mining activities. **Mr. O. O. Antobre** is a member of the SMAT Outreach Programme. **Dr. Nat Owusu-Prempeh** is a member of the team of Advisors for the WASCAL Climate Change and Land-use PhD programme. **Dr. Daniel E. K. A. Siaw** is reviewer for the Open Journal of Forestry, Scientific Publishing and a member of national jury for the Quarry Life Award, an international research competition for education and promotion of biodiversity in quarries.

## DEPARTMENT OF SOCIAL FORESTRY

### INTRODUCTION

The Department focuses on social forestry education with emphasis on conservation, community participation and forest-based livelihoods.

### STUDENT POPULATION

Student enrolment for the year under review is twenty-four made up of seventeen males and seven females.

### ACADEMIC STAFF

The Department has two lecturers and relies on academic staff from other Departments of the Faculty for support in carrying out its teaching and supervision activities

### SERVICE TO THE COMMUNITY

**Dr. Samuel Boadi**, is working with the Kumah Farms at Anwomaso to enable the Department and the Farm team up to develop short courses in: (i) bee-keeping; (ii) snail rearing; (iii) grasscutter rearing; and (iv) mushroom farming to support the livelihood of interested community members and KNUST students. Dr. S. Boadi is currently the Faculty's Examinations Officer, a member of the SMAT Outreach Programme and the Assistant Coordinator for the Students' Industrial Attachment Programme. Dr. Paul Osei-Tutu serves a member of the Quality Assurance Sub-Committee of the College of Agriculture and Natural Resources. The Department has an ongoing community service partnership with the Ayeduaase Basic and JHS school for environmental education and tree planting on the school compound. The Department has partnered Tropenbos Ghana to develop a manual for integrating environmental and natural resource issues into Local

Government Medium Term Development Plans (MTDPs). It has trained five selected district assemblies on how to capture environmental and natural resource issues in their MTDPs.

## **DEPARTMENT OF WOOD PROCESSING AND MARKETING**

### **INTRODUCTION**

The Department of Wood Processing and Marketing offers training and research into wood technology and marketing related issues.

There are currently twenty-five (25) students in the Wood Processing and Marketing option in the third and fourth year of the Forest Resource Technology Programme.

### **ACADEMIC STAFF**

The Department has one permanent academic staff, and three part-time lecturers and is thus stressed in terms of full time staff. It and has embarked on a serious manhunt for full-time lecturers.

### **SERVICE TO THE COMMUNITY**

Dr. (Mrs.) S. Adu is a team member of the SMAT Outreach Programme.

### **COLLABORATIONS AND LINKAGES**

The Department collaborates with the following institutions:

CSIR – Forestry Research Institute of Ghana (FORIG).

Forestry Commission Training Centre (FCTC).

Timber Industries Development Division (TIDD) – FC.

Furniture and Wood Products Association of Ghana (FAWAG).

Resource Management Support Centre (RMSC) – FC.

Environmental Protection Agency (EPA).

The collaboration is mainly to produce practically-oriented graduates for industry.

## **BUREAU OF INTEGRATED RURAL DEVELOPMENT (BIRD)**

### **INTRODUCTION**

The Bureau of Integrated Rural Development engaged in its core mandate of research, teaching, consultancy and extension services to fulfil the mission of providing an interface between the University and rural communities.

### **STAFF/STAFF DEVELOPMENT**

During the year under review, one Research Fellow was appointed to the Bureau bringing the core staff to eight (8) comprising one (1) Associate Professor, two (2) Senior Research Fellows, three (3) Research Fellows and two (2) Assistant Research Fellows. Two Research Fellows are at advance stages of doctoral programmes. There are four (4) administrative staff including a Principal Administrative Assistance and Accounting Assistant.

### **TEACHING/ SUPERVISION OF STUDENTS PROJECT WORK/THESIS**

The academic staff of BIRD continued to dedicate about 20% of their time to teaching and supervision of students' project works in various Departments within the University.



## **INTERNAL AND EXTERNAL EXAMINATION**

Professor Sarfo-Mensah, Nana Dr S. E. Edusah and Dr. Mrs. Ernestina Fredua Antoh continued to act as an External and Internal Examiners for the Institute of Development Studies (IDS), University of Cape Coast and the Centre for Sustainable Development (CESDEV) at the University of Ibadan, Nigeria and graduate students within CANR.

The academic staff served on various KNUST boards and committees, professional associations and other national and co-operate organisation boards.

The Bureau's activities covered the following:

## **RESEARCH AND CONSULTANCIES**

The academic staff of BIRD continued to undertake studies on topical sustainable development research areas. These have included climate change and vulnerabilities in Ghana, farmers' socio economic advancement, health and health inequalities in Africa and gender analysis of improved rice technologies in Ghana.

BIRD has been commissioned by the Ministry of Finance, Real Sector Division Agriculture and Agribusiness Unit to undertake an assessment of the performance of private sector investment in agriculture in Ghana. The purpose of the study is to enable the Ministry gain in-depth understanding and appreciation of the real contribution of the private sector to the development of agriculture in the country, particularly its contribution to GDP growth in the sector. The Bureau has prepared a related policy brief for the Client.

The Bureau was also engaged to undertake the following contract research;

Guinness Ghana Brewery Limited – BIRD was awarded consulting services for follow-up studies on *Impact assessment of Local Raw Material Sourcing*.

WINROCK International /USAID Feed the Future Ghana Agriculture and Natural Resource Management Project – Baseline studies on a five-year USAID funded programme for the Northern, Upper East and Upper West Regions of Ghana. Core staff are Prof. Paul Sarfo-Mensah, Dr. (Mrs) Ernestina Fredua Antoh and Mr Kwaku Obeng Okrah.

## **TECHNICAL REPORTS ISSUED**

USAID Feed the Future Ghana Agriculture and Natural Resource Management Project: Baseline Survey.

Farmers' Economic Advancement Through Seedlings: Rubber Seedlings Value Chain and Market Study.

Assessment of the Performance of Private Sector Investment in Agriculture in Ghana.

## **EDUCATION FOR SUSTAINABLE DEVELOPMENT IN AFRICA (ESDA)**

BIRD is coordinating the Education for Sustainable Development in Africa (ESDA) programme. The ESDA was initiated by the United Nations University (UNU), Tokyo to assist African Universities to develop programmes to address sustainable development issues in Africa. The ESDA-KNUST first workshop took place from 10-13<sup>th</sup> March, 2018 at ICIL. Papers were presented and all the West African Universities involved in the ESDA were represented. The two programmes under the ESDA at KNUST – the MPhil programme in Sustainable Integrated Rural Development in Africa (SIRDA) and the New Generation Researchers' (NGR) programme – are ongoing. Dr. Nana Edusah is coordinating the programme.

## **INTERNATIONAL CENTRE FOR INNOVATIVE LEARNING (ICIL)**

The ICIL which was built with funding support from the Royal Dutch Government under the NPT/GHA/088 and NPT/GHA/278 programmes continues to provide facilities for training, workshops and short courses. Apart from the various KNUST Departments that use the facilities, other institutions and organisations including the Ghana Law School use the facility for their programmes.

## **PUBLICATIONS**

Seven (7) papers in referred journals and conference proceedings were published out of research.

## **CONFERENCE PAPERS/ATTENDANCE**

Senior members presented eleven (11) papers at conferences. Details of publications and conferences attended can be found in the University Quality Assurance Bulletin for the year under review.

## **COLLABORATION**

BIRD collaborated with the some national and international institutions and organisations on various tasks. Among these were:

- Ministry of Local Government and Rural Development (MLGRD)
- United State Agency for International Development (USAID) Accra Office
- University of Rhode Island, USA

## **THE ASSESS PROJECT**

The Bureau continued to lead the University in the implementation of a 5-year USAID Funded partnership Project, the Analytical Support Services and Evaluations for Sustainable Systems in West Africa (ASSESS-WA). The project which commenced in April 2014 and was scheduled to end in March 2019 has been given a No Cost Extension for another two years. ASSESS is responsible for evaluations of programs in the US Government's West Africa Regional Economic Growth (REG) portfolio in Agriculture, Environment, Trade and Energy. ASSESS-West Africa is managed by the United States Department of Agriculture (USDA), two Land Grant Universities in United States of America (University of Rhode Island, URI, and Delaware State University, DSU) and Kwame Nkrumah University of Science and Technology, (KNUST), Kumasi. Prof. Paul Sarfo-Mensah is the Principal Investor of the Project on KNUST Campus with counterparts at URI and DSU.

## **UP COMING EVENTS**

Dr Albert Arhin and Dr. Mrs. Ernestina F Antoh, in collaboration with researchers from the Universities of Liverpool and De Montfort, United Kingdom are leading a research project on children in cocoa-growing communities in Ghana

## **BIRD TO DEEPEN ENGAGEMENT OF KNUST WITH SURROUNDING COMMUNITIES**

The Bureau (BIRD) is set to undertake a project aimed at deepening the engagement of KNUST in the approximately twenty communities surrounding the University. The primary goal of the project is to advance the University's mission and the Strategic Plan of undertaking community engagement to improve quality of life. The project aims at transferring innovations and other services available at the university to promote the socio-economic development of the surrounding communities of KNUST.

## **REFURBISHMENT AND PROCUREMENT**

Through BIRD's Internally Generated Funds, the following among others were acquired during the year under review;

Toyota Mini bus

Gen-set

Laptops

Major refurbishment and Paintings

Laying of pavement blocks at the forecourt

Modern furniture and window blinds, air conditioners in some offices,

Facelift of washrooms

Replacing of BIRD Logo

## **VISITS TO BIRD**

ASSESS Partners paid a working visit to BIRD. The visit was used to review and plan for ASSESS activities.



# COLLEGE OF ART AND BUILT ENVIRONMENT

## INTRODUCTION

The College strives to achieve its vision through excellence in teaching, research, and extension of knowledge.

## ADMINISTRATION OF THE COLLEGE

The College administered the following Officers:

**Provost:** Professor Joshua Ayarkwa.

**College Registrar:** Mr. Henry Harry Akosah.

**College Finance Officer:** Mr. Kwadwo Adu.

**College Librarian:** Mr David Vincent Kweku Arkoful.

## FACULTIES AND DEPARTMENTS

The College of Art and Built Environment has two faculties (Faculty of Built Environment and the Faculty of Art) with ten (10) Teaching Departments and a Research Centre.

## PROGRAMMES OFFERED

The Departments in the College offer both undergraduate and postgraduate programmes in several academic disciplines and details of these can be found in the various Departmental reports.

## STAFF AND STUDENT STATISTICS

The College has a student population of five thousand, two hundred and seventy-nine (**5,279**) with one hundred and sixty-eight (**168**) teaching and research staff and one hundred and twenty-nine (**129**) support staff. The number of students for each Faculty is as follows:

Faculty of Art – 2,344

Faculty of Built Environment – 2,935

## ACTIVITIES

During 2017/2018 Academic Year, the College undertook a number of activities, some of which are detailed below:

## INTRODUCTION OF NEW PROGRAMMES

The College and Academic Boards have already considered and approved new demand driven programmes to start in the upcoming year including the following:

BSc Ceramics Technology/ BSc Ceramics Design and Technology.

BSc and Jewellery and Metalsmithing Technology.

MSc/MPhil in Teaching and Learning Innovations.

MSc Facilities Management.

MSc Transportation Planning.

PhD Textiles and Fashion Design Technology.

MSc/MPhil in Creative Art Therapy.

Postgraduate Certificate Course in Higher Education Pedagogy.

## STAFF RECRUITMENT AND DEVELOPMENT

To improve staff – student ratio, the College recruited five (5) Lecturers into the various Departments in the period under review.

## STAFF RESEARCH

Results of research activities in the College yielded the following promotions in the 2017/2018 academic year: one Professor, five Associate Professors and eight Senior Lecturers

## CONFERENCES

- A three-day International Conference on the theme “***Sustainable Development Goals in Africa: The Role of Indigenous Design Concepts***” from the 11<sup>th</sup> to 13<sup>th</sup> September, 2017. The Conference was a multi-disciplinary one bringing together people who believed that design (specifically indigenous concepts) forms part of their personal and professional ambitions, careers and activities. The purpose of the conference was to provide the needed information in developing indigenous design concepts and sustainable development in Africa.
- NADKIDEC conference was organised from 11<sup>th</sup> to 13<sup>th</sup> September, 2017.
- The College organised a workshop on 30<sup>th</sup> April, 2018 on the theme ‘Effective Communication and Records-Keeping of a secretary’ to sharpen the skills of Administrative staff.
- In collaboration with ADLAND (a consortium of five European Universities), a refresher course and a research development workshop funded by GIZ was organised at KNUST from 4<sup>th</sup> to 8<sup>th</sup> June, 2018.

## INFRASTRUCTURAL DEVELOPMENT

The following projects were undertaken in the year under review:

- A new mechanised borehole has been constructed to improve water supply system in the College.
- Work on a 9-storey building complex has started. The Chancellor of the University of Ghana Osei Tutu II cut the sod for the construction of the building on 23rd May, 2018.
- Painting of the College’s buildings are ongoing.
- A total of 1520 new classroom tables and chairs have been purchased through the central administration to replace broken ones.
- Staff and students’ washrooms in the College have been refurbished and equipped with digital access control to ward off intruders and to secure the premises.
- Plans are under consideration for construction of a car park in the College.

## CHALLENGES

The College continues to grapple with large student numbers and thus the need to construct larger lecture theatres, studios, laboratories and libraries ought to be addressed. There is also the need to engage more Faculty members to improve the student-staff ratio.

## **FACULTY OF ART**

### **DEPARTMENT OF COMMUNICATION DESIGN**

#### **INTRODUCTION**

The Department of Communication Design has two concentration areas: Visual Communication Design and Multimedia as career pathways for the students. The Department also has postgraduate programmes – Master in Communication Design and Master of Philosophy in Communication Design.

#### **ACTIVITIES**

Currently, the Department is reviewing its undergraduate programme so it can reflect development in the Department as well as the country. The review will see the Department admitting and offering two degrees: BSc (Communication Design) and BSc (Creative Media Technology).

Proposal for Certificated Diploma is also ready to be rolled out. The target applicants are adult learners in Creative Media Industry in the Northern Sector of the country.

#### **POSTGRADUATE TRAINING**

The Department is actively involved in the training of postgraduate students. The completion rate is approximately 80% and six (6) students are expected to graduate this year.

#### **INFRASTRUCTURE/PROJECTS**

The second and third phases of the TEKTV Project is on course and almost completed. The project seeks to strengthen institutional capacity in the areas of research-based education, educational television for national development and research dissemination.

Renovation works on the Photography Studio has been completed. Resources for the project were from internally generated source.

#### **EQUIPMENT/FACILITIES**

The following equipment were procured to enhance teaching, learning and research in the Department.

- CD Duplicator
- CD Printer
- Studio Props & Furniture
- Lighting Equipment
- TV Production Equipment
- Studio Audio Equipment
- Electronic Field Equipment
- Accessories

#### **PUBLICATIONS**

Publications originating out of research conducted by academic members of staff for the year under review can be found in the University's Quality Assurance Bulletin.

## **CONFERENCES**

During the year under review, members of the Department took part in NAD-KIDEC, Conference, Kumasi-Ghana, (2017) organised by the Faculty of Art and ICIDA Conference organised by the Faculty of Built Environment in the same College. Another member also presented a paper at the Design4Health Conference, Melbourne, Australia, 2017.

In addition, members of the Department participated in various professional bodies' activities such as Ghana Institution of Graphic Artists, Institute of Packaging of Ghana, Ghana Design Network and Design Forum of Africa. A Faculty member participated in the just ended Film and Animation Conference organised in Accra.

## **SERVICE TO THE COMMUNITY**

The Department continues to fulfill its mandate of providing video coverage, documentary production and photography at all graduations and events in the university.

The Department is also officially invited by other Departments and units in the university to make news items and documentation of activities.

The Urban Sanitation Project dubbed "Five Star Street Project" has successfully completed the first phase and the second phase is about starting in the Aboabo community in collaboration with the Kumasi Metropolitan Authority. This Project has been fully accepted by the community.

## **DONATION/AWARDS**

The Department was privileged to receive high-end video equipment from the United States Embassy valued at \$10,000.00 to support the training of students in multimedia.

Two graduates received different awards from NINANE Advertising Group GH in the period under review.

# **DEPARTMENT OF EDUCATIONAL INNOVATIONS IN SCIENCE AND TECHNOLOGY**

## **INTRODUCTION**

The Department of Educational Innovations in Science and Technology (EIST), formally Department of General Art Studies, continues to run only graduate programmes in Education, Art Education and African Art and Culture. However, there are plans to run undergraduate programmes and also increase the number of graduate programmes.

## **STAFF**

The Department has ten full time academic staff, nine – part time staff and three administrative staff. The part time staff were appointed to complement the teaching of programmes run on at the Distance Learning platform.

## **STUDENT POPULATION**

The Department has a total student population of 150 made up of 80 regular and 70 distance learning students. Out of these numbers, 32 successfully defended their theses through oral examinations conducted by the School of Graduate Studies.



## **ACADEMIC PROGRAMMES OFFERED**

The academic programmes offered now in the regular mode are MPhil/PhD Art Education and MPhil/PhD African Art and Culture. In the Distance Learning mode, education programmes are accessible in MSc/MPhil Educational Innovation and Leadership Science and Master of Education (MEd). The Distance Learning mode programmes are run at the Accra and Kumasi centres.

## **ACTIVITIES OF THE YEAR**

### **Designing Curricula for New programmes**

In a bid to achieve the objectives of the rebranded Department and to reflect its new vision, EIST has proposed relevant and market driven programmes that will train professionals in educational innovations in the sciences, mathematical sciences and technology to fill in the staff gaps in our educational institutions and to improve pedagogical skills of newly recruited KNUST staff and graduate assistants. The programmes are MSc/MPhil Teaching and Learning Innovations and Certificate Course in Higher Education Pedagogy.

In addition, a nationwide Bachelor of Education (BEd) degree curriculum is being written by the five public Universities in Ghana to be run by 46 Colleges of Education. The Head of Department is one of the selected writers of the curriculum. The final curriculum was completed on the 19th May 2018. Finally, a long standing request for a full graduate programme in Art Therapy has resulted in the proposal of MSc/MPhil Creative Art Therapy and is awaiting approval and accreditation. All the proposed programmes are earmarked to run in the 2018/2019 academic year.

## **COLLABORATION AND LINKAGES**

Dr. Grace Hampton, Professor Emerita and three others from Pennsylvania State University visited KNUST and the Department from 4<sup>th</sup> to 7<sup>th</sup> March, 2018. The KNUST, through the Department, is in collaboration with The Penn State and University for Development Studies (UDS). A consortium, namely The Penn State, KNUST and UDS Collaborative Research Consortium (PKUCRC) was borne out of the collaboration and this led to the organisation of a pilot Graduate Conference in the Faculty of Art Conference room on the 5<sup>th</sup> March, 2018.

Dr. Eric Appau Asante, served as the Liaison official between University of Ghana's, Institute of African Studies and their special guests (Scholars, teachers, museum specialists, and collectors) who visited the Ashanti Region from Monday 14<sup>th</sup> to Thursday 17<sup>th</sup> August, 2017.

## **PUBLICATIONS**

Publications done in peer review journals and conference proceedings during the period under review added up to eleven. The details can be found in the Quality Assurance Bulletin.

## **SERVICE TO COMMUNITY**

### **Dr. Patrick Osei-Poku (Head of Department)**

- Member, Committee for cooperation between KNUST and chiefs of the surrounding communities. 2018.
- Member, Committee for writing four years Bachelor of Education (BEd) degree curriculum for Colleges of Education. 2018.

### **Prof. Nana Afia Amponsah Opoku-Asare**

- Reviewer: Legon Journal of Humanities. 2018.

- External Assessor for promotion: University of Education, Winneba. 2018.
- Member: National Council for Curriculum and Assessment. 2017-2018.

#### **Dr. Steve Kquofi**

- Vice Chairman, Board of Trustees, D.K. Eworyi Education Foundation (DKEEF), Sogakofe, Ghana, 2018.
- Chairman, Research and Publication Committee, South Tongu District Assembly, Sogakope, Ghana, 2018.
- Chairman, South Tongu District Beautification Project Committee, South Tongu District Assembly, Sogakope, Ghana, 2017.

#### **Dr. (Mrs.) Mavis Osei**

- Member, Committee to Help Plan an International Art Therapy Research April, 2018 Conference, American Art Therapy Assoc. and British Art Therapy Assoc.
- Facilitator, Workshop on Emotions, personality and Depression, April, 2018 Women's conference, Central Region, Ghana
- Reviewer, Athens Journal of Health, Athens, Greece, March, 2018.
- Volunteer reviewer, paper proposal for the 62nd Annual Comparative and International Education Society (CIES) conference, CIES 2018 Mexico City Oct. 2017.
- Vice Secretary/Member, Alliance for Disability (Afor D – KNWT), March, 2018.

#### **Dr. Eric Appau Asante**

- External Assessor, Senior Members promotion for Tamale Technical University, Ghana November, 2017.
- Member, Special committee to consider the mounting of new programmes in the Department December, 2018.

### **EXTERNAL SUPPORT AND FUNDING**

The Department and the entire Faculty, through the initiative of Dr. Eric Appau Asante, received donation of relevant assorted textbooks with a value of over Four Thousand US Dollars (\$4,000). Sponsorship was obtained from The Arts Council of the African Studies Association and Saint Louis Art Museum, U.S.A.

## **DEPARTMENT OF INDUSTRIAL ART**

### **INTRODUCTION**

In the year under review, the Department had discussions on different levels of collaboration with a number of individuals and organisations. Worthy of mention was a Memorandum of Understanding (MoU) signed between the Department and Jubican Company Ltd., a private clothing company in Obuasi with the sole purpose of training their staff and several others under the Skills Development initiative of the Government of Ghana (GoG). The document has received endorsement from the Vice-Chancellor and the Department awaits endorsement from Jubican Company Ltd.

## **EXHIBITIONS/OPEN DAY**

Notable activities in the Second Semester begun with an open day for the Department. The activity provided an opportunity for students and lecturers to interact under a relaxed atmosphere. Aside from a session with the College Counsellor, students had the opportunity to meet with their tutors who held tutorial sessions for them, accompanied by a fete.

The Department in March 2018, hosted an exhibition of modern ceramics dubbed “Start Somewhere” by the Nigerian Ceramist, Clement Etim Ekong from the Department of Fine and Industrial Arts, Faculty of Environmental Studies, UNIUYO.

On 9th of May, 2018 at 10:30 a.m. the Department in partnership with the Department of Communication Design launched its annual final year Exhibition and Fashion Show at the Great Hall, KNUST. The exhibition component ran for three days and was climaxed on Saturday, 12th May, 2018 with the Fashion show at the main auditorium of the same venue.

## **COLLABORATION**

On 6<sup>th</sup> April, 2018 the Department received the Business Development Team from the Ghana Standards Board led by the Executive Secretary. Discussions between the two institutions explored possibilities for cooperation in the areas of Ceramics, Metals, Textiles and Fashion, and centred on developing standards that would enhance trade and improve quality.

The Head of Department, Dr. Charles Frimpong participated in a panel discussion at the British Council in Accra. This was organised by Fashion Forum, an advocacy platform on issues affecting fashion in Ghana.

# **DEPARTMENT OF INTEGRATED RURAL ART AND INDUSTRY**

## **INTRODUCTION**

The Department’s activities fill the gap created as a result of concentration on foreign art curricula in the training of Ghanaian art students and is proud of this special role. It therefore ensures that courses are designed to meet pressing needs of the related local industries, as well as helping its graduates to set up their own small to medium enterprises.

## **STAFF**

The Department has eleven (11) Senior Members out of which (6) are PhD holders with four (4) Senior Lecturers and seven (7) Lecturers. Three out of the Senior Lecturers are on contract following their re-engagement after retirement. These academic members are supported by five Technicians and one Administrative Officer.

## STUDENT POPULATION

At present, the Department has 336 students at the undergraduate and 16 at the postgraduate (MPhil Integrated Art) levels. The breakdowns are as follows:

Undergraduate	Year	Female	Male	Total
	1 (Regular)	43	79	122
	2 (Regular)	38	40	78
	3 (Regular)	26	33	59
	3 (Parallel)	2	11	13
	4 (Regular)	25	35	60
	4 (Parallel)	-	4	4
Total		134	202	336

Postgraduate	Year	Female	Male	Total
	1	3	4	7
	2	4	5	9
Total		7	9	16

## ACADEMIC PROGRAMMES OFFERED

The Department offers courses at both the undergraduate and postgraduate levels awarding degrees in Bachelor of Art and Master of Philosophy.

The graduate programme is expected to produce seven (7) graduands during this graduation ceremony.

## ACTIVITIES IN THE YEAR

The Department continues to research into local raw materials and how to integrate them in artworks produced by both students and staff. Findings from research work are introduced and adopted by industry through collaboration/network.

The Department has renewed its collaboration with the Pennsylvania State University, USA and The Oslo and Akershus University College of Applied Sciences in Norway. Other MoUs signed are with JAK studios of Denmark and The National Institute of Design, India. The Department still collaborates with Aid to Artisans Ghana and Accent sand Art in the area of industrial internship for our students.

## PUBLICATIONS

A total of 10 articles were published in the year under review as follows:

Conference proceedings in the Department is six (6).

Articles published in refereed journals also four (4).

Details of these can be found in the University's Quality Assurance Bulletin for the year under review.

## CONCLUSION

The Department has and will continue to review its courses to meet and fit into the changing trends in industry and the international educational structure. In line with the Department's policy of improving staff output through regular training, members continue to benefit from training and development opportunities offered by our collaborators at national and international levels.

## DEPARTMENT OF PAINTING AND SCULPTURE

### INTRODUCTION

The Department is the leading incubator of Contemporary Art with an expanding list of significant artists of the post-internet generation.

In the year under review, the Department continued to grow through its robust Mentoring, Monitoring and Advisory Programmes and its international network. These programmes have prepared several students, staff and alumni for the world stage of Contemporary Art practice and scholarship.

### ACADEMIC PROGRAMMES OFFERED:

The Department runs BFA, MFA and PhD in Fine Art practice and theory.

### STUDENT POPULATION

The Department handles an average student population of 300 annually.

### STAFF

The Department has staff strength of 15 Lecturers, 12 Administrative and Technical support staff.

### ACTIVITIES IN THE YEAR

### AWARDS AND SPECIAL MENTION

- Kelvin Haizel (MFA Painting and Sculpture student) won the **Vontobel Contemporary Photography Prize**, 2018. Vontobel Contemporary Photography Prize, an award open to artists from all over the world, is a fine art photography award project based in Switzerland. Kelvin Haizel was awarded 20,000 Swiss Francs for his lens-based project “Desperately Seeking Forevers II”. Vontobel Commission will also fund the culminating exhibition, A New Gaze, which will be held in Zurich in November, 2018.
- Ibrahim Mahama’s installation of decommissioned ‘shoe shine’ boxes from Ghana sold at **€375,000** (more than two million Ghana Cedis) at the Art Basel Miami Beach (The ART Newspaper, 6<sup>th</sup> December, 2017). The art work was purchased by the collector Martin Margulies. The **Margulies Collection** is renowned for its custody of works from Modern and Contemporary Art giants such as Willem de Kooning, Donald Judd, Sol LeWitt, Anselm Kiefer and Olafur Eliasson. Also, at the **Sotheby’s Auction for Modern and Contemporary African Art** (2017/2018), he became the second highest selling living artist from Africa and its diaspora (Ibrahim Mahama is currently pursuing PhD in Painting and Sculpture)
- Ibrahim Mahama won a one-year **DAAD Scholarship** worth €100,000 for an Artist-in-Residence programme in Berlin as an extension of his PhD work. He completed the residency programme with a cutting-edge exhibition, “A straight Line through the Carcass of History” held at ‘daadgalerie’, Berlin from 14<sup>th</sup> April to 20<sup>th</sup> May, 2018.
- Prof. El Anatsui, the Department’s nominee for the KNUST Special Congregation Awards held on Friday, 24<sup>th</sup> November, 2017, was awarded Doctor of Letters (D. Litt, Honoris Causa) for his notable contributions to the development of Contemporary Art in Africa and elsewhere.
- Larry Amponsah (BFA Painting, 2015) who was the first African and Ghanaian to win the Abraaj RCA Innovation Scholar Award (2016 – 2018) of the Royal College of Art staged a successful summer thesis exhibition “Rising Above the Noise and Confusion” at the Dyson

Gallery, Royal College of Art, London from 16th – 19th March, 2018. Larry has also been appointed a trustee of the Kuenyehia Art Trust.

## COLLABORATIONS AND LINKAGES

In the year under review, the Department established links and exchanges, and undertook collaborative projects with some institutions and project spaces among which were:

- **Design Kolding, Copenhagen:** 30 students and staff from Design Kolding, Copenhagen had a one-month collaborative internship and workshop programme with third year students of the Department of Painting and Sculpture in Kumasi. Four KNUST co-ordinators of the programme visited the school's premises in Copenhagen in 2017.
- **Harn Museum, University of Florida:** The Curatorial team of Harn Museum, led by Rebecca Nagy The Harn Museum team, led by Director Rebecca Nagy, acquired the works of two students for the Museum's collection of Contemporary Art. The Harn Museum team is collaborating with the blaxTARLINES publication team to publish some texts on KNUST's recent rise in the Contemporary Art.
- **Stadelschule Frankfurt:** The Department's Artist-in-Residence Programme and International Exchange Programme with Stadelschule Frankfurt is in its fourth year. The exchange programme is also one of the Department's platforms for Affirmative Action for Women. Out of the four consecutive nominees so far, three of them are women. This year's Staadelschule Artist-in-Residence is Tracy Naa Koshie Thompson (MFA student in Painting and Sculpture).
- **State Academy of Art, Karlsruhe:** Three students, Sarah Owusu-Ansah, Janice Lardey (BFA Painting, Year 3) and Jonathan Okoronko (MFA Painting), respectively, won scholarships for a semester-long Artist-In Residence and International Exchange Programme at the State Academy of Art, Karlsruhe. While in Karlsruhe, the students will be guided by Professor Leni Hoffman.

## INTERNSHIP

Alexandria Robinson (3<sup>rd</sup> year student, Moore College, Philadelphia) undertook and completed her two-month internship programme with the Department of Painting and Sculpture at the "Orderly Disorderly" exhibition.

## VISITS

Among the people who visited in the year under review were:

- **Romuald Hazoumé**, the Beninese artist who won the Arnold Bode prize at **document 12** in 2007 visited the Department. He lectured students on the operations of the Contemporary Art Market and canonising institutions on 17th November, 2017.
- A Team from the Art Department of Makerere University, led by **Dr. George Kyeyune** visited the "Orderly Disorderly" Exhibition in Accra and followed up with a visit to the Department of Painting and Sculpture, KNUST.
- **Paula Nascimento** (Angolan architect and Co-Curator of the Angolan Pavilion which won the Golden Lion Award at the 2013 Venice Biennale) visited the "Orderly Disorderly" exhibition in Accra and followed up with a visit to the Department of Painting and Sculpture, KNUST, Kumasi. Nascimento is writing a text on "Orderly Disorderly" for a renowned Italian art, design and culture periodical, "Domus".

- **Kerry Greenberg**, Curator of International Programmes, Tate Modern visited “Orderly Disorderly” in Accra.
- **Koyo Kouoh**, founding artistic director of Raw Materials Company visited “Orderly Disorderly”. Koyo Kouoh appears in the 2017 Art Review Power 100 as one of the top 100 most powerful professionals in the international art world

## SELECTED EXHIBITIONS

The blaxTARLINES Projects Team was involved in more than 30 exhibition projects in various capacities as curators, advisors or consultants. A few of the exhibition projects in which the blaxTARLINES Team was involved are:

- The blaxTARLINES curatorial team led by *kārī'kächä seid'ou*, Kwaku Boafo Kissiedu, George Ampratwum and Bernard Akoi-Jackson held a large scale exhibition “Orderly Disorderly” at the Museum of Science and Technology, Accra. The 109 artist exhibitors include Edwin Bodjawah, Dorothy Amenuke and Kwabena Afriyie – Poku. “Orderly Disorderly” is the largest exhibition of Contemporary Art in Ghana’s history, attracting over 13,000 visitors from all over the world.
- Kelvin Haizel (MFA Painting and Sculpture student) was a participating artist in *Afrotopia*, the 11th Edition of the celebrated African Photography Biennial, Bamako, Mali. *Afrotopia* featured 40 African artists of international renown and ran from 2nd December, 2017 to 31st January, 2018.
- Ibrahim Mahama was selected by the **documenta 14** team of curators as an exceptional participant. He is the first Ghanaian artist practising from the continent to gain selection at the global level mega exhibition which happens once every five years. Invitation to participate in **documenta** is ranked among the most significant achievements in an artist’s career. “documenta 14” was held in two cities, Athens and Kassel. The blaxTARLINES Curatorial Team served as advisors on Ibrahim Mahama’s documenta 14 exhibitions.

## FUND RAISING AND DONATIONS

- A blaxTARLINES Team comprised of *kārī'kächä seid'ou*, Edwin Bodjawah, Kwaku Boafo Kissiedu, George Ampratwum arranged for books (estimated at 150,000 USD) for the College and Faculty Libraries of CAFE, KNUST. Prof. El Anatsui (1968/1969 Alumnus of the Department) is the sole sponsor. The Team also arranged with Prof. El-Anatsui to purchase a number of the books for the blaxTARLINES Reference Library. The books are valued at 6,000 USD.
- Bernard Akoi-Jackson has also donated a number of books to the blaxTARLINES Reference Library.
- Ibrahim Mahama (PhD candidate) donated 10 flat screen TV monitors and five projectors (10,000 GHC) to the Department to help in exhibitions and lectures. Since 2015, he has funded full scholarship awards for eight (8) MFA students.

## SERVICE TO THE COMMUNITY

The Department has supervised the installation of historical monuments on the University Campus. The statue of Paa Joe (ARTHUR HERCULES RATNADURAI JOSEPH), the first Sports Director and Hall Warden of KNUST (sculpted by Benjamin Odamie-Boadi in 2013 and supervised

by Dr. Mantey Jectey-Nyarko), was installed by Dr. Edwin Bodjawah and his team. The statue was unveiled by the Asantehene Otumfuo Osei Tutu II on 23rd May, 2018.

### **PUBLICATIONS IN THE YEAR UNDER REVIEW**

In the period under review, staff of the Department produced 6 peer-reviewed articles, 8 book chapters and 1 book. Members also presented 7 conference papers at international conferences.

## **DEPARTMENT OF PUBLISHING STUDIES**

### **STUDENT POPULATION**

In the year under review, the student population of the Department was as follows:

<b>Year</b>	<b>Number of Students</b>
1st Year	107
2nd Year	210
3rd Year	97
4th Year	69
<b>Total</b>	<b>483</b>

### **STAFF**

Three academic members of staff are currently pursuing their PhDs in various institutions within and outside the country while one returned recently after pursuing her PhD at the University of Stirling, Scotland.

Mr. Owusu Ansah DeGraft Johnson a co-founder of the Department, passed away on 10<sup>th</sup> May, 2018.

### **PROGRAMME AND COURSE DEVELOPMENT**

The Department advanced its graduate programmes into three specialised areas to meet both academic and industrial training needs. In addition to the already existing Master of Art in Publishing Studies, an MPhil in Publishing Studies and a Masters in Publishing and Print Management have been designed for members of the industry seeking to upgrade themselves academically in spite of their busy schedules. The programme will run in Accra on part-time basis and exclusive to management and workers in the Print and Publishing industry.

The Department has been given approval to run two distinct programmes by the Academic Board. The new programmes will be BSc Printing Technology and BA Publishing Studies. Plans are underway in preparing the course modules for the programmes.

One major reform introduced this year with regards to students is the reintroduction of Thesis Defence for final year students. This was very successful and great improvements can be noticed in the theses submitted by the final year students this year as a result.

### **INTERNATIONAL COLLABORATIONS**

The Department is making moves to revive its relationship with the Publishing Department of the Oxford Brookes University and restore the strong linkage that once existed between the two Departments. There are also plans aimed at seeking new connections with other allied institutions.



## **WORKSHOPS AND TRAINING PROGRAMMES**

The Department under the coordination of Dr. Smith Esseh organised a two-day workshop for the online journal editors of the Journal of Science and Technology (JUST). The workshop was organised on 18th & 19th January, 2018, purposefully to train the online editors on how to use the Open Journal System (OJS) which has become the Industrial Standard online tool for managing scholarly journals.

The Department in collaboration with the University Press (Kumasi) organised a 3-day Print Promotion Specialists Teachers Training Seminar, from 27th February to 1st March, 2018. In attendance were printers, illustrators, graphic designers and print production managers. The facilitators included Mr. Frank Boadu (UPK), Mr. Francis Nunoo (Publishing Studies), as well as Dr. Markus Heering and Mr. Jurgen Seidel (Print Promotion-Germany). Participants were all given certificates at the end of the seminar.

The final year students were awarded their Entrepreneurship and Small Business Management Certificates after successfully undergoing a year's training on 27th April, 2018.

The third year students undertook their industrial attachment for twelve weeks for the whole of the second semester and have defended their reports.

The Book Reading Clubs established in basic schools by the Department have also seen much progress this year. Reading sessions, spelling bees among other activities were organised for the students of the participating basic schools under the coordination of the Teaching Assistants of the Department.

## **PROJECTS AND CONSULTANCIES**

Book Production Projects: the Department is currently developing the stories written by the third year students for publication. Hopefully these publications will be purchased by the Government or GES for schools' libraries and also by other publishing establishments for distribution.

## **PUBLICATIONS AND RESEARCH**

A total of six articles were published by staff in the year under review and are as follows:

Articles Published in Refereed Journals – 3.

Articles Published in Conference Proceedings Journals – 3.

# FACULTY OF BUILT ENVIRONMENT

## DEPARTMENT OF ARCHITECTURE

### INTRODUCTION

#### ACADEMIC STAFF

The Department has eighteen full-time teaching staff, supported by one part-time Lecturer and four Service Lecturers. Among the teaching staff, four are on post-retirement contract, with two others expected to retire at the end of the next academic year.

There is a drive by the Department for the employment of additional staff to help improve the staff-student ratio. The process has however not been easy because applicants are required to possess a PhD. The Department is therefore seeking to recruit adjunct lecturers with industrial experience to ease the pressure of work in the teaching of architectural design studio-a core course.

There have been some strides by staff of the Department towards attaining a terminal degree as encouraged by the University.

#### STUDENT POPULATION

The total student population in the Department is 508, which is made up of 373 and 135 undergraduate students and graduate students respectively.

Staff-student ratio of the Department has been guided by the provisions of the Commonwealth Association of Architects (CAA) and the National Accreditation Board provisions acceptable for good quality Schools of Architecture such as ours. With staff strength of 18 Architects (3 non-architects), the Department has a staff-student ratio of 1:28 (NAB recommended ratio is 1:20).

#### Breakdown of student population of the Department

Programme Level	Year 1	Year 2	Year 3	Year 4	Sub-Total	Total
Undergraduate	127	99	76	72	373	<b>373</b>
Postgraduate						<b>135</b>
• M. Arch	72	51		-	123	
• M.Sc.	1	-	6	-	7	
• M.Phil.	2	1	2	-	5	
• PhD	2	5	3	-	10	
Total						<b>508</b>

#### ACADEMIC PROGRAMMES OFFERED

Currently, the Department runs one undergraduate and five postgraduate degree programmes and these are:

1. A four-year Bachelor of Science in Architecture, (B.Sc. Design)
2. A two-year Masters in Architecture (M.Arch.)
3. A one-year Masters of Science in Architecture programme for graduates with the defunct Postgraduate Diploma in Architecture degree (MSc. in Architecture)

4. A two-year Masters programme in Architecture (MSc Architecture)
5. A two-year Master of Philosophy (M.Phil. Architectural Studies).
6. Doctor of Philosophy in Architecture (PhD Architecture).

In collaboration with the Institute of Distance Learning (IDL), the Department runs a diploma programme in Architectural Technology. The proposal to review the BSc (Architecture) programme to enhance the components of Green Architecture, Sustainability and Climate in the programme is awaiting approval by the Academic Board and the review is to be implemented in the 2019/2020 academic year.

A Master in Landscape Architecture (MLA) programme is expected to commence pending an approval of a proposal by the School of Graduate Studies and the Academic Board. The introduction of the programme is in response to the need for qualified experts in landscape design in the country.

### **ACTIVITIES IN THE YEAR**

The Department has undertaken a number of activities during the year mainly by way of collaborations, exhibitions and professional seminars to expose and enrich the knowledge gained by students towards practice.

#### **Exhibition Series**

In a bid to showcase the profession and get the general public to appreciate the work of the architect, the Department has introduced an exhibition series to exhibit best students' works arising out of design competitions and assignments outside the walls of our studios and Department. The maiden edition dubbed "*AfroMobitecture Exhibition and Awards 2017*" was held last November during the 2017 Founders' Day Special Congregation in collaboration with Architects Registration Council, Spaysis Architecture Engineering and Planning and CLEAN-Africa. There are plans to take this to the wider population of Kumasi, and other regions. The winners of the "*AfroMobitecture Exhibition and Awards 2017*" will be presenting their schemes at the BrainGain Conference in Germany in November, 2018.

#### **Exhibitions at the Ghana Institute of Architects 2018 AGM**

The Department also made a presentation of students' work (Design Drawings) at the 2018 Annual General Meeting of the Ghana Institute of Architects as well as presenting a report on the programmes and activities of the Department in April 2018.

#### **Publication of Year Book**

As part of an effort in connecting with public, the ministries, government agencies and industry players, the Department is undertaking a publication of theses of our final year students in a year book. Financial support is being sought from private entities to publish them while the year book provides them a medium to advertise their businesses and services.

#### **Commonwealth Association of Architects (CAA) Validation Visit**

The design and rationale of the Accreditation Visit by Validation Boards of the CAA enable the Department to exercise an appreciable level of introspection in order to facilitate continuous progression and development. The Department was last validated in February 2014, and is currently on a year-long preparation towards the next validation visit scheduled for February 2019. The Department received a combined team of the Architects Registration Council (ARC)

of Ghana and the Ghana Institute of Architects (GIA) in March 2018 for a mock visit to ascertain the level of preparedness of the Department and evaluate responses from the last visit.

### **EXCHANGE PROGRAMMES AND LINKAGES**

The Department's contact with other schools elsewhere continue to improve as additional exchange programmes with other institutions have been established in the current academic year. Such opportunities will give our students some level of exposure and enhance their capacities.

#### **Project Volta Delta Ghana**

The Department of Architecture in collaboration with Departments of Landscape and Marine Engineering of the Technical University of Delft – Netherlands, Department of Architecture of the Central University – Ghana, Departments of Marine Science and Geography of the University of Ghana are working on the Project Volta Delta Ghana. Master of Architecture students from KNUST selected sites for their design thesis out of this project. The Department together with representatives from the institutions participated in a multidisciplinary exploratory “Dutch – Ghanaian Design and Engineering Workshop on the Volta Delta” coordinated by the Ghana Wing of the Delta Alliance from 9th – 13th October, 2017. In May, 2018, two Master of Architecture students and a member of staff visited the Technical University of Delft, Netherlands to participate in workshops and present part of their theses findings and design drawings.

Three of our PhD candidates are on a summer semester in the Frankfurt University of Applied Sciences in Germany within the framework of the Erasmus + Scholarship (Key Action 107: Mobility with partner countries) with funding from the European Commission.

#### **Collaboration with AUTODESK**

The Department has initiated a process for cooperation with the South African partners of AUTODESK (registered office at Rue du Puits-Godet 6, Switzerland) as Industry and Technology partner to provide courses and training materials to facilitate digital design pedagogy. The cooperation is expected to introduce students to frontier digital design technologies and benchmark Faculty members through continuous training and Autodesk Global Certification programmes.

#### **Collaboration with GHACEM**

The Department also established collaboration with GHACEM to develop Mobile Cement Academy limited to short course training in the use of cement and exhibitions to offer innovative means for training and skill development targeted at professionals, students, middle level manpower and artisans for the construction industry within the districts and communities in each region. The collaboration will provide a framework for research initiatives to promote efficient packaging and innovative use of cement to enhance national development.

### **PUBLICATIONS IN THE YEAR**

A total of 37 publications have been made by staff of the Department as follow: Ten journal articles, twenty-six Conference Proceedings and one Book Chapter

### **SERVICE TO THE COMMUNITY**

The Department carried out a socio-cultural field study of peri-urban environments of Ningo-Pampram in the Greater Accra Region from the 30<sup>th</sup> September to 10<sup>th</sup> October 2017. A rural survey was also carried on at Kwaso in the Ejisu Juaben Municipal Assembly with the same

objectives. Analysis and proposals of these studies, even though academic in nature, were presented to district assembly to guide them in their developmental efforts. Members of staff of the Department also serve in various capacities on professional bodies, boards of institutions and schools, among others.

## **DEPARTMENT OF BUILDING TECHNOLOGY**

### **INTRODUCTION**

The Department offers BSc Construction Technology and Management (CTM) and Quantity Surveying and Construction Economics (QSCE) at the undergraduate level. In addition to the above programmes, the Department in collaboration with the Institute of Distance Learning (IDL) also runs a 4-semester Top-Up programme leading to the award of BSc. Construction Technology and Management and BSc Quantity Surveying and Construction Economics, for Higher National Diploma holders.

At the postgraduate level, the Department of Building Technology offers the under listed programmes:

- i. MSc. Construction Management.
- ii. MSc. Procurement Management.
- iii. MPhil/PhD Procurement Management.
- iv. MPhil/PhD Construction Management.
- v. MPhil/ PhD Building Technology.
- vi. MSc. Project Management.
- vii. MPhil/PhD Project Management.

There are 1,270 undergraduate students in the Department at both regular and distance learning programmes. In the IDL programme, there are currently 523 students in the third, final and fifth years. The regular student population is 747, including 355 in Construction Technology and Management and 392 in Quantity Surveying and Construction Economics.

At the postgraduate level, the population of students is 338, including 316 MSc, 7 MPhil and 15 PhD students.

### **PROJECTS AND CONSULTANCIES**

The Department currently runs a short course in Project Management. This is towards the preparation of professionals who want to write the Project Management Professional (PMP) examination. The Department is currently preparing to run three Certificate programmes including:

- i. Maintenance Management.
- ii. Project Scheduling and Claims Management.
- iii. Site Management.

### **PUBLICATIONS AND RESEARCH ACTIVITIES**

In the year under review, a total of 139 papers were published by Faculty members. These include 7 books, 81 refereed journal papers and 51 peer reviewed conference papers.

## **STAFF DEVELOPMENT**

The Department sponsored a number of staff to undertake the under listed programmes to develop their skills in various areas:

- |                                     |   |    |
|-------------------------------------|---|----|
| i. Primavera Software training      | - | 11 |
| ii. Project Management Professional | - | 5  |
| iii. Construction Law Seminars      | - | 1  |
| iv. New Rules of Measurement        | - | 5  |
| v. Monitory and Evaluation          | - | 2  |

## **DEPARTMENT OF LAND ECONOMY**

### **INTRODUCTION**

The Department of Land Economy has been training professionals with relevant skills in land resources utilization and management.

### **ACADEMIC PROGRAMMES**

The Department currently awards two undergraduate degrees; BSc Land Economy and BSc Real Estate. At the Postgraduate level, it offers courses leading to the MSc Land Governance and Policy and PhD Land Management. These are highly practical postgraduate programmes that integrate economics and law in the study of the dynamics, governance and use of landed property. The stage is also set for a third postgraduate programme, the MSc Facilities Management to start in August 2018. Approval has been given and the programme has been advertised for the 2018/2019 academic year.

### **STAFFING POSITION**

The Department currently has a total of Twelve (13) permanent or full time staff. This comprises two (2) Professors, Two (2) Associate Professors, Four (4) senior Lecturers, Four (4) Lecturers and a Technical Instructor. Out of this number, one lecturer is on full time study leave at Twente University in the Netherlands while one is on secondment to the Senior Minister's Office leaving a staff strength of only ten (10).

As a result of the severe shortage of available lecturers, the Department relies heavily on a number of service lecturers from other Departments in the university as well as part-time lecturers to provide teaching services at both graduate and undergraduate levels especially in areas such as Land Law, Building Construction and Land Use Planning & Management.

The Department has an immediate need for staff in the areas of Land Law and Building Construction and has embarked on a serious manhunt for full-time lecturers in these areas so as to be fully operational.

## STUDENT ENROLMENT

The current undergraduate student is summarized in the table below: By sex segregation, female students constituting about 37%.

Programme	Year 1	Year 2	Year 3	Year 4	Total
BSc Land Economy	132	143	108	93	476
BSc Real Estate	102	109	49	60	320
MSc Land Governance and Policy	10				10
PhD Land Management					2
<b>TOTAL</b>					<b>808</b>

## STAFF RESEARCH AND PUBLICATIONS

Members of staff conducted research and published a total of twenty-five refereed journal papers in their various areas of specialties during the period under review.

## CONFERENCES AND WORKSHOPS ATTENDED

During the year under review, senior members of the Department attended various conferences and seminars and presented papers at some of these conferences. **Prof Asiana** facilitated a Workshop organised by Good Governance Africa at the Golden Beach Hotel, Busua in the Western Region on the theme, “Transparency in Land Administration”. He also facilitated a Workshop for the National House of Chiefs and the National Peace Council on the Bimbilla Chieftaincy Crisis in the Northern Region, at the Golden Tulip Hotel in Kumasi.

**Prof John Bugri** in September 2017 attended a Workshop on AfriLand Project organised by the Durham University, UK and presented a paper on: “Priority Areas for Ghana on the AfriLand Project. He also presented a paper entitled “Current State of Land Administration in Ghana” in February 2018 at the Ghana Land Administration Reform Conference in Accra and in March 2018 presented a paper at the World Bank Conference on Land and Poverty in Washington DC on, “Best Practice in Land Administration Project Implementation: Challenging Existing Orthodoxies in Customary Land Governance in Ghana”. Together with Dr. Kidido, he also attended a Conference on Land Policy in Africa, Addis Ababa, Ethiopia in November 2017.

Other senior members including **Mr. J. Zinzi Ayitey**, **Dr. Frank Gyamfi-Yeboah**, **Mr. William Adolwine**, **Dr. Kidido** and **Mr. Fimpong-Asante** attended various conferences and seminars during the period under review. The Department in collaboration with ADLAND (a consortium of five European Universities) organised a Refresher Course and a Research Development Workshop funded by GIZ from 4<sup>th</sup> to 8<sup>th</sup> June, 2018.

## PROFESSIONAL LINKS

Ghana Institution of Surveyors, Chartered Institution of Surveyors, African Real Estate Society, FIG, CASTLE and the American Real Estate Surveyors are the professional bodies that affiliate and work closely with the Department.

The Department also continues to be in close relationship with the Industry. Broll Ghana, TDC, Ghana Home Loans, HFC Bank, Ghana Ports and Harbours, TOR, GNPC and the Lands Commission have over the years been supporting the Department by way of industrial training for its students.

## SERVICE TO THE COMMUNITY

Members of staff in the Department continue to offer services to the local, national and international committees in diverse ways.

In the year under review, **Prof Asiama** continued to serve on the National Policy Steering Committee of the Land Administration Project (LAP) of the Ministry of Lands and Natural Resources. He also continued to serve as the Chairman of the Ashanti Regional Peace Council and also as the Lay Chairman of the Kumasi Diocese of the Methodist Church.

**Prof. John Tiah Bugri** is the Dean of the Faculty of Built Environment. He is an External Examiner to the University for Development Studies. Prof. Bugri is also the Node Coordinator for the Network of Excellence for Land Governance in Africa (NELGA) responsible for West Africa. This is a project funded by the GIZ with the view to strengthening Land Governance in Africa.

**Mr. Jonathan Ayitey** is a Council Member of the Ghana Institution of Surveyors (GhIS) and continues to represent the College on the Senior Members Housing Committee. He is also Chair of the Board of Examiners of VES of GhIS and a member of the Valuation and Technical Committee of the Land Commission and a Board Member of the Land Use and Spatial Planning Authority. Jonathan Ayitey also served as a Technical Committee Member to the Ghana Standard Authority in developing the 2018 Ghana Building Code. He also continues to serve as a member of the Legal and Property Committee of the Watch Tower Bible and Tract Society, Ghana.

**Dr. Frank Gyamfi-Yeboah** continues to coordinate postgraduate programmes and undergraduate dissertations in the Department and he is a Member of the College Quality Assurance Committee and is also a reviewer of the International Journal of Sustainable Built Environment as well as the International Journal of Strategic Property Management.

**Mr William Mark Adolwine** serves as the Head of Department and also offers free legal services to the poor and needy as a member of the Legal Aid Board, Ashanti.

**Mr Eric Paul Tudzi** is a Board Member of the Centre for Land and Development Foundation (COLANDEF), a non-governmental organisation that focuses on Land Governance and Natural Resource Management. He was a resource person for the Annual Divisional Seminar of the Valuation and Estate Surveying Division (VES) of the Ghana Institution of Surveyors (GhIS) held at the Golden Bean Hotel, Kumasi in September, 2017. He is a member of the local Organising Committee responsible for organising a Refresher Course and Research Development Workshop being jointly organised by the Chair of Land Management of the Technical University of Munich, Germany and the Department of Land Economy to be hosted by the Department in June, 2018.

**Dr. Joseph Kwaku Kidido** during the year under review successfully defended his PhD thesis and graduated in November 2017 as the first PhD graduate from the Department of Land Economy. He also served as a member and Secretary of the 51<sup>st</sup> College of Art and Built Environment Congregation Planning Committee, in 2017. He also coordinated together with Mr. E.P. Tudzi, the organisation of a fresher course and a workshop jointly organised by the Department of Land Economy and ADLAND, a consortium of some European Universities. He continues to serve as an Assistant Examinations Officer for the Department. During the year under the review, he was also appointed editorial board member of the *Journal of Planning and Land Management*, University for Development Studies.

**Mr. James Frimpong-Asante** is the Department's Examinations Officer and also a Member of the College Environment and Facilities Management Committee. He is also a Board Member of



the Kings Village Board of Directors –an NGO working for the Poor and Deprived in the Society in the Tolon – Kumbungu District of Northern Region. During the period, Dr. Stephen Agyeman-Yeboah has been the MCQ Coordinator for the Department of Land Economy and Planning

## **INTERNATIONAL COLLABORATION AND LINKAGES**

The Department is the West Africa hub for the Network of Excellence for Land Governance in Africa (NELGA). The Department is one of six centres across Africa. Among others, the main objective of NELGA is to anchor a programme for the training and research to enhance capacity and skills in support of land policy development and implementation. The Department has also elevated its many years of cooperation and collaboration with the Department of Civil, Geo and Environmental Engineering of the Technical University of Munich (TUM) in Germany. The two have signed a Memorandum of Understanding on many fields of co-operation during the year under review.

## **DEPARTMENT OF PLANNING**

### **ACADEMIC PROGRAMMES**

The Department currently runs the following academic programmes:

1. B.Sc. in Development Planning.
2. B.Sc. in Human Settlement Planning.
3. M.Sc.in Development Planning and Management (SPRING) (Regular and Parallel).
4. M.Sc.in Development Policy and Planning (Regular and Parallel).
5. MPhil in Planning.
6. MPhil in Development Studies.
7. MPhil in Urban Management (in collaboration with the Centre for Settlement Studies).
8. MPhil Settlement Planning.
9. Ph.D. in Planning; and
10. Ph.D. in Development Studies.

### **STUDENT POPULATION**

The number of students enrolled in the programmes has been presented in the table below:

Programme	No. of Students
B.Sc. Development Planning	403
B.Sc. Human Settlement Planning	359
M.Sc. Development Planning and Management (Regular and Parallel)	70
M.Sc. Development Policy and Planning (Regular and Parallel)	73
MPhil Planning	22
MPhil Development Studies	18
MPhil Urban Management Studies	19
PhD Planning	16
PhD Development Studies	15
<b>Total</b>	<b>1,025</b>

Approximately, 25.7% of the students are postgraduate students. The proportions of female students enrolled in the Department's undergraduate and postgraduate programmes are 46% and 33% respectively.

### **STAFF STRENGTH**

The Department had a total of 24 academic staff in the the period under review. The details are presented in the table below:

The Faculty is supported by three administrative staff and two support staff. One each of a Professor, Associate Professor, and Senior Lecturer are on contract. Four new people were offered appointments as Lecturers within the academic year.

<b>Level</b>	<b>No.</b>
Full Professor	1
Associate Professor	3
Senior Lecturer	13
Lecturer	7
<b>Total</b>	<b>24</b>

### **COLLABORATIONS**

During the year under review, the Department continued to collaborate within the SPRING Network of Universities. Under the auspices of the Programme, two Ghanaian students were awarded German Academic Exchange (DAAD) scholarships to begin their first year of studies at the Technical University of Dortmund, Germany.

The Department continued to play an active role in the work of the Association of African Schools of Planning (AAPS) based at the University of Cape Town, South Africa. The Head of Department, Prof. Daniel K. B. Inkoom is currently the Steering Committee Chairman for a 2 year-term ending in 2018.

Professor Inkoom represented the AAPS in conferences in the theory and Practice of Urban Planning at the Hafen University Hamburg, and was also a guest speaker of the Indian Institute of Town Planners Annual Meeting in New Delhi. The Department continued its collaboration with The Energy Centre of the College of Engineering, KNUST, to train PhD Students in Energy Planning. Furthermore, the Department continued to collaborate with the College of Science (CoS) of KNUST to partner the Aarhus University of Denmark to implement the SHEATHE Project. This involves involving the training of PhD and MPhil students.

The Department's collaboration with the Ghana Institute of Planners (GIP) continued with inputs into new programmes planned for the 2018/2019 Academic Year.

### **RESEARCH AND SERVICE**

The Department continues to participate actively in the operations of the Regional Centre of Excellence for Water and Environmental Sanitation at the College of Engineering, KNUST.

Beginning August 2018, the Department will host an MSc Programme in Transportation Planning in collaboration with the Department of Civil Engineering and with support from the Ecole Polytechnique Federale Lausanne, Switzerland. In addition, the Department is in the process of finalising a postgraduate programme in Monitoring and Evaluation in collaboration with

the Department of Building Technology. Other programmes under consideration include MSc/MPhil Infrastructure Planning and Management, MSc/MPhil WASH Planning and Management, MSc/MPhil Local Economic Development, MSc. Development Administration and Management. Staff serve as moderators for affiliated Colleges to the University, reviewers for reputable journals in the field of Planning including Urban Studies, Cities, Planning Theory, and Regional Development Studies. Staff have also been engaged as external examiners to several Universities in Ghana and abroad. These include the following:

- i) Dortmund University of Technology in Germany;
- ii) The University of Witwatersrand in Johannesburg, South Africa;
- iii) Ardhi University in Dar es Salaam in Tanzania;
- iv) Institute for Development Studies, University of Cape Coast (UCC) and;
- v) The University for Development Studies (UDS), Tamale/Wa/Navrongo;

In addition to these services, staff continued to serve on accreditation panels in several tertiary institutions, including the University for Development Studies Wa Campus, Christian Service University College, Catholic University, College of Organisational Development in Sunyani etc. Staff were involved in the assessment of papers for promotion of Staff from several institutions, including the Valley View University, the Council for Scientific and Industrial Research (CSIR), the Koforidua and Kumasi Technical Universities, and the University of Ghana, Legon.

### **CONFERENCES/STUDY TOURS/AWARDS**

Staff attended and presented papers at the following seminars and conferences:

- UN Habitat World Urban Forum Held in Kuala Lumpur, Malaysia.
- International Gestalt Organisation and Systems Development Alumni Conference in Cape Town, South Africa.
- DAAD Alumni Seminar in Essen, Germany.
- Building Stronger Universities (BSU III) Conference at KNUST

Within the Academic Year, the Department participated in the call for proposals from the Cities Alliance/UNOPS in partnership with Tripleline, UK but her bid was not successful.

The Department's application for a research grant to carry out research in Mining and Sustainable Development (MiSuDel) is still under consideration by the Ministry of Lands and Natural Resources. The Department is in the second year of implementing the DAAD In-Country/In-Region scholarships scheme. Currently, there are 2 PhD and 4 MPhil students enrolled on the programme. The 2018/2019 Academic Year will see the admission of additional 2 MPhil and 4 PhD students in Planning and Development Studies with sponsorship from the DAAD.

### **VISITORS TO THE DEPARTMENT**

During the academic year, the Department received the visitors from the following Institutions:

- i) Network of Excellence in Land Governance in Africa (NELGA) Project.
- ii) Technical University of Dortmund, Germany and member of the SPRING Network; and
- iii) The Ghana Institute of Planners (GIP)

## **CONCLUSION**

Despite the adverse STR and other resource constraints, the Department of Planning, is making every effort to fulfil its mission to train skilled personnel required to formulate and manage various development policies and programmes at all levels of national development.

## **CENTRE FOR SETTLEMENTS STUDIES**

### **MANDATE**

The Centre conducts research into the human settlements development and planning, housing and construction issues and devises interventions targeted primarily towards addressing the socio-economic needs of the rural and urban poor. To achieve these goals, the Centre focuses on development-oriented research leading to the formulation of policy guidelines, extension of technical development services to the communities through field demonstration units, and problem-solving consultancy mechanisms.

Currently, the Centre for Settlement Studies (CSS) is in collaboration with other research centres in Africa for the promotion of the African Urban Initiative. The objective is to develop an African research THINK TANK on urban research in Africa and also create an advocacy for African governments to align with the urban agenda by using sites and urbanisation as an anchor for development on the Continent.

The Centre is involved in both undergraduate and postgraduate teaching and research in the College of Art and Built Environment.

### **RESEARCH STAFF**

Research staff of the Centre is made up of a Professor, two Associate Professors, two Senior Research Fellows, one Research Fellow and an Asst. Research Fellow.

The Centre has eleven support staff comprising, administrative personnel, technicians and artisans. Its Carpentry and allied workshops play a pivotal role in the University as a whole. Apart from assisting students to undertake practical and project work, it supplies furniture and wood products on demand to the university and the general public.

### **TEACHING ACTIVITIES**

Research Fellows of the Centre participate in the teaching programmes (including students' project supervision) of the Departments at the College of Art and Built Environment and outside the College.

## **POSTGRADUATE COURSES**

### **M.Phil Programme in Urban Management Studies**

So far 20 postgraduate students have graduated from the programme since its inception a few years ago.

The Centre has submitted proposals for running Master of Philosophy/ Doctor of Philosophy programme in Flood Risk Management which is receiving attention at the Planning and Resources Committee. It is expected that the programme will commence in the 2018/2019 academic year and would be run in conjunction with the Department of Building Technology.

## RESEARCH, PROMOTION OF KNOWLEDGE, PUBLICATIONS AND EXTENSION SERVICES

### Research and Promotion of Knowledge

Current research is focusing on housing affordability and energy saving measures for climate change adaptation and also helping communities to build resilience for flood risk management. To this extent, the Centre has received support from Ford Foundation, through the University of Cape Town and is helping to develop a Community Based Resilience Framework for Flood Risk Management in Urban Ghana. This current research aligns with the common vision of the African Urban Research Initiative (AURI) of which the CSS is a member.

Other research activities undertaken in the Centre during the year under review are:

- Assessment of the Impact of Occupant Behaviour on Energy Consumption on Public Institutional Buildings (With funding from KNUST Research Fund).
- **Professor King** of the Centre is a team member working on the US\$1.5 Million Danida Sheath Projects. She is also a team member on the Fichtner Management Consulting of Germany and KNUST on the Tarrif Study and Tarrif Plan for the PURC
- **Professor Divine Ahadzie** is collaborating with Prof. Yaw Debrah (University of Swansea, UK), Prof George Ofori (South Bank University, UK), Prof. Geoffrey White (University of Greenwich), Professor Dale Belman (Michigan State University, UK) and Prof. Janet Druker (University of West Minister Business School) to produce a book on International Dimensions of Labour in Construction. Routledge, part of Taylor & Francis has agreed to support and undertake the publication.

### COLLABORATIONS

The Centre is currently in discussion with The University of Lagos Centre for Housing Studies (UNILAG-CHS) in Lagos, Nigeria for collaboration in the core areas of applied research in housing research, capacity-building in the housing sector, housing regeneration. Together, a proposal has been submitted for the Leading Integrated Research for Agenda 2030 in Africa (LIRA). In February, 2019, up to eleven collaborative research projects across Africa will be funded to the value of up to £90,000 each over two years.

### EXTENSION SERVICES

The Centre organised a short course on Flood Risk Management in August, 2017, which was attended by a number of personnel from the National Disaster Organisation and Management (NADMO). This short course in Flood Risk Management is the first of its kind in the country. As per its mandate, the Centre is in constant engagement with the public towards using research to help address community problems. Our community based flood research in **SEPE-BUOKROM** Kumasi has received a lot of media attention and its making an impact.

<https://www.myjoyonline.com/news/2017/August-12th/nadmo-charged-to-tackle-flood-disasters-with-sense-of-community-education.php>

<https://www.ghanaweb.com/GhanaHomePage/NewsArchive/NADMO-charged-to-tackle-flood-disasters-with-sense-of-community-education-568992>

<https://www.myjoyonline.com/news/2018/January-8th/knust-develops-framework-to-mitigate-flood-disasters.php>

## **PUBLICATIONS**

The Centre's research output culminated in twelve (12) journal papers and seven (7) conference papers during the review period. Details are in the University's Quality Assurance Bulletin for 2017/2018 academic year

## **INCOME GENERATING ACTIVITIES**

The Production Units of the Centre (i.e. Carpentry, Welding and Masonry Workshop) produce door and window components and furniture for sale to the public and on order from the various units of the University. These activities do not only generate income but publicise the research output in building and construction technology and socio-economic development to both rural and urban communities in Ghana.

## **VISITORS TO THE CENTRE**

During the year under review, the Centre received visitors from the University of Central Lancashire, United Kingdom on tour for collaborative research into fire Disaster Management.

## **SERVICE TO COMMUNITY**

**Mr. Henry Kwaku Boafo**, a Research Fellow at the Centre led a delegation comprising the National Champions in Robotics to contest at the Robofest World Championship in the United States of America. The contest was held from 17<sup>th</sup> May – 19<sup>th</sup> May, 2018.



# COLLEGE OF ENGINEERING

## INTRODUCTION

The College is organised under a three-tier system under the leadership of the Provost who provides among other things, leadership in the College to achieve its vision.

## FACULTIES, DEPARTMENTS AND PROGRAMMES

The College is made up of three Faculties with eleven (11) Teaching Departments and two (2) Research Centres. The Faculties are Civil and Geo-Engineering, Electrical and Computer Engineering; and Mechanical and Chemical Engineering. The teaching Departments are the Departments of Chemical Engineering, Mechanical Engineering, Computer Engineering and Materials Engineering. These run two undergraduate programmes each, while the remaining seven Departments (Electrical and Electronics Engineering, Agricultural Engineering, Petroleum Engineering, Civil Engineering, Geological Engineering, Telecommunications Engineering and Geomatic Engineering) run an undergraduate programme each.

### Research Centers

Technology Consultancy Centre (TCC)

The Brew-Hammond Energy Center (TBHEC)

All the Departments run Postgraduate programmes.

## ADMINISTRATION OF THE COLLEGE

The following are the key Administrative Personnel at the Provost's Office.

Provost	Professor Mark Adom-Asamoah
Registrar of the College	Mr. Richard Appiah-Nkyi, Esq.
College Accountant	Mr. George Effah Asamoah
College Librarian	Mrs. Akua A. Badu Sampene
Assistant College Registrar	Mr. Ebenezer Baah-Boateng
Assistant College Registrar	Mr. Kweku Appiah-Badu
College Research Manager	Ms. Barbara Gyapong-Korsah

These key personnel are supported by one Chief Administrative Assistant, two Principal Administrative Assistants, one Principal Library Assistant, one Library Assistant, two Accounting Assistants, three Senior Accounting Assistants and a Principal Asst. Transport Officer.

## STUDENT ENROLMENT

The College has a total enrolment of five thousand and seventy-one (5,071) undergraduate students and two hundred and forty-one (241) postgraduate students.

## KEY COLLEGE LEVEL ACTIVITIES

### College Awards Day

As part of activities for the 2017/18 academic year, the College organised the 3<sup>rd</sup> Students and Industrial Partners Awards ceremony on 16<sup>th</sup> November, 2017. The following categories of Award were conferred on deserving students: *Excellent Student Award*, *Best Student Award* and *Most Improved Student Award*. Awards instituted by individuals and corporate bodies for students who satisfied certain criteria were also given out. Among these were: CONSTRUCTA NORBERTO



ODEBRECHT, GN ELECTRONICS, GNPC-TEHNIP, UNIBANK GHANA, SPARKS SM GHANALTD, MERICOM SOLUTIONS and HUAWEI.

### **Career Fair-2018**

The College organised a three-day Career Fair from 21<sup>st</sup> – 23<sup>rd</sup> February, 2018 for students. The Fair provides a platform for firms to introduce themselves to students and for students to discover opportunities available to them. The companies that participated in this year's event included: CONSTRUCTORA NORBERTO ODEBRECHT, GNPC, HUAWEI TECHNOLOGIES GHANA LIMITED, NATIONAL COMMUNICATIONS AUTHORITY, WILMAR, GN ELECTRONICS, GNPC-TEHNIP, VODAFONE GHANA, MTN GHANA AND NALO SOLUTIONS.

### **Special College Initiatives**

The College continues its efforts at mainstreaming occupational health and safety issues into engineering education. It enforced the use of protective clothing by all students for field work and for laboratory work. It also continued its programme of ensuring that all students participate in at least one field trip during the year. Engineering Leadership Lecture Series for third year students has also been instituted by the College. This is compulsory for all third year students.

### **The College Research Office**

The College Research Office (CRO), established under the Office of the Provost continues to promote and support funded research in the College and serve as a link between the College and the Office of Grants and Research (OGR) of KNUST:

#### **Grant Proposals:**

The Research Office continues to provide and work with PIs in the development and submission of grant proposals. In all, about five (5) proposals have been submitted awaiting positive feedback.

\*Details of these can be obtained from the Provost's Office.

### **WORKSHOPS AND CONFERENCES**

The CRO has been involved in the planning and organisation of workshops and conferences in the College. Amongst them include:

- 2nd International Conference on Engineering, Science, Technology and Entrepreneurship (ESTE 2).
- Engineering leadership lecture series 2018.
- KNUST College of Engineering High School Information day.
- Training on shit flow diagram and waste water treatment for metropolitan, municipal and District Assemblies, 2018.
- 1st Regional Conference and School on Water, Climate Change and Environmental Sanitation (2017).

### **MARKETING OF RESEARCH AND ACTIVITIES IN THE COLLEGE**

- College of Engineering Students and Industrial Partners Awards Brochure – 16th November 2017.
- College of Engineering Newsletter (CoE Newsletter 2018).
- Engineering Journal of Undergraduate Research 2017.

### **On-going Activities**

- Preparation of KNUST Research Report 2017 to be launched in 2018.
- Preparation for the Call for papers for the Journal of Engineering, Technology and Physical Sciences (JETS).

### **Future Key Activities**

- Publication on the current activities of the College Research Office.

### **COLLEGE LIBRARY**

The period under review saw the following changes in the College Library –

**READING AND REFERENCE SECTIONS:** These sections have been reorganised to make way for easy accessibility of materials to users. Electrical plugs and sockets have been provided on some of the reading desks/tables for patrons' use.

**ELECTRONIC LIBRARY:** This section of the library has been completed and subsequently commissioned on March 08, 2018 by the Vice Chancellor supported by the University Registrar, University Librarian, the College of Engineering Provost, and the Heads of Department.

### **FUTURE SERVICES**

Plans are underway to include Lending and Document Delivery Services to the existing ones.

It is the desire of the library staff to make service the number one priority to patrons by providing materials, services and facilities to support their needs.

## **FACULTY OF CIVIL AND GEO-ENGINEERING**

### **DEPARTMENT OF CIVIL ENGINEERING**

#### **PROGRAMMES OFFERED IN THE DEPARTMENT**

##### **Undergraduate Programme**

The Department runs a four-year undergraduate BSc degree programme in Civil Engineering.

The total undergraduate enrollment in the year under review is **683**.

##### **Post Graduate Programmes**

The Department runs taught MSc/MPhil and PhD courses in the various areas of specialisation in Civil Engineering. Below is the total student enrolment for Postgraduate programmes:

<b>Postgraduate Programmes</b>	<b>Enrollment</b>
MSc Water Supply and Environmental Sanitation	45
MSc Water Resources Engineering and Management	45
MSc Road and Transportation Engineering	15
MSc Structural Engineering	-
MSc Geotechnical Engineering	20
MPhil (Civil Engineering)	8
PhD (Civil Engineering)	5
PhD (Transportation Engineering)	1
PhD (Environmental Engineering)	26

PhD (Geotechnical Engineering)	1
PhD (Water Resources Engineering)	11
PhD (Water Resources Engineering and Management)	12
PhD (Water Supply and Environmental Sanitation)	-
PhD (Water Supply and Treatment Technology)	3
PhD (WASCAL Climate Change and Land Use Programme)	12
<b>TOTAL</b>	<b>204</b>

## ACADEMIC STAFF

The academic staff strength in the Department during the reporting year is 24. These are made up of one Professor, eight Associate Professors, seven Senior Lecturers, seven Lecturers and one Assistant Lecturer.

Academic work in the Department is supported by technical staff consisting of six technicians led by a Principal Technician while administrative work is organised by a Principal Administrative Assistant.

## RESEARCH

The Department is organised into five main sections with specialisation in the following areas of civil engineering practice:

- Structural Engineering.
- Geotechnical Engineering.
- Highway and Transport Engineering.
- Water Resources Engineering.
- Environmental Quality Engineering.

## SUPPORT TO THE DEPARTMENT

The Department continues to benefit from the benevolence of certain institutions and organisations. Key amongst these institutions are as detailed below:

No.	Description	Nature of Assistance
1	The Ministry of Roads and Highways	Support for the MSc in Road and Transportation Engineering. Under the Government's Urban Transport Project (UTP) and Transport Sector Project (TSP).
2	WASCAL	Support for PhD research work on land use and climate change
3	World Bank/Ghana Government	African Centres of Excellence Project (RWESCK)
4	ABP Consult	Support for Civil Engineering Design Course in the BSc programme
5	Comptran Engineering and Associates	Support for Transportation Design Project course in the MSc. Road and Transportation Engineering Programme
6	UNICEF	Addressing Sanitation Challenges in Ghana SANMAK project on training

7	Water & Sanitation for Urban Poor, UK (WSUP)	Strategic Collaboration Design and Transformation into Policy of a programme of research around pro-poor urban sanitation in Ghana
8	Department of Urban Roads	Physical Inventory and Road Condition Surveys for Ghana's Urban Road Network
9	Transport for Africa	Sustainability and Resilience of Transportation Infrastructure in African Countries

The Ghana Highway Authority, Department of Urban Roads and the Department of Feeder Roads of the Ministry of Roads and Highways as well as WBHO continued to support our Students' vacation training programme.

### **COLLABORATIONS**

The Department continues to collaborate with several institutions in Ghana, West Africa, China, UK, US, etc.

## **DEPARTMENT OF GEOMATIC ENGINEERING**

The Department currently has four Sections namely;

1. Land Surveying and land management.
2. Geodesy.
3. Photogrammetry and Remote Sensing.
4. GIS, Cartography and IT section.

### **ACADEMIC STAFFING**

The Staff of the Faculty is made up of three Associate Professors, six Senior Lecturers and five Lecturers. The Academic staff is supported by one Principal Technician, six Senior Technicians and one Technician. The efforts of the teaching staff are complemented by an Administrative Assistant/Secretary and Survey Assistants.

### **PROGRAMMES**

The Department is currently offering postgraduate and undergraduate degrees as follows:

1. Master of Philosophy (MPhil) – 2 years
2. Master of Science (MSc) – 1 and half years
3. Bachelor of Science (BSc) Honours – 4 years
4. Short Courses in various aspects of Geomatic Engineering – 3 to 6 months

The PhD programme is research-based while the MPhil and MSc comprises taught course components and a project. The undergraduate programmes are all taught courses. Practical components are essential in all courses. Field trips and vacation training programmes are integral parts of our training and these enrich the practical orientation of our students. Short courses are organised for various Departments/Organisations with special needs.

## DEPARTMENT OF GEOLOGICAL ENGINEERING

The Department of Geological Engineering has been providing training in the exploration and exploitation of natural resources and finding effective solutions to geo-environmental problems associated with the exploitation and utilization of natural resources.

The Department is currently offering four academic programmes categorized as follows:

- BSc Geological Engineering – 4 years duration.
- MSc Geophysical Engineering – 2 years duration.
- MPhil Geological Engineering – 2 years duration.
- PhD Geological Engineering – 4 years duration.

The total number of undergraduate students enrolled in the Department currently is 438 with about 15% of them being females while 23 students (comprising 9 PhD and 14 MSc/MPhil students) are enrolled in the postgraduate programmes of the Department.

### STAFFING AND STAFF DEVELOPMENT

The academic staff strength of the Department remains thirteen (13); comprising eight (8) permanent staff and five (5) experienced Adjuncts from industry and a collaborating University who mainly teach course modules on the postgraduate programmes. These staff are composed of one (1) Associate Professor, two (2) Adjunct Professors, two (2) Senior Lecturers, four (4) Lecturers, three (3) Adjunct Lecturers and one (1) Assistant Lecturer. Additionally, the Department has a technician and an administrative staff who support its activities.

Under the year in review some members of staff (academic and non-academic) completed various degrees and training workshops.

### RESEARCH

The research focus of the Department was streamlined along the three (3) main areas of specialisation of Geological Engineering for effective research groupings and organisation of teaching as follows:

- Hydrogeology and Applied Geophysics
- Engineering Geology and Mine Geotechnics
- Environmental Geology and Earth Resources

As part of the streamlining, the laboratory spaces for the Department was refurbished, delineated along the three research areas, and all the equipment received as part of College Laboratory Retooling Project and from the Minerals Commission were installed for use. Thus, the Department now has laboratories furnished with modern geophysical tools, pumping test kit, borehole logging tool, rock cutting and polishing tools, grinding machine, crushers, petrographic and student microscopes, hand augurs, borehole logger and point load tester among others set up in conducive environments to facilitate research, teaching and learning.

Under the year in review, the following staff research activities are also reported:

**Dr. E. K. Appiah-Adjei** and **Mr. G. C. Amedjoe** were **each awarded GH¢10,000 Grant** by the KNUST Research Fund (KReF) for their projects on “Potential Pollution of Groundwater from Improper Automotive Oil Waste Disposal in Suame, Kumasi” and “Provenance of the Voltaian Formation in Ghana” respectively.

The Department has begun evaluating borehole yields on KNUST campus towards advising on appropriate management of groundwater supply on campus.

Staff research activities improved significantly leading to publication of sixteen (16) refereed journal and conference papers.

### **COLLABORATION**

The Department continues its collaboration with Minerals Commission, Geological Survey Authority, Construction and Water companies as well as the Mining industry. These collaborations enabled students to undertake industrial training and field trips that are very relevant to their training. The Department has also developed practical-oriented short courses, in consultation with stakeholders that it intends to roll out for specific groups and agencies in the mining, water and construction industries of the country next academic year.

The Department also continues to collaborate with DUKE and STANFORD Universities in the United States of America to run some modules on the MSc Geophysical Engineering programme. These collaborations demonstrate the commitments of the Department towards working with other institutions to enrich engineering education and practice.

## **DEPARTMENT OF PETROLEUM ENGINEERING**

### **ACADEMIC STAFFING**

There are currently ten (10) Faculty Members made up of one Associate Professor, one Senior Lecturer, three Lecturers and five Assistant Lecturers. The Department has two senior technicians and three technicians.

### **CURRENT STUDENT ENROLMENT**

#### **Undergraduate**

<b>SN</b>	<b>Year</b>	<b>Total Registered students</b>
1	First	75
2	Second	85
3	Third	65
4	Fourth	36
<b>TOTAL</b>		<b>261</b>

### **RESEARCH AREAS OF THE FACULTY**

Academic members of staff conducted research in several areas among which were:

- Petroleum Geology.
- Low Salinity Salt Enhanced Oil Recovery.
- Flow Assurance-Scale Modelling and water/gas Coning Remediation.
- Carbon dioxide (CO<sub>2</sub>) Enhanced Oil Recovery studies.
- Drilling Fluids Design Using Local Materials.
- Geomechanics coupled reservoir fluid-flow.
- Fluid flow in porous media.
- Unconventional hydrocarbon reservoirs.

- Drilling engineering.
- Well completions.
- Reservoir simulation.
- Enhanced Oil Recovery.

### **DEPARTMENTAL ACTIVITIES**

The Department organised field trips for students to gain industrial experience in addition to what they are been exposed to in the classroom as follows:

- Final year students to Haliburton, Takoradi.
- Third year students to EXPRO Gulf Ghana Limited, Takoradi.
- Second year students to BOST, Kumasi.

Plans are far advanced for KNUST to sign an MoU with Ghana National Petroleum Corporation (GNPC) for the establishment of Research Chair in Petroleum Engineering at KNUST.

TECHIP MFC has supported the Petroleum Engineering Department with a video conference facility at the Petroleum Simulation laboratory to enhance teaching and learning and collaboration with Industry partners.

The Department received software donations to enhance teaching and learning as follows;

- Synergy Software Limited donated Interactive Petrophysics (IP) and IC software to the Department with the help of Ghana National Petroleum Corporation (GNPC).
- Schlumberger Oil Services Company also donated Petrel, Eclipse and OFM software to the reservoir simulation laboratory.
- KAPPA donated KAPPA Workstation software (Saphir NL + Topaze NL + Rubis + Azurite) Emeraude and Citrine to the Reservoir Simulation Lab with the help of Dr. Ben Issaka.

## **FACULTY OF ELECTRICAL AND COMPUTER ENGINEERING**

### **DEPARTMENT OF COMPUTER ENGINEERING**

#### **INTRODUCTION**

The Department currently runs two BSc. Degree programmes in Computer and Biomedical Engineering and postgraduate programmes in MPhil and PhD in Computer Engineering with an option in Medical Technology (MT). In the year under review, enrolment at both Postgraduate and Undergraduate levels witnessed an average of 25% increase.

#### **STAFFING**

The total academic staff strength of the Department currently stands at 15 resulting in a student to lecturer ratio of 34. Two members of staff who went on study leave are expected to resume duty in the course of the year. In addition to this, the University has recruited a Lecturer to join the Department.

#### **COLLABORATIONS**

The Department has strong collaborations with leading technology companies such as CISCO, Microsoft and Amazone AWS, which ensures that the content of the curricula are aligned with industrial expectations. The Department currently hosts a CISCO Network Academy programme

which provides our students with the relevant expertise and professional certification in communication networks.

Through such collaboration, the Department introduced a Diploma in Computer Network Engineering programme which seeks to produce middle level network engineers. The two-year programme combines theory with hands-on projects and was designed to run on Distance learning mode using the University's Distance Learning platform.

### **DETAILS OF LINKS WITH OTHER UNIVERSITIES AND INDUSTRY**

Apart from our existing industrial collaboration with the VRA, ECG, MTN, Vodafone, GRIDCO and Texas Instruments Inc. (TI, USA), several local and international companies joined the Department list of industrial partners during the year under review. Specifically, the following companies made commitment towards internship positions for students as well as awards for students: Mericom Solutions Ghana Ltd, Sparkx Ghana Ltd, Danny Praise Computers, Point of View International/ Zepto Limited, MFI Ghana and Unibank Ghana Ltd.

The Department received a grant from Texas Instruments Inc. (TI, USA) to refurbish and upgrade the Microelectronics Laboratory. It also received a grant from IEEE and TI to organise international workshops for researchers, students and academics from several universities both within and outside Ghana.

In addition to our existing links and collaborations with international Universities, the year under review saw the Department collaborating with the Arizona State University under a MasterCard Foundation grant in the areas of research and capacity building. Currently there are five (5) BSc. Biomedical Engineering students pursuing joint 3+1+1 programme at Arizona State University. This specific collaboration provides the opportunity for the students to earn a KNUST BSc. and Arizona MSc. degrees in Biomedical Engineering at the end of the programme.

### **PROFESSIONAL TRAINING**

The Department continues to host a Cisco Training Facility that provides opportunity for students to enhance their employable skills in the field of Computer Networking by gaining the CCNA industrial certification. The Department also successfully joined the Amazon AWS educate programme which provides students the opportunity to gain industrial experience in cloud computing to enhance their career progression.

### **RESEARCH**

As part of a strategy to streamline research activities within the Department, the Department performed a rationalisation exercise to review research groupings accordingly. There are currently six (6) research groups within the Department: Intelligent Energy Systems (InES), Multifunctional Integrated Circuits and Systems (MICS), Networks, Distributed Systems, and Security (NeDSyS), Robotics and Embedded Systems for Critical Applications (RESCA), Bioinstrumentation and Healthcare Technologies (BHE) and Biomaterials and Tissue Engineering (BioTE).

The BHE group developed a prototype of an intelligent ventilator, whilst the RESCA, InES and NeDSyS produced prototypes for image processing techniques for glaucoma, smart energy management solutions and intrusion detection systems for enterprise networks respectively.

The Department together with the School of Medical Sciences (SMS) won a grant from the KNUST Research Fund to develop a *mobile app to support efficient hospital communication and patient care in Tertiary hospitals in Ghana*.



The Department continues to benefit from the MTN innovation grant to support innovative projects by undergraduate students. Currently, an innovative *app* developed by students of the Department for efficient public transport management has been adopted by the University for management and scheduling of the campus shuttle system. The system will be launched in the 2018/19 academic year.

Several research projects were carried out which resulted in several research publications and prototypes. A collaborative research between the MICS group and several other international universities resulted in the development of a novel biosensor, a photonic diode and novel photonic crystal optical fibres for ultra-high-speed communications.

The Department produced a total of 34 research publications, out of which 26 were published in international journals and 8 were presented at international conferences. Full details of such publications can be found in the annual Quality Assurance Bulletin of the University.

### **AWARDS AND RECOGNITIONS**

The Department was ranked 1st in the Faculty of Electrical and Computer Engineering during the ranking of Departments conducted by the Quality Assurance and Planning Unit of the University. Dr. Tutu Tchao, a Lecturer at the Department won a TWAS-ENEA Research Training Fellowship tenable at ENEA, Italy.

## **DEPARTMENT OF ELECTRICAL & ELECTRONIC ENGINEERING**

### **STRUCTURE OF THE DEPARTMENT**

The Department is organised around four academic Sections. The Sections are based on the key research areas of staff in the Department. The Sections are led by Sectional Heads who work closely with the Head of Department. The Power Systems Engineering and the Radio Frequency and Microwave Sections are currently the most distressed in terms of staffing.

### **ACADEMIC PROGRAMMES**

The Department currently runs the following academic programmes:

- BSc. Electrical and Electronic Engineering.
- BSc. Telecommunication Engineering.
- MSc. Telecommunication Engineering.
- MPhil Electrical and Electronic Engineering.
- MPhil Telecommunication Engineering.
- Ph.D. Electrical Engineering.
- Ph.D. Telecommunication Engineering.

The Department has plans to mount the following additional programmes:

- MSc. /MPhil RF and Microwave Engineering.
- MSc. /MPhil Automation and Controls Engineering.
- Diploma in Telecommunication Engineering (IDL Option).

### **STUDENT POPULATION**

The Department has a student population of 971. Out of this number, 22 are pursuing graduate programmes.

## STAFF STRENGTH

The Department has a total of 16 academic staff in the period under review. Dr. Joseph Oteng Adjei and Mr. Akim Tijani were appointed as adjunct Professor and adjunct lecturer respectively to support the Power System Engineering Section in the year under review.

The student-academic staff ratio (STR) of the Department stands at 60: 1 as against the anticipated maximum ratio of 18:1. It is hoped that in the coming year, the Department will be allowed to recruit a lot more staff to better the ratio to improve the quality of teaching, learning and research.

## COLLABORATIONS

During the year under review, the Department strengthened its collaborations with key allies such as GRIDCo, ECG, VRA, NCA and Vodafone and signed MoUs with Siemens Ghana, Huawei and Transfer Multisort Elektronik (TME) of Poland. The Department also collaborated with the Institute of Electrical and Electronic Engineers (IEEE) Ghana Section to host the IEEE day celebration for the first time in the College. The Department officially joined the International Telecommunications Union (ITU) and entered into an agreement with National Communications Authority (NCA) to collaborate in ITU study-group activities.

In the year under review, the Department received a total of **\$ 121, 621.00 funding** support from our collaborators. Details of benefits accruing from the Department's relationship with key collaborators in the year under review are as ff:

Collaborator	Support	Value
SIEMENS	Equipment for Automation Laboratory	\$25,000.00
SIEMENS	Training of two Lecturers on Siemens Industrial Automation Systems in South Africa	\$10,000.00
TME	Equipment for Electronics Laboratory	\$25,765.00
TME	Refurbishment of Electronics Laboratory	\$5,856.00
HUAWEI	HAINE Training in South Africa for two Lecturers	\$10,000.00
HUAWEI	Equipment for HAINA Training	\$25,000.00
HUAWEI	Sponsorship for three students and one Lecturer to participate in global ICT competition in China	\$7,000.00
HUAWEI	Sponsorship for two female students to participate in Huawei Seeds for the Future programme in China	\$8,000.00
VRA	Sponsorship for one lecturer to partake in a training on Renewable Energy	\$2,000.00
GRIDCO	Purchase of P.A System for ELEESA	\$1,500.00
ECG	Purchase of P.A. System for ELEESA	\$1,500.00
<b>TOTAL</b>		<b>\$121,621.00</b>

The Department also received global recognition through the excellent performance of students and staff who participated in global competitions. A new electronics laboratory funded by Transfer Multisort Elektronik (TME) is almost complete, a new automation laboratory funded by Siemens is complete and in use, and a new networking laboratory funded by Huawei is in the pipeline.

## RESEARCH AND SERVICE

The Department continues to render valuable service both locally and internationally. Some of these are:

### **Dr Jerry John Kponyo**

- Session Chair, European Modelling Symposium, Manchester, UK.
- Visiting Lecturer to teach postgraduate course, ESIGELEC, France.
- Member, Editorial Committee, GhIE.
- Panel Chair, GhIE Professional Examinations.
- Member, Strategic Plan Implementation Oversight Committee, KNUST.
- External Examiner, GTUC, KsTU.

### **Dr. E. A. Frimpong**

- Non-Professorial Representative, Academic Board.
- Session Chair, IEEE Power Africa Conference, Accra.
- Technical Expert, NAB.
- Moderator, AIT, KAFF.

### **Dr. E.K. Anto**

- Electrical Consultant, KNUST.

### **Dr. A-R Ahmed**

- Moderator, NABTEX.
- Moderator, All Nations University, Akim State University.
- TPC Member, IEEE, UKSIM-AMSS 2017.
- College Examinations Officer.

### **Dr. J.D. Gadze**

- External Examiner, KsTU.
- Moderator, GTUC.
- Head, QAPU, College of Engineering.

### **Mr. K.A.P Agyekum**

- Member, GhIE Membership Committee.
- Panel Member, GhIE Professional Examinations.
- College of Engineering Vacation Training Officer.

## CONFERENCES/STUDY TOURS AND AWARDS

**Dr. Kwasi Adu-Boahen Opare** and **Dr. Sani Mubarack Ellis** were in South Africa for 2-weeks for a Huawei Certified Network Administrator training programme to be trained as instructors for the programme. The Department consequently began the Huawei Authorisation Information and Network Academy (HAINA) programme and presented its first batch of students to sit for the professional examinations. All those who wrote the HAINA professional examinations in the Southern part of Africa including students from South Africa, Kenya, Nigeria and Ghana entered a competition and out of over 1000 students from 8 Universities, the best three students came

from the Department of Electrical and Electronic Engineering. **Dr. K.A.** Opare also won an award for being an outstanding instructor.

Three students from the Department also won the HULT Prize innovation contest in KNUST and represented KNUST and Ghana in the HULT Prize global contest in Dubai where they performed creditably.

**Dr. J. J. Kponyo** was supported by the University to attend the European Modelling Symposium in Manchester, UK where he was session chair and also presented a paper on Light Fidelity as an Alternative for Information Dissemination in VANETs.

**Dr. F. B. Effah** was sponsored by the VRA to attend a workshop on Renewable Energy Power Purchase Agreements at Senchi, Ghana.

**Dr. Daniel Opoku** and **Mr. E.O.K. Addo** were also sponsored by Siemens to attend a training programme on Industrial Automation in South Africa.

**Dr. E. A. Frimpong** and **Dr. F.B. Effah** were sponsored to attend an IEEE Power conference in Accra Ghana. Dr. Frimpong chaired one of the sessions at the conference.

Two female students Ms. Na-Tei Padikuor Ida and Ms. Amannor Deborah Tethekie were also sponsored by Huawei to participate in the Huawei Seeds for the Future Programme in China.

## **PUBLICATIONS**

Members of Faculty continue to work seriously in the area of research and promotion of knowledge. In the year under review, the collective effort of the Department yielded 41 publications made up of 14 articles in refereed journals and 27 publications in refereed conference proceedings.

## **VISITORS TO THE DEPARTMENT**

In the year under review, the Department hosted visitors from the National Communications Authority and held very fruitful discussions on future areas of collaboration.

The Director of Fixed Business and Customer Care Patricia Obo-Nai who is an alumna of the Department also visited and had interactions with students and Lecturers.

Mr. Akim Tijani, the Protection Manager of VRA and Ing. Mrs. Sophia Tijani a former Council member of the GhIE also visited the Department to share their rich industrial experience with our students and agreed on areas of collaboration with members of staff.

## **CONCLUSION**

The year under review has been a very fruitful one and the Department as a whole has made considerable progress. The Department is grateful to TME for providing funds for the establishment of a new Electronics laboratory; gratitude also goes to Siemens for the setting up of a laboratory for Automation and Control. The Department expresses its heartfelt gratitude to Huawei for providing resources for a HAINA laboratory and finally a big thank you to all collaborators for the support in the year under review.

# **FACULTY OF MECHANICAL AND CHEMICAL ENGINEERING**

## **DEPARTMENT OF AGRICULTURAL AND BIOSYSTEMS ENGINEERING**

### **INTRODUCTION**

The Department is currently organised into four sections: Agricultural Machinery Engineering, Soil and Water Engineering, Food and Postharvest Engineering and Agro-Environmental Engineering.

### **ACADEMIC ACTIVITIES**

During the period under review, the Department continued to run the BSc Agricultural Engineering Degree Programme as well as offer service courses in Agricultural Mechanisation and other courses to students at the Faculty of Agriculture. Eighty (80) students were admitted for the regular Agricultural Engineering programme. The Department also offers service courses to MSc/MPhil Programmes in Seed Science and Technology, Postharvest Physiology and Landscape Studies, all at the Department of Horticulture, Water Resources Engineering and Management at Civil Engineering Department and Water Resources Management at the Department of Theoretical and Applied Biology.

### **Graduate Degree Programmes**

Currently, there are eight (8) PhD students and fifteen (15) MSc/MPhil students in the following areas of specialisation:

- Soil and Water Engineering;
- Food and Postharvest Engineering;
- Agricultural Machinery Engineering;
- Agro-Environmental Engineering and
- Bioengineering

During the November 2017 graduation, eight (8) MSc/MPhil students from the various specialisations and one (1) PhD student graduated. Currently, two (2) MSc/MPhil students and four (4) PhD students have gone through a successful viva and will graduate in July this year. The Department will also admit its first batch of students for the new programme, Masters in Intellectual Property (MIP) which starts in August 2018.

### **STAFFING**

Academic staff of the Department consists of four (4) Professors, three (3) Associate Professors, five (5) Senior Lecturers and two (2) Lecturers (two (2) are on sabbatical/study leave and five (5) on contract).

### **COLLABORATIONS/MoUs**

The Department is collaborating with FAO to develop selected morphological and agronomic descriptors for the characterisation of 24 elite cassava varieties in Ghana. There are also on-going MoU's with Iowa State University's Department of Agricultural and Biosystems Engineering, collaborating on improving the design of drying, handling and storage systems as well as feed manufacturing processes. MoU's for training of students and industrial collaboration also exist between the Department and two companies namely, Dessert Lion International and John Deere (PTY) Limited.

## **PRODUCTION AND EXTENSION ACTIVITIES**

The Department produced/provided the following services to the University and other organisations:

- Assembling and Production of 50 GrainMate Moisture Meters for Post-Harvest Loss Mitigation in Cereals and Legumes Production in Ghana.
- Technical training to 35 selected participants of the Feed the Future Innovation Laboratory on reduction of Post-Harvest Loss.
- Design and Development of Hybrid Solar-Biomass Maize Dryer for Farmers at Wenchi in the Brong Ahafo Region and Jamasi in the Ashanti Region.
- Series of field demonstration on Mechanised Cassava Harvesting to various stakeholder groups including the FAO and Ghana Industrial Cassava Stakeholders Platform (GICSP).
- Geo-survey for Crop Land Mapping in Ghana.
- Training for MoFA staff and Farmers on simple Survey Instruments for Mapping-out Farm Lands in Ghana.

## **DEPARTMENT OF CHEMICAL ENGINEERING**

### **INTRODUCTION**

The Department of Chemical Engineering offers two four-year degree programmes leading to the award of BSc. Chemical Engineering and BSc. Petrochemical Engineering. Graduate programmes leading to the award of MSc, MPhil and PhD in Chemical Engineering are also offered in the Department. The Department runs top-up for HND holders to BSc. Chemical Engineering at the Institute of Distance Learning as well.

The Department has the Professional Masters of Engineering programme with Management in Oil and Gas. The programme was designed for practicing engineers who want to further their career in management positions and increase their knowledge in their profession as well.

### **STUDENT POPULATION**

The undergraduate students registered in 2017/18 academic year stood at 704 while there were eight (8) postgraduate students in the MSc, MPhil and PhD in Chemical Engineering programmes. Six (6) students who are on the Professional Masters of Engineering programme with Oil and Gas option are yet to graduate.

### **STAFF STRENGTH**

Currently, there are ten (10) full time lecturers and one visiting lecturer at the Department and two (2) retired lecturers are also on contract. Two (2) lecturers are on study leave. The Department also has six (6) non-teaching staff supporting Departmental activities.

### **LABORATORIES**

The modernised Chemical/Petrochemical laboratories have been useful in both teaching and research works of staff and students of the Department and beyond.

### **PROJECTS**

The Department is involved in some funded projects. These projects are as follows:

- Preservation of microbes in the Rotating Biological Contactors (RBC) of the Wastewater Treatment plant. This is a collaboration between AngloGold Ashanti (Obuasi) mine and Department of Chemical Engineering and Kumasi Centre for Collaborative Research into Tropical Medicine (KCCR).
- DANIDA research project on production of second generation biofuels from lignocellulosic materials (2GBIOGNRG).
- DANIDA research project on development of seaweed biorefinery in Ghana (SEABIOGHA).

### **EXTENSION SERVICES**

The Department has produced commercial grade cleaning agents as part of exhibition of the skills capacity building and generation of funds for the Department. Under the leadership of the current Head of Department, the Laboratory Manager and the Technicians of the Department have produced the following cleaning agents:

1. Chemineer Liquid Soap
2. Chemineer Bleach
3. Chemineer Floor Cleaner
4. Chemineer Glass Cleaner

After field testing by potential clients and units of the university, the Department has received orders for production.

### **PUBLICATIONS**

Publications and conference proceedings by academic members of staff can be found in the University's Quality Assurance Bulletin.

## **DEPARTMENT OF MATERIALS ENGINEERING**

### **PROGRAMMES OFFERED BY THE DEPARTMENT**

#### **Undergraduate Programmes**

The Department currently runs two undergraduate programs, that is, B.Sc. Materials Engineering and B.Sc. Metallurgical Engineering.

#### **Postgraduate Programmes**

The Department currently runs **three (3)** post graduate programs: PhD in Materials Engineering, MPhil in Materials Engineering and MSc. / MPhil in Environmental Resources Management. The Department will start running the MSc Environmental Resources Management programme from Institute of Distance Learning (IDL) platform from 2018/2019 academic year. The Department has also drawn up a curriculum for two additional postgraduate programmes – MPhil in Metallurgical Engineering and PhD in Metallurgical Engineering.

## STATISTICS

The student population currently stands at **Five Hundred and Forty-Five (545)** undergraduate students and **Fifteen (15)** postgraduate students. The breakdown is as indicated below:

Year	BSc Materials Engineering	B.Sc. Metallurgical Engineering	Total
First year	92	85	177
Second year	96	98	194
Third year	50	25	75
Fourth year	47	52	99
<b>Total</b>	<b>285</b>	<b>260</b>	<b>545</b>

## MSc/MPhil Environmental Resources Management

- a. Year one (1) - 7
- b. Year two (2) - 8

## STAFF MEMBERS

The Academic Staff strength stands at ten (10). Two professors (one on contract), three senior lecturers and five lecturers. The Department is supported by one administrative assistant and one senior technician.

# DEPARTMENT OF MECHANICAL ENGINEERING

## INTRODUCTION

Currently, the Department offers two, four-year undergraduate programmes leading to the award of B.Sc. Mechanical Engineering and B.Sc. Aerospace Engineering degrees. The Department also runs a two-year top-up programme for HND holders in collaboration with the Institute of Distance Learning of KNUST.

The Department of Mechanical Engineering runs MSc. and PhD Programmes in Mechanical Engineering with specialisation in Thermo-fluids and Energy Systems Engineering; Applied Mechanics and Design and Manufacturing, and Renewable Energy Technologies.

## CURRENT STUDENT POPULATION

Current student population in the Department are as follows:

Undergraduate	
BSc. Mechanical Engineering	574
BSc. Aerospace Engineering	90
Postgraduate	
MSc Mechanical Engineering	24
MSc Renewable Energy Technologies	23
PhD Mechanical Engineering	1

## STAFFING

The Academic staff strength stands at twenty-six (26). Three Associate Professors, eight Senior Lecturers, fourteen Lecturers and one Technical Instructor.



The undergraduate student population is 664. With this student population, a staff strength of 24 is required to keep the staff to student ratio of 1:28 as required by the National Accreditation Board norms.

### **INTERNATIONAL LINKAGES**

Links have been maintained between Department of Mechanical Engineering and the following institutions:

North Carolina Agricultural and Technical University NCA&T.

Southern University, USA.

University of Michigan, USA.

2IE International Institute for Water and Environment, Ouagadougou University.

### **BENEFACTORS**

A number of organisations and individuals have continued to give extremely valuable support to the Department to enhance teaching and research activities. The Department wishes to express its profound gratitude to the following organisations:

The Crocodile Matchets Ghana Limited, Tema; Volta River Authority; Aluworks Limited, Tema; Takoradi Naval Base; Tema Lube Oil; Tema Oil Refinery; and Ghacem, Tema; for their continuous support for our students' industrial visit.

Toyota Ghana fulfilled its pledge of supporting brilliant but needy Mechanical Engineering students with an amount of GH¢ 5,000.00 which has since been paid to the University Central Administration.

### **COMMUNITY SERVICE/CONTRIBUTION TO SOCIETY**

- Prof. F. K. Forson is serving as Moderator for Cape Coast Technical University, Cape Coast.
- Dr. Sunnu is the Chairman of the Programmes Advisory Committee (PAC) of the (HND Automotive Engineering) Koforidua Polytechnic, a member of Ghana Standard Board Technical Committee for standardisation and also involved in the establishment of a National Energy Data Processing and Information Center (NEDPIC) for the Energy Commission.
- Dr. Sunnu is the moderator for the Mechanical Engineering programme at KAAF University.
- Prof. S. M. Sackey serves as the KNUST Representative on the TUNING Project.

### **PUBLICATIONS FOR 2017/2018 ACADEMIC YEAR**

Publications by academic members of staff can be found in the University's Quality Assurance Bulletin.

## **THE BREW-HAMMOND ENERGY CENTRE**

### **INTRODUCTION**

#### **ORGANISATIONAL RESOURCES**

The Centre has operated as a virtual Centre with a lean office staffing structure consisting of the Director, Project Administrative Assistant and six (6) National Service Personnel. TBHEC currently has about sixty (60) Fellows drawn from practically every College of KNUST and about fifty (50) Associates. The Centre has also accepted four (4) interns of which three are students

from the University of Energy and Natural Resources and one from the Electrical Engineering Department, KNUST.

## **RESEARCH**

The Brew-Hammond Energy Centre (TBHEC) successfully completed three (3) major research projects during the 2017/2018 academic year with three (3) major projects currently underway.

## **CURRENT PROJECTS**

### **Africa Low Emission Development Strategies (LEDS) Partnership**

The Africa LEDS Partnership (AfLP) is a partnership of individuals, organisations and African Governments working to promote low-carbon, climate-resilient development to support poverty alleviation, job creation and environmental management in Africa. The Brew-Hammond Energy Centre, KNUST hosts the Secretariat of the AfLP and is responsible for the overall coordination of activities of the partnership. The activities and Secretariat currently funded by US State Department, Department for International Development (DfID), UK and European Commission. The project is wrapping up its activities and will be organising a continental peer learning conference in November, 2018 which will bring together over seventy (70) sub regional LEDS champions across Africa, the AfLP community and other stakeholders to share practical lessons and cross hybridize innovative proven approaches on LEDS modelling and implementation.

### **Photovoltaic Reliability Evaluation in Sub-Saharan Africa (PRESSA)**

The United States Agency for International Development (USAID) is funding a project on Photovoltaic Reliability Evaluation in Sub-Saharan Africa. This project is a collaboration between KNUST and Arizona State University. It is designed to establish Solar PV Performance and Reliability Research in KNUST. Two PhD and one MSc students are currently working on topics focusing on the degradation of modules installed in the sub-Sahara Africa region as well as the optimisation of reliability influencing factors (RIF) for reliability improvement using computer modelling and experimental techniques. The goal is to help KNUST build capacity in PV reliability and certification tests in order to become the leader in PV performance and certification tests in Africa.

### **Capacity Development for Higher Education and Research within the Field of Energy and Petroleum**

The Brew-Hammond Energy Centre in collaboration with the Norwegian University of Life Sciences and the Alesund University received funding from Norwegian Aid Agency for the implementation of a joint project to upgrade education and research capacity in renewable energy technologies with particular focus on TBHEC's MSc Renewable Energy Technologies. Seven PhD students in total in renewable energy related areas such as: solar thermal, bioenergy, wind energy technology and solar PV are currently being supported by the project. Also supported are MPhil MSc students as well as Post-doctorial positions. Female participation is highly motivated under this project.

### **Tariff Study and Tariff Plan**

MiDA has provided funding to Fichtner Management Consulting, Stuttgart, Berlin, Germany (Lead Consultant) and KNUST (subcontract) to provide consultancy services to assist Public Utilities Regulatory Commission (PURC) in the determination of cost-reflective and cost-recovering tariffs for electricity (while, at the same time, ensuring the protection of poor and vulnerable

consumers) and the development of a Tariff Implementation Plan outlining a possible trajectory to phase-out cross-subsidies in the current tariff system and move to cost-reflective tariffs over the coming regulatory period of five years. The project started in October 2016 and is expected to come to an end in June 2018.

## **EVENTS (CONFERENCES, WORKSHOPS, TRAINING PROGRAMMES)**

### **Visit from the German Delegation**

The cooperation between the German State of North Rhine Westphalia (NRW) and Ghana has grown significantly cordial. This relationship is aimed at supporting KNUST to become a Centre of competence for climate and resource protection, provide state-of-the-art studies, advisory services to public and private bodies as well as demonstrate environmental technologies. Visible projects as a result of the collaboration and support from the *North Rhine-Westphalia (NRW)* at the College of Engineering includes the Smart Energy Management System which is evidence of this fact.

In March this year, a high profile delegation visited the Centre. A former Minister of the North Rhine Westphalia state, Hon. Ms. Barbel Hohn and the Country Director in charge of renewable energy for GIZ, Mr. Stephan were received by the Office of the Provost and the Director of The Brew Hammond Energy Centre.

### **Energy Commission's Third Renewable Energy (RE) Fair**

The Brew-Hammond Energy Centre was invited to participate in the Energy Commission's Third Renewable Energy (RE) Fair which was held at the Accra International Conference Centre (AICC) from 10<sup>th</sup> – 12<sup>th</sup> October, 2017. The Centre, represented by the Director (Dr. Emmanuel Ramde), a fellow (Mr. Joseph Akowuah) and two research assistants (Mr. Daniel Oduro Nyarko and Ms. Gifty Serwaa Mensah), attended the fair.

### **ECOWAS Solar Thermal Energy and Demonstration (SOLtrain West Africa)**

The SOLtrain West Africa workshop was organised for the period of Monday 25<sup>th</sup> – Wednesday 27<sup>th</sup> September, 2017 by the Koforidua Technical University (KTU) in collaboration with ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE). The facilitators were from Institute of Sustainable Technologies (AEE – INTEC) in Austria, Dr. Francois Veynandt and Mr. Rudolf Moschik. ECREEE was represented by Mr. Joarel Barros.

### **Launch of Ghana Future Energy Leaders Ghana Programme**

Following an invitation extended to The Brew-Hammond Energy Center, Dr. Francis Kemausuor and Dr. Lena Dzifa Mensah were nominated by the Director to attend the Launch of the Ghana Future Energy Leaders Ghana Programme. The launch took place at the Premises of the Energy Commission in Accra, under the theme ' '. The launch was organised under the auspices of the World Energy Council (WEC).

### **West African Clean Energy & Environment Exhibition & Conference (WACEE) 2017**

The 6<sup>th</sup> West African Clean Energy & Environment Exhibition & Conference was officially opened on Tuesday 7<sup>th</sup> November, 2018 at the Accra International Conference Centre. The exhibition and conference featured stakeholders and professionals from fields of energy generation, transmission and distribution, energy efficiency and electrical engineering, environmental technology, waste recycling as well as waste and sewage treatment.

*\*Further details on the above conferences and workshops can be obtained from TBHEC.*

## **TEACHING AND RELATED ACTIVITIES**

### **MSc. Renewable Energy Technologies (RETs) Programme**

The MSc. Renewable Energy Technologies (RETs) Programme was developed under the EDULink Renewable Energy Education Project (REEP) with support from the European Union's Africa, Caribbean and Pacific (ACP) Secretariat.

### **Running of Short Courses**

The Brew-Hammond Energy Centre organises a week long training programme biannually. It is one of the many short course programs ran by The Centre for close to a decade. The first session for the year 2018 was held from the 8<sup>th</sup> to the 12<sup>th</sup> of January which saw a turnout of over twenty (20) participants to receive training in Solar Photovoltaic (PV) systems.

The second session of the week-long short course was organised from 21<sup>st</sup> May 2018 to 25<sup>th</sup> May. In this edition two courses, *Solar PV* and *Financial modelling and analysis of renewable energy project* were facilitated concurrently. A total of forty (40) people from various academic and professional background participated in the May edition of the short courses.

### **Preliminary energy audit report for KNUST students' halls of residence**

The Centre and VSL Holding Limited (a private company), conducted preliminary energy audit for the KNUST– Students' Halls of Residence, Kumasi, as part of a project to reduce energy consumption and electricity cost of the University. This project is an initiative of the Vice Chancellor to reduce electricity consumption and cost by implementing energy efficiency and energy conservation measures in the students' halls of residence. In addition, this project seeks to explore the possibility of implementing other energy generation alternatives (such as solar energy for water pumping and lighting) in the midst of rising electricity bills coupled with unreliable power supply from ECG.

*\*Further details on the above can be obtained from the TBHEC*

### **Smart Energy Management System Workshop**

As part of the Centre's objective to build capacity in renewable energy, a two-day workshop was organised by TBHEC in collaboration with Technische Universitaet Dortmund, Germany on Smart Energy Management Systems. The primary objective of the workshop was to study the various components and explain the design concepts behind the Smart Energy Management Systems installed at the College of Engineering KNUST.

*\*Further details on the above can be obtained from the TBHEC*

### **DONATION OF LABORATORY EQUIPMENT BY FORMER DIRECTOR**

In the year under review, Prof. Ahmad Addo a former Director of the Centre and an Associate Professor at the Department of Agricultural and Bio-systems Engineering donated an analytical balance, infra-red moisture meter and a gas pressure regulator with a total estimated cost of GH¢27,449.53 to the Centre. This is to enhance teaching, learning research in biomass energy.

## TECHNOLOGY CONSULTANCY CENTRE (TCC)

### ORGANIZATIONAL STRUCTURE

TCC functions under the overall leadership of a Director and works through the following Operational Units:

1. Suame Intermediate Technology Transfer Unit (ITTU)
2. Applied Industrial Ceramics and Rural Enterprise Development (AIC-RED) Unit
3. Graduate Entrepreneurship Training and Youth Empowerment (GET-YE)
4. Cookstove Testing and Expertise Laboratory (C-Lab)
5. Consultancy

These units are headed by a team of Senior Research/Research Fellows. Technicians with expertise in specialised fields, along with production operatives assist the researchers in the day-to-day running of the various Units. These researchers possess extensive local and international experience in field research, training and technology transfer, baseline studies, and impact evaluation.

### MAJOR RECENT AND ONGOING PROJECTS

#### IDIN Project

At the end of September 2017, which falls within the period under review, the International Development Innovation Network (IDIN) programme, in which the TCC was involved, came successfully to an end. The TCC-IDIN Project was a US\$400,000, 3-year, USAID-funded cooperation agreement with a goal “To create and build a global network to change makers that enables the design, development and dissemination of innovations that address key development challenges associated with poverty, while building Capacity in communities for local innovation and creative problem-solving”. IDIN is a consortium of Universities including the Massachusetts Institute of Technology, USA, the University of California-Davis, USA, the University of São Paulo, Brazil, the TCC of the KNUST, Ghana, among others.

*\*Other achievements of the IDIN-TCC project can be obtained from the Director, TCC*

#### National Commission on Culture Project

Under this project the TCC has been contracted to produce and install ceramic processing equipment at four locations in the country on behalf of the National Commission on Culture. The original value of the contract is GHS98,000. The equipment installation process is complete but training at two of the locations is still pending.

#### Kenyase Number 3 Cassava Processing Group Project

The above group is receiving support from UNDP for the construction of gari processing equipment by TCC’s Intermediate Technology Transfer Unit (ITTU) and a structure to house the machines. The Asutifi District Assembly (Brong-Ahafo) Common Fund is supporting the training component. The equipment has been delivered to the site and the training component will follow immediately after the installation of these machines.

#### Affordable Design and Entrepreneurship (ADE) Project

ADE is a collaborative project between the TCC and Professor Ben Linder of Olin College of the USA. It involves the development of mini cassava graters and presses. The TCC is hosting the project at the Suame ITTU. A framework for expanding the collaboration is being worked out

in the form of a Memorandum of Understanding (MoU) under which Olin College Professors will avail themselves to strengthen the staff capacity in soft skills such as *human-centred design* and other areas to benefit the College of Engineering.

### **Proposals SENT OUT FOR FUNDING-AGENCY CONSIDERATION**

The Centre in the year under review sent proposals to partner agencies. Some of the proposals are discussed below. More details can however be obtained from the Centre.

#### **Technology Park Proposal**

A draft proposal drawn by the TCC for creating an extensive technology park for the University worth over US\$ 25,000,000 has been sent to the Ministry of Environment, Science, Technology, and Innovation (MESTI) for them to help in facilitating sourcing of funding. In April 2018 an internal stakeholders' workshop was successfully held at KNUST to receive input from the various Colleges into the draft proposal. MESTI has indicated its willingness to invite a team from the KNUST to interact and discuss the said proposal.

On the other hand, MESTI also intends to implement a rather decentralised innovation and technology commercialisation programme to be managed by a Ghana Innovation and Research Commercialisation Centre (GIRC). Under this programme, six *strategic technology centres* would be sited in six Technology Transfer Centres. The KNUST/TCC was invited to make input for the successful implementation of this programme.

#### **One-District-One-Factory (1D1F) Programme Proposal**

A concept note proposing a possible role for TCC in the Government's 1D1F Programme has been sent to the Ministry of Trade and Industry (MoTI) for their consideration. Following this, the Deputy Minister in charge of Industry intends to visit the KNUST to see the TCC's facilities.

#### **Social Development Fund (SDF) Proposal**

Two concept notes totaling GHS1,000,000.00 sent to the SDF last year will be resubmitted in July, 2018 after feedback input received from the SDF management has been incorporated into the proposal.

#### **Beekeeping Proposal**

Three beekeeping proposals worth a total of GHS400,000 are awaiting funding confirmation from COTVET/ SDF.

### **RESEARCH AND DEVELOPMENT**

Some of the research activities being undertaken by academic staff of the Centre are:

#### **Professor S. M. Sackey**

- Linking process capability to cost in nail-wire drawing.
- Improving precision of approximate methods of analyzing beam vibration.
- Modelling and improving the accuracy of some existing *failure theories*.

#### **Dr. Michael K. Adjaloo**

- Effect of different designs of beehive on hive temperatures with Department of Materials Engineering.
- Beekeeping Livelihood and Poverty Reduction: Assessing Beekeeping Value Chain in Berekum.

- Assessment of Honey Quality in Ghana.

**Mr. Donald Amrago**

- Donago Smokeless Stoves for House hold Enterprises
- Mobile Energy Saving Stoves for Street food Vendors
- Assessment of Employable Skills among internship students attached to Suame Magazine.

**Mr. Michael K. Commeh**

- Identification of local ceramic materials for the cracking of fuel from plastics
- Study of household ceramic water filter candles (on-going)
- Development of helium air-ship using drones

**Mr. Kenneth Donkor**

- Design and development of facial clay brick machine
- Development of curved facial tile machine for round pillars

**Mr. Johnson Asante**

- Simulation and optimization modeling of integrated rice threshing and winnowing system.
- Design thinking and co-creation for Business Development for Waste Pickers using the CreativeCapacity Building (CCB) Methodology.
- Development of mixed-mode solar dryer for small scale cassava processing.

**Ms. Deborah Opandoh**

- Grating fresh cassava into mash (AJFUND)
- Modification of the grating surface of the mini cassava grater for banku dough
- Modification of the mini cassava press using cost effective locally available materials for gari processing women in rural areas.

**NATIONAL/INTERNATIONAL COLLABORATIONS**

**TCC-Energy Commission /UNDP (C-Lab) at KNUST**

The core mandate of the C-Lab is to carry out testing of efficiency, performance, technical and emission level test on cook stoves produced locally or imported into Ghana. This will facilitate the successful and effective implementation of standards. With standards and labels in place, cook stoves will be labelled as “improved” to differentiate them from ordinary cook stoves.

The UNDP in collaboration with the Energy Commission of Ghana, continue to support the C-Lab to acquire the necessary tools/ equipment and capacity building. During the year under review, a CNC plasma/Gas cutting machine was delivered to the C-Lab. Space has been allocated at the Suame ITTU for its installation. The plasma cutter has a size of 3.0mx1.5m. This is expected to enhance the quality and performance of the C-Lab in its technical output.

The C-Lab carried out Research and Development (R&D) activities for commercial users including stove entrepreneurs, Faculty and students’ projects among others, to facilitate continuous technological improvement and innovation in the design and manufacture of improved cook stoves in Ghana and Africa.

TCC-MIT International Development Innovation Network (IDIN) project

The International Development Innovation Network (IDIN) programme has been discussed earlier on in this report

### **Teaching Supervision of Students and Training**

Senior members of staff in the Centre continued to teach and supervise students' dissertations in various Colleges in the University.

- Creative Capacity Building for Commercialisation (CCB4C) Training Workshops.

### **SERVICE TO COMMUNITY**

**Dr. Michael K. Adjaloo** served as Member of Committee for the District Assembly Enable Programme for Accelerated Economics and Social Development; Chairman for the committee to upgrade TCC's Food Processing Unit; Chairman of the KNUST Tourism Project.

**Mr. Donald Amrago** also served on the KNUST United Protestant Committee, College of Engineering Students Career Fair Committee, Served on the Asantehene's KNUST International Innovation for Development Conference and exhibition. A Fellow of the University Hall Senior Common Room.

**Mr. Michael K. Commeh** is a member of the Mirror Committee (MC) of the ISO/TC 285 Cookstoves and Clean Cooking Solutions; Member of Innovation and Exhibition Committee; Member of the Future Lab Committee, College of Engineering.

**Mr. Johnson Opoku Asante** served as a panel member of the Sanitation Technology Challenge at the Department of Civil Engineering, Resource Person of Creative Capacity Building (CCB) for waste pickers, and Resource Person for Creative Capacity Building (CCB) for Business Development for plastic waste pickers in Tema, Newtown.

**Ms Deborah Opandoh** collaborated with the Department of Agriculture, Agogo to help introduce simple, clean and efficient gari processing equipment to rural women entrepreneurs within their reach; raised funds from international partners for three gari processors at Adumkrom to help grow their businesses.





# **COLLEGE OF HEALTH SCIENCES**

## INTRODUCTION

The College of Health Sciences is made up of the Faculty of Pharmacy and Pharmaceutical Sciences, School of Medical Sciences, Faculty of Allied Health Sciences, Dental School, School of Veterinary Medicine, School of Public Health and Kumasi Centre for Collaborative Research in Tropical Medicine.

## STAFF AND STUDENT POPULATION

The College registered a total of **3,649 students for the 2017/2018** Academic year with a **staff strength of 268**. Through an Affiliation agreement with the Ministry of Health, the College supports the Training of Nurses, Midwives and other Paramedics at the Diploma Level for over 70 Health Training Institutions in the county. The same is done for various University Colleges in the Country.

## COLLEGE ADMINISTRATION

Provost	- Prof. Yaw Adu-Sarkodie
College Registrar	- Mr. K.A. Karikari
Ag. College Accountant	- Mr. Owusu Acheampong
Ag. College Librarian	- Mr. Victor K. Teye

## ACTIVITIES

### INTRODUCTION OF NEW PROGRAMMES OF STUDY

Major activities for the year under review are outlined below in reports from the Schools/Faculties in the College.

The Research Unit of the College, the Kumasi Collaborative Centre for Research in Tropical Medicine (KCCR) plays a leading role in Health Research in the Country. It has led in the detection and surveillance of Ebola Virus Disease, Influenza of Avian and Swine origin, meningitis and other diseases of Public Health concern. In doing this, it works closely with the Ashanti Region Directorate of Health Service and the Public Health Directorate of the Ghana Health Service. KCCR has also been in the forefront of research in Buruli Ulcer, Tuberculosis and Typhoid fever in the country.

To support teaching, learning and research activities of the College, additional classroom and laboratory infrastructure are in various phases of construction. These include the School of Medical Sciences, Faculty of Allied Health Sciences and the School of Veterinary Medicine.

## FACULTY OF PHARMACY AND PHARMACEUTICAL SCIENCES

### INTRODUCTION

The Faculty of Pharmacy and Pharmaceutical Sciences comprises six Departments and offers degree programmes in Pharmacy and Herbal Medicine. Its 4-year B Pharm degree programme was replaced with the 6-year Doctor of Pharmacy (PharmD) programme and we are happy to report that the first batch of our PharmD students are graduating this year.

The Faculty also offers graduate programmes leading to the award of MSc, MPhil and PhD degrees in the pharmaceutical sciences and pharmacy practice.

## **TEACHING AND LEARNING IN THE FACULTY**

The Faculty remains resolute in ensuring the availability of increased tutorial sessions which afford students countless opportunities to have more interaction with lecturers and academic tutors. The Academic Class Coordinator System (ACCS), where individual senior members are assigned responsibility for specific year classes to check class attendance and be abreast of and informed about any internal challenges that a class may have; has yielded tremendous results and served as a check on students' attitude to their studies and attendance to lectures.

## **ROTATION FOR 6<sup>TH</sup> YEAR STUDENTS**

During the year under review, the Faculty witnessed its first 6th Year Advance Pharmacy Practice Experiential (APPE) clinical rotations in which final year students spent the entire 6<sup>th</sup> year in selected hospitals across the country, going through six (6) rotations as required by the PharmD curriculum.

The APPE is a one year on-field experiential learning activity for the final year which involves a 40 hours per week practical learning experience and a total of 6 weeks for each of the rotations. By the PharmD syllabus, the 6<sup>th</sup> Year students are required to do clinical rotations in five (5) core practice areas which are Medicine, Accident & Emergency/Critical care, Surgery, Child Health and Maternal Health care. In addition, the students undertake one clinical rotation in any of these elective areas: HIV/AIDs and TB Clinics, Oncology, Mental Health, Dental Care, Public Health and Nutrition.

## **INFRASTRUCTURE**

The newly built 4-storey lecture theatre complex of the Faculty continues to serve the Faculty and the College of Health Sciences very well. The new edifice and its environs continue to receive the needed maintenance to ensure that the facility remains a leading provider of student-friendly lecture hall spaces that aid teaching and learning. Three of the lecture halls have been fitted with smart teaching symposium (one of which was donated by Osons Chemist Ltd) which has enhanced teaching and learning tremendously. The two old blocks were also given a face lift with a fresh coat of paint during the year under review. The Faculty continues to uphold an acceptable maintenance culture by retouching its defaced walls and keeping a reasonably clean and green environment.

Through the kind benevolence of Kingdom Books and Stationery, we now have a refurbished 120 seating-capacity Kingdom reading room which cost the company Two Hundred and Eighty-two Thousand Cedis, Five Hundred cedis (GH¢282,500). Additionally, Danny Praise Computers Limited also refurbished a 50 capacity seating reading room annex for the Faculty. The Faculty's reference library has also been graciously refurbished into a 100 seating-capacity space by Ernest Chemist Ltd at the cost of Fifty-Eight Thousand cedis (GH¢58,000.00). We feel highly indebted to these companies for providing this support to enable our students have ample space for studies.

## **PEER MENTORING SCHEME (PMS)**

The Peer Mentoring Scheme (PMS) was set up during the year under review to help support new students of the Faculty and help them settle in their new environment and overcome any stress and confusion. The overarching aim of this scheme is to provide peer to peer support at key stages of the programme to assist students to settle in, make progress and achieve their potential within the university.

Student mentors have been trained to provide individual support at the start of the programme and throughout the remaining years of study as they work in partnership with senior member supervisors. The Faculty will continue to offer periodic training for these student mentors to ensure that they are equipped with the requisite skills, knowledge and competencies to support their fellow students who might be daunted by some of the obstacles they face during their transition from the senior high schools to university and into adult life. It is hoped that this scheme will complement other university-wide support structures and the role of Academic Tutors and Class Coordinators.

### **PHARMACEUTICAL SYMPOSIUM SERIES (PSS)**

During the year under review, the maiden Pharmaceutical Symposium, the first of the Series, captioned “Today’s Pharmacists Meet Tomorrow’s on the Diversities of Practice in the Pharmacy Profession” was organised. This symposium series has been initiated in the Faculty to create a forum for discussions among practicing pharmacists and our students. For the Faculty, this is one useful window through which it can bridge the much-decried gap between academia and industry.

### **COMMENCEMENT OF PHARM D TOP-UP FOR B. PHARM HOLDERS**

Top-up for the Doctor of Pharmacy programme, for practicing pharmacists who are B. Pharm holders, commenced during the year under review with 123 students. Pharmacists with a minimum of three years’ experience in the various practice areas including Hospital, Industrial, Regulatory and Community pharmacy practitioners were encouraged to make use of the opportunity to upgrade themselves to enhance their performance and to provide contemporary pharmaceutical care to the public.

Resource persons from three universities in the USA including Rhode Island University and Teaching Hospital, University of Maryland and Brown University namely Dr. Ruth Dapaah Afriyie, Dr. Abena Ayim Bediako and Dr. Andrew Zullo were brought on board to augment the staff strength and to provide considerable international flavour to the PharmD programme. The programme is making steady progress and the first batch, mainly Preceptors, who followed a crash programme path will graduate in November 2018.

### **SECOND (2<sup>ND</sup>) WHITE COAT CEREMONY FOR DOCTOR OF PHARMACY STUDENTS**

The Second (2<sup>nd</sup>) White Coat Ceremony for 198 Doctor of Pharmacy students was held in the year under review. It symbolized the passage into the last 2 years of the training of PharmD students, referred to as the clinical years. This event also highlighted the importance of scientific scholarship and emphasized the highest principles of moral, ethical and unique responsibilities the students were being ushered into as they continued to train to become dependable members of the Healthcare Team.

### **INTRODUCTORY PHARMACY PRACTICE EXPERIENCE (IPPE)**

#### **TRAINING /VACATION TRAINING FOR STUDENTS**

The Doctor of Pharmacy programme is a patient-focused, competency and practice-based programme. Consequently, all students are mandated to undertake at least six (6) weeks of practical training during the long vacation from May to July at various practice sites. The Faculty continued to engage our Preceptors/Adjuncts in the hospitals, community pharmacies as well as industries and regulatory agencies, in periodic meetings and discussions to ensure that the

knowledge, skills, competencies and experiential training required to be imparted to our students, remained contemporary and relevant at all times.

### **COMMENCEMENT OF CONTINUING PROFESSIONAL DEVELOPMENT (CPD) TRAINING FOR PHARMACISTS**

Trained pharmacists continually seek to bring themselves up to standard with the changing trends in the practice to be able to provide the highest level of pharmaceutical care at all times. This is achieved through Continuing Professional Development (CPD), a lifelong learning process that seeks to provide and enhance the learning experience of practicing pharmacists after completion of formal training. During the year under review, the Faculty received a request from the Pharmaceutical Society of Ghana (PSGH) to provide CPD training for pharmacists based on CPD needs assessment carried out by PSGH. The Faculty Board thus put together a committee to organise the training and also sought for provider and programme accreditation from the Pharmacy Council of Ghana.

The Faculty was granted accreditation to run seven (7) different trainings for pharmacists across the country including: Antimicrobial Stewardship (4 credits), Stroke-classification, diagnosis, and management (4 credits), Cancer awareness-detection, screening services and care (4 credits), Medication therapy management in pharmacy practice (4 credits), Pharmaceutical analysis and product development (4 credits), Pharmacy practice in the 21<sup>st</sup> Century-positioning ourselves for the changing trends (4 credits) and The Public Health Act of 2012 (Act 851) and the Pharmacist (3 credits). The training started in May and would continue till November, 2018. The evaluation of the training would be done at the end of the session to enable the Faculty consider the next steps to take.

### **PROMOTIONS**

During the period under review, one Associate Professor was promoted to a Full Professor while two (2) Senior Lecturers were also promoted to Associate Professors. Again six (6) Lecturers were promoted to Senior Lecturers. The Faculty is very excited and proud of these achievements and do congratulate our colleagues. We do look forward to more promotions in the years ahead.

### **NEW APPOINTMENTS/RETURN FROM STUDY AND SABBATICAL LEAVE**

During the year under review, **Emeritus Professor Kwame Sarpong** was appointed the Chairman of the University Council. Other members of staff of the Faculty were appointed into various positions. Details of these can be found in the information on their various Departments.

Three Lecturers were added to the Faculty's academic staff while three successfully completed their PhD studies. Another obtained a three (3) months Commonwealth Fellowship to the University of Greenwich. The Faculty is excited about all these successes and achievements chalked and urge all senior members to continue to make it proud.

In line with ensuring that the experiential training exposure for the PharmD students are enriched, sixteen (16) Adjunct Lecturers were appointed in hospitals across the country to assist with the training of our students. We are grateful to the University for this assistance.

### **RESEARCH/GRADUATE TRAINING/CAPACITY BUILDING**

The Faculty, to the best of its ability encouraged the establishment of research teams within and across Departments. The Higher Degrees Committee established by the Faculty Board continued

to facilitate graduate research to ensure the continuing improvement in the quality of research and theses in the Faculty.

The Faculty currently has over 122 graduate students pursuing various programmes of research in diverse scientific disciplines across the Departments. The Faculty continued to increase its research potentials by making maximum use of the University Central Laboratory and the satellite laboratory extension at the Faculty. Programmes and activities are planned to match current trends in scientific research, teaching and development. During the year under review, a total of 45 postgraduate students graduated at the Faculty. This comprised 29 MPhil, 12 MSc and 4 PhDs. The publication record of academic staff of the Faculty as listed under the various Departments is substantial.

### **FACULTY SEMINARS**

The Faculty organised a series of seminars during the period under review to educate staff and students on evolving scientific developments. These were also geared towards boosting the knowledge and research acumen of students and also enhance their presentation skills and confidence. Presentations made at these seminars covered varied areas in Pharmacy.

### **LABORATORY SAFETY TRAINING FOR TECHNICAL STAFF**

The Faculty organised a health and safety training workshop for all its technical staff. The one-day workshop was to enhance the skills and competencies of technicians by taking them through relevant topics including laboratory safety, recognizing laboratory hazards and personal protection equipment etc. As a result of the workshop and the communique that was presented to the leadership of the Faculty after the workshop, technicians in the Departments have been provided with desktops to enable them have data of all reagents and chemicals in each Department.

### **SERVICE TO COMMUNITY**

Staff of the Faculty served on many statutory and non-statutory committees of the University. Senior members continued to play mentorship roles while representing the university on the Academic Boards of a number of private universities in Ghana. We continue to provide leadership roles at various levels including the West Africa Postgraduate College of Pharmacists (WAPCP), Ghana College of Pharmacists and the Planned Parenthood Association of Ghana.

### **INTERNATIONAL COLLABORATION**

The Faculty continued to serve in various capacities on the West African Postgraduate College of Pharmacists (WAPCP), the West African Health Organisation (WAHO) and its expert committees, the International Federation of Pharmacists (FIP) and Commonwealth Pharmaceutical Association (CPA) to define the training needs of institutions of pharmacy and traditional medicine and improve the quality of pharmacy education and practice globally.

Co-operation with the School of Pharmacy, University of Eastern Finland, Kuopio, Finland has resulted in several students and Faculty exchange.

The Faculty continued to keep its links with the Florida A & M University (FAMU), where twenty (20) of our 5<sup>th</sup> year Doctor of Pharmacy students are on an exchange programme together with one senior member. Steps are underway to commence similar collaborations with the University of Michigan School of Pharmacy and University of Illinois at Chicago (UIC), the Rhode Island College of Pharmacy, the St. Joseph College of Pharmacy, USA and University of Alberta, Edmonton, in Canada.

## **CHALLENGES**

The Faculty would be very grateful for an expedited approach to the refurbishing and retooling of our laboratories to match the lecture halls and student numbers for effective teaching and learning. The large numbers of students also require an urgent need to increase the Faculty's staff strength especially in very distressed Departments such as the Department of Pharmacy Practice. The Faculty would be most grateful if all efforts are made to seek some dispensation to further improve on the existing situation on staffing to facilitate effective teaching and learning and the experiential training of our students.

With more pharmacy schools springing up across the country, it gets competitively challenging trying to secure experiential training sites for our students. Undoubtedly, the Faculty continues to need more of these sites for our clinical rotations and would be grateful if work on the university teaching hospital can receive the needed impetus towards its completion to provide ample training sites for our programmes.

## **APPRECIATION**

The Faculty is thankful to all its stakeholders for their incessant and dedicated commitment towards the sustenance and progress of our programmes. We are extremely grateful to all our benefactors. As a Faculty we have enjoyed the kindness of all our benefactors and stakeholders and would like to urge them on to continue to support us and be forthcoming with their ever-needed assistance, suggestions and ideas at any given time. The Faculty indeed, cannot thank you all enough.

# **DEPARTMENT OF HERBAL MEDICINE**

## **INTRODUCTION**

The Department of Herbal Medicine seeks to bring science and technology to bear on the practice of traditional medicine in the country, and thereby modernise and improve the quality of the practice. This is in agreement with the World Health Organisation's promotion of the benefits of traditional medicine worldwide.

## **PROGRAMME OFFERED BY THE DEPARTMENT**

The Department coordinates the 4-year multidisciplinary BSc. Herbal Medicine Programme in addition to offering various courses related to clinical diagnosis, phytotherapy, disease prevention and health promotion.

## **DEPARTMENT MEMBERS**

The Department's staff comprise five (5) Senior Members: three (3) full-time and two (2) on post retirement contract. The clinical training programme of the Department is supported by the Director of the University's Health Services and his staff. These staff are supported by a Senior Administrative Assistant, a Laboratory Technician, Herbalist (Technician) and two (2) cleaners.

## **MAJOR COLLABORATIONS BY THE DEPARTMENT**

The Department has been engaged in various collaborations with the Herbal Medicine Industry in Ghana. These collaborations were carried out with other Departments in the Faculty and institutions outside the University. Some of our external collaborators include Ghana Atomic Energy Commission, Global Institute for BioExploration (GIBEX-Africa) and Agribusiness in

Sustainable Natural African Plant Products (ASNAPP), Department of Botany in the University of Ghana, Ghana Federation of Traditional Medicine (GHAFTRAM) and the University of Michigan Faculty Scholars Programme in Integrative Medicine in the USA.

### **RESEARCH ACTIVITIES IN THE DEPARTMENT**

Some major research activities are currently on-going in the Department. These include:

1. Clinical Evaluation of some Herbal Medicines used in the treatment of alcohol addiction.
2. Development of Herbal insecticides using local raw materials.
3. Development of Herbal remedies for the management of diabetic foot ulcers.
4. Clinical studies on Herbal medicines used in herbal clinics.

The above-mentioned activities are at various stages of completion and are multidisciplinary.

### **CONFERENCES AND MEETINGS**

Senior Members of the Department actively participated in and presented papers and abstracts at the following Conferences and Workshops: The College of Health Sciences' 9th Scientific Conference and 5th AFriNED conference in 2017, held at KNUST. The Head of Department attended a number of workshops and conferences including those organised by the World Health Organisation (On-site visit of WHO AFRO and Headquarters for situational analysis of integration of traditional medicine in the national health system of Ghana) in March 7-10, 2018, and the West African Health Organisation Expert Committee conferences and workshops (on Pharmacopoeia development) in Ghana, Nigeria, Burkina Faso and the Gambia.

### **PUBLICATIONS**

In the year under review members of the Department made Conference presentations and published ten research articles in peer review journals.

### **SERVICE TO THE COMMUNITY**

During the year under review, Senior Members of the Department offered services in various capacities to the University and the Nation. Some members served on the Faculty Board, College Board, the Academic Board and its sub-committees.

Members continue to serve as resource persons or experts on various technical/Expert Committees of the Traditional and Alternative Medicine Directorate (TAMD), Traditional Medicine Practice Council (TMPC) and the Centre for Plant Medicine Research (CPMR), all under the Ministry of Health, and Ghana Standards Board (GSB), Ghana Food and Drugs Authority and West African Health Organisation (WAHO).

## **DEPARTMENT OF PHARMACEUTICAL CHEMISTRY**

### **TEACHING**

Faculty members of the Department teach fundamental courses in pharmaceutical chemistry and medicinal chemistry to undergraduate students of pharmacy, herbal medicine, human biology (medicine and dentistry) and veterinary medicine. PhD students are prepared to think creatively and openly, and to explore ideas that cross traditional fields of study.

Faculty members are also involved in the teaching of a course in pharmaceutical technology at the undergraduate level in the Department of Chemical Engineering and offers teaching and training



in the applications of specialised techniques such as MS, NMR, IR, HPLC and Electrophoresis to other Departments of the University and other tertiary institutions. The Department played a key role by providing academic senior members to nurture the Department of Pharmaceutical Chemistry of the School of Pharmacy, University of Ghana.

### **ACADEMIC MEMBERS OF STAFF IN THE DEPARTMENT**

The Department of Pharmaceutical Chemistry has ten (10) academic senior members made up of three (3) Associate Professors, three (3) Senior Lecturers and four (4) Lecturers, one of whom is on study leave pursuing a research degree leading to the award of a PhD.

### **STUDENTS**

Currently, there are twenty-one (21) MPhil and Eight (8) PhD students at various stages of their research projects.

### **RESEARCH**

During the 2017/18 academic year, the Department's research focus continued to be on the quality assessment of pharmaceutical products using validated HPLC analytical methods. In addition, application of hydrotropic solubilisation techniques in drug formulation and analysis is being pursued. Other areas of research include resistance modulation of plant extracts on standard antibiotics, synthesis and biological evaluation of simple molecules against parasites within the scope of neglected tropical diseases, safe water for health, and quality control of non-traditional export commodities.

Currently, the level of essential equipment to support research and postgraduate training is low. The Department has thus, embarked on a number of initiatives to improve equipment offerings and dividends have already started accruing as the Department was one of the recipients of the 2018 Instrumental Access awards from Seeding Labs USA. With the support of the Vice Chancellor, the Provost of the College of Health Sciences and the Dean of the Faculty, the Department is expecting a consignment of essential laboratory equipment and supplies valued at \$110,000.00 to enhance teaching, learning and innovation in the Faculty and the University at large.

### **CONFERENCES/WORKSHOPS**

All academic staff attended the Annual General Meeting and Conference of the Pharmaceutical Society of Ghana held at the Great Hall, KNUST in August 2017. The Department also actively participated in the Conference of the Ghana Science Association organised in conjunction with the College of Science in April 2018 at KNUST, by submitting three (3) abstracts for oral presentation.

### **INDUSTRIAL COLLABORATION**

The Department with support from the Dean of the Faculty has established strong collaborations with all major Pharmaceutical Industries in Ghana. The collaboration now allows for PharmD students to have Experiential Internships in Industry during vacations and within the semester as Industrial Electives. In addition, the academia-industry relationship is creating partnerships in research and development, while offering an enhanced undergraduate and postgraduate training through exposure to industrial practices, and acquisition of relevant job-market competencies. The relationship is being strengthened by the development and signing of memoranda of understanding between the university and the selected industries.

## GRANT AWARD

Mr. Richard Lamptey (PhD Pharmaceutical Chemistry Student) has been awarded a visiting scientist on the Next Generation Scientist Programme by Novartis and University of Basel, Switzerland (June – August 2018). This award is to help the recipient complete aspects of his PhD research that cannot be performed locally. In addition, the Department has received Seeding Labs Award for Instrumental Access to improve the number of equipment in our laboratories to support teaching and research. The Department patiently awaits positive outcomes from other grant applications that are under various stages of consideration.

## SERVICE TO COMMUNITY

Members of the Department continue to serve the University, nation and the international community in diverse capacities. **Prof. J.S.K. Ayim** serves as the Council Chairman for the Garden City University College and West End University College. He is the Chief Examiner and Chairman, Standing and Finance Committee, West Africa Postgraduate College of Pharmacists. Prof. Ayim is also the Chairman of the Scholarship Committee of the Kwahu Development Committee (KETFund). On the other hand, **Prof. J.K. Kwakye** is the Consultant/Chief Examiner for the Ghana Professional Pharmacist Qualifying Examination of the Pharmacy Council. **Prof. R.K. Adosraku** has also been one of the medicines quality control consultants of the Essential Medicines Division of the West Africa Health Organisation (WAHO), as well as the External Examiner to the Department of Pharmacy and Alternative Medicine, Kenyatta University, Nairobi, Kenya. **Dr. Joseph Adu** serves as the Manager of the Pilot Production Unit of the Faculty of Pharmacy and Pharmaceutical Sciences in addition to serving as its Industrial Relations Coordinator. Other senior members continue to serve on several University, National and International organisations in various capacities such as reviewers and editorial members of local and international peer-reviewed journals, External Examiners and Assessors.

The Department continues to provide analytical, product research and development services to a number of pharmaceutical and herbal industries in Ghana, while offering drug analysis and quality assurance services to up-coming pharmaceutical industries and hospitals with drug production units.

## DEPARTMENT OF PHARMACEUTICS

### INTRODUCTION

The Department consists of two sections: General Pharmaceutics and Pharmaceutical Microbiology. The courses in General Pharmaceutics are designed to enable students understand the basis and techniques used in the small-scale compounding and large scale production or manufacturing of pharmaceutical products.

Pharmaceutical Microbiology offers in-depth knowledge on all the major groups of micro-organisms and their relationship to man and animals.

### PROGRAMMES OFFERED BY THE DEPARTMENT

The Department contributes significantly to the success and development of the Doctor of Pharmacy (PharmD) and BSc. Herbal Medicine programmes run by the Faculty. The Department also runs 2-year MPhil and 4-year PhD programmes in both General Pharmaceutics and

Pharmaceutical Microbiology, as well as a 2-year MSc programme in Pharmaceutical Technology. Plans are also far advanced to launch a new BSc. Programme in Cosmetology and Nutraceuticals.

### **ACADEMIC MEMBERS OF STAFF**

The Department has three Associate Professors, five Senior Lecturers and four Lecturers.

### **SENIOR AND JUNIOR STAFF**

There are six (6) Senior Staff: one administrator, four (4) Senior Technicians and one Technician. The number of junior staff is three: An Assistant Technician, a Head and a Senior Cleaner.

### **TEACHING AND RESEARCH IN THE DEPARTMENT**

Senior members in the Department continued to teach courses in pharmaceutics, pharmaceutical technology and pharmaceutical microbiology in the Professional Doctor of Pharmacy (PharmD) and BSc Herbal Medicine programmes. The Department also continues to teach in the MSc Pharmaceutical Technology programme as well as in its MPhil and PhD programmes.

It conducts research in areas such as; Pharmaceutical Technology, Formulation Science, Biopharmaceutics, Pharmacokinetics and Phytomedicines. Some of the research topics currently being undertaken in the Department include the following:

- Development, characterisation and evaluation of oral lipid-based Clarithromycin-loaded self-micro emulsifying formulation for improved pharmacokinetics and efficacy.
- Bioequivalence studies between locally-manufactured generics and innovator brands in animal models.
- The development of effective herbal formulations.
- Plants with bacterial resistance modifying activity.

\*Further details on the above can be obtained from the Department.

### **PUBLICATIONS**

During the year under review, the academic staff of the Department published their research findings in reputable Journals and in Conference Proceedings, as summarised below:

Refereed Journals	20
Book Chapters	2
Abstracts and Conference Proceedings	5

### **HIGHER DEGREES FOR SENIOR MEMBERS**

One member of staff obtained a PhD degree from his research undertaken in the Department. The only one other senior member without a terminal degree is at an advanced stage of his PhD research in the University.

### **RESEARCH DEGREES AWARDED**

During the academic year, four academic members of staff were awarded PhD in various areas. Three were also were awarded MPhil in Pharmaceutical Microbiology.

### **APPOINTMENTS AND PROMOTIONS**

During the period under review, **Prof. M. T. Bayor** was appointed Chairman of the College of Health Sciences' Quality Assurance Sub-Committee, as well as the Chairman of the College's Strategic Plan Development Committee. **Prof. K. Ofori-Kwakye** was also appointed Vice-Dean

of the School of Graduate Studies. Similarly, **Dr. Noble Kuntworbe** was appointed Chairman of the Security Management Committee of the University.

During the year, one Lecturer was promoted to Senior Lecturer and one other Lecturer was appointed to beef up staff in the Department.

### **RETURN FROM STUDY LEAVE**

One member of staff (Senior staff) returned from study leave after successfully completing an HND in Medical Laboratory Technology programme at the Kumasi Technical University.

### **VISITING ASSOCIATE PROFESSOR**

The Department played host to Dr. Joshua S. Boateng, who is a Reader at the University of Greenwich, Medway, UK, a visiting Associate Professor to the Department. He was with the Department from 3rd – 12th April, 2018, during which period he delivered a series of lectures to both undergraduate and graduate students of the Faculty of Pharmacy and Pharmaceutical Sciences, with the HOD, Prof. M. T. Bayor and other staff in attendance. During this period, we also discussed and strengthened our bilateral collaboration with the University of Greenwich on research.

### **ACHIEVEMENTS AND AWARDS**

The Department continued to witness improvements in our teaching and laboratory environment. All the Department's Laboratories and Conference Room have been refurbished.

Dr. (Mrs) M. El Boakye-Gyasi and Dr. (Mrs) Y. A. Osei won the KReF Fund awards of GH¢30,000.00 and GH¢10,000.00 respectively. The Department also received, with gratitude, donations of drugs from the Pharmacies of Prof. M. T. Bayor and Dr. N. Kuntworbe, for use in our routine Laboratory exercises.

### **INCOME GENERATING ACTIVITIES**

The Department continued to offer consultancy services to the Food and Drugs Authority of Ghana as well as pharmaceutical and herbal product manufacturing companies. The Department is also the backbone of the Faculty of Pharmacy and Pharmaceutical Sciences Production Unit. Currently, it has produced an all-purpose liquid soap "Pharma Clean", for the market. Plans are also far advanced with industry to set up a mini-commercial manufacturing unit on our premises.

### **CONFERENCES, WORKSHOPS AND SEMINARS**

Senior members attended the 2017 Annual General Conference of the Pharmaceutical Society of Ghana held in KNUST, Kumasi from 1-6th August, 2017 on the theme 'Harnessing Opportunities in Pharmacy for National Economic Development'.

Senior members also attended a 2-day training workshop on Electronic learning and virtual classroom, from 19 – 20 March, 2018; as well as a workshop on research management information and grant accounting management systems, on March 22, 2018. Prof. Christian Agyare also attended several conferences among which were:

- Higher Education Conference in Ghana, Theme: "Funding of Public Universities in Africa-New Paradigm", ISSER Conference Hall, University of Ghana, Legon, Accra, Ghana, 5th-6th April, 2018

- Training Workshop on Entrepreneurial University Transformation organised by Maastricht School of Management (MSM), Netherlands; at KNUST, Kumasi, Ghana, 26th February to 2nd March, 2018
- VII International Conference on Environmental, Industrial and Applied Microbiology, Madrid, Spain, 18th – 20th October, 2017

## SERVICE TO THE COMMUNITY

Senior Members of the Department continued to serve on various Boards and Committees of the University and other National and International Boards/Committees. Many Senior Members served as reviewers and editorial board members for local and international peer-reviewed journals. The Department continued to offer consultancy services in drug formulation, stability studies and quality control of pharmaceutical products to various pharmaceutical and herbal products manufacturing companies and hospitals in the country.

**Prof. K. Ofori-Kwakye, Dr. N. Kuntworbe, Dr. Stephen Y. Gbedema and Dr. (Mrs) Mariam El Boakye-Gyasi** are still Visiting Lecturers and Professors at the Faculty of Pharmacy, Madonna University, Elele, Nigeria. **Prof. M. T. Bayor** is a serving member of the Technical Advisory Committee on Safety of Medicines of the Food and Drugs Authority of Ghana. He is also a member of the Technical Advisory Committee on CPDs of the Pharmacy Council of Ghana. He serves as Chairman of ASRPA, member of the Education and Public Health Directorate, member of the Governing Board of Pharmaceutical Society of Ghana (PSGH), as well as member of the Disciplinary Committee of the PSGH. He was also a member of the LOC of AGM 2017 of PSGH. Prof. M. T. Bayor is also the KNUST Representative to the Madina Institute of Science and Technology (MIST), Accra. At MIST, he is a member of Council, Academic Board, Admissions Board, as well as Appointments and Promotions Committee. **Prof. Christian Agyare** also serves as Member, Legal and Quality Assurance Committee, Pharmacy Council, Ghana; Member, National Health Insurance Oversight Committee, Ghana; External Quality Assurance Expert, Namibia National Council for Higher Education; Member, Organizing Committee, 8th International Conference on Infectious and Inflammatory Disease, Vienna, Austria, External Examiner, Centre of Biotechnology, Siksha 'O' Anusandhan University, Bhubaneswar, Odisha, India etc.

## DEPARTMENT OF PHARMACOGNOSY

### INTRODUCTION

The Department contributes significantly to the teaching of Pharmacy and Herbal Medicine programmes. Pharmacognosy plays a critical role in ensuring the authenticity, purity and consistency of the materials employed in this regard.

### PROGRAMMES OFFERED BY THE DEPARTMENT

The Department of Pharmacognosy offers various courses as part of the 6-year undergraduate Doctor of Pharmacy (Pharm D) and the 4-year Bachelor of Science in Herbal Medicine (BSc. Herbal Medicine) degree programmes. The Department is actively involved in the promotion of the conservation and sustainable utilisation of natural products.

At the graduate level, the Department also offers research training in various aspects of medicinal plants to its MPhil and PhD students. One (1) PhD student and one (1) MPhil student graduated

this academic year. The Department currently has nineteen (19) post graduate students: seven (7) PhD and twelve (12) MPhil students.

### **FACULTY MEMBERS**

The Department has seven (7) Senior Members made up of one Professor (Emeritus) two Associate Professors, two Senior Lecturers and two Lecturers

### **RESEARCH BY STAFF**

The Department continued with its research on natural products, i.e. standardization and phytochemical evaluation of Ghanaian medicinal plants with respect to secondary metabolites, and validation of Ghanaian indigenous remedies. Particular emphasis is now on medicinal plants with anti-inflammatory, antimicrobial (Biofilm inhibitors), anti-leishmanial, pesticidal and wound healing activities. Members of the Department are also involved in the development of topical preparations from some local plants with analgesic and anti-inflammatory activities and clinical studies on local herbal medicines and quality analysis of herbal products.

### **PRESENTATIONS AT CONFERENCE, SYMPOSIUM AND SEMINARS**

**Prof Abraham Yeboah Mensah** travelled to the Technical University of Dortmund, Germany in January 2018 with two MPhil students to participate in the Winter School organised under the project “Phytochem SSA 2015-33-074”. The winter school focused on the application of Mass Spectroscopy to identify and characterise natural product compounds. Prof Abraham Yeboah Mensah was also invited to the University of Michigan, Ann Arbor, USA from the 15th-17th March, 2018 to present a paper entitled the “The Impact of University of Michigan Presidential Scholars’ program (UMAPS) on Health Education in Ghana” at the symposium organised by the African Studies Center to celebrate the 10th anniversary of the UMAPS program.

### **WORKSHOPS ATTENDED BY SENIOR MEMBERS**

**Dr. Isaac Kingsley Amponsah** attended an International Workshop on regulation of Herbal and Traditional Medicinal Products in Accra, from the 7th – 9th March as a resource person. The workshop was organised by the Food and Drugs Authority of Ghana and the German Cooperation in collaboration with the Federal Institute of Drugs and Medical Devices (Germany). **Dr. Edmund Ekuadzi** was appointed as a member of the Local Organizing Committee of the GC-MS training workshop: A hands on Approach, Pan African Chemistry Network held in Ghana from 7-11th of August 2017.

### **MAJOR SERVICES TO THE COMMUNITY**

Senior Members continued to offer services to the University in various capacities, serving on the College Board and its various Sub-committees, and the Faculty Board, and its sub-committees. Services was also offered to other national and international organisations including the Pharmacy Council, Pharmaceutical Society of Ghana, etc. Emeritus Professor Kwame Sarpong continues to serve as the Chairman of the Arch-diocesan Health Services Board, Kumasi and a Member of the Diocesan Health Services Board. **Prof. Mrs. Rita Akosua Dickson** is a member of the Governing Board of the Pharmaceutical Society of Ghana (PSGH) and a Council Member of the Pharmacy Council of Ghana. She continues to serve as the National President of the Planned Parenthood Association of Ghana (PPAG). **Dr. Edmund Ekuadzi** was elected the Chairman of the Ashanti Regional branch of the Pharmaceutical Society of Ghana (PSGH) and a member of the Governing Board of the PSGH. **Dr. Isaac Kingsley Amponsah** was appointed a member of the Ministry of

Health Ghana, expert committee for the development of the first essential Herbal Medicine list for Ghana. He was also selected as a member of the Expert Committee for the development of the second volume of the ECOWAS Pharmacopoeia by the West African Health Organisation (WAHO); in addition, to membership of the Ecowas Committee for the development of IPR document for the protection of Traditional Medical Knowledge for the Sub-region in Abuja and Ougadougou. Dr. Isaac Kingsley Amponsah was appointed an External examiner of the Department of Biomedical and Forensic Science, University of Cape Coast. The Department continues to collaborate with the Food and Drugs Authority in analyzing and characterizing herbal products prior to the issuing of license for their sale on the market.

## **DEPARTMENT OF PHARMACOLOGY**

### **INTRODUCTION**

The Department of Pharmacology continues to play a key role in the University as the only Department involved in the teaching of Pharmacology and Toxicology.

### **TEACHING**

The Department offers courses in Physiology, Basic/Applied Pharmacology and Toxicology to undergraduate students studying for the following programmes in the Colleges Health Sciences and Science respectively:

- Doctor of Pharmacy (PharmD).
- BSc. Herbal Medicine.
- BSc. Human Biology for Medicine & Dentistry.
- BSc. Nursing (General, Emergency, Midwifery).
- BSc. Medical Laboratory Technology.
- Doctor of Veterinary Medicine.
- O. D Optometry & Visual Science.

Staff of the Department also undertake postgraduate teaching for students on the 2-year Master's and 3-year Doctorate programmes in Pharmacology and Toxicology.

Presently, the Department has forty-three (43) graduate students researching into various aspects of natural product Pharmacology and Toxicology.

### **ACADEMIC MEMBERS**

The Department currently has an academic staff strength of twelve; made up of two Professors, one Associate Professor, six Senior Lecturers and three Lecturers.

During the year under review, two academic senior members of the Department were promoted to Senior Lecturer status and Two Technicians were also promoted to the rank of Principal Technician and Senior Technician respectively.

### **CONFERENCES AND MEETINGS**

Members of the Department took part in the Continuing Education for Pharmacists organised by the Pharmaceutical Society of Ghana. In addition, members of the Department participated actively in Continuing Professional Development programmes organised by the Pharmacy Council of Ghana. **Dr. (Mrs) Cynthia Amaning Danquah** attended the Global-NAMRIP (Global Network for Antimicrobial Resistance & Infectious Prevention) Network Meeting in Tomreik Hotel, East

Legon, Accra, WACCBIP Seminar (West African Centre for Cell Biology of Infectious Pathogens) at African Centre of Excellence for Higher Education, University of Ghana, Legon, Accra, and the 1st Postgraduate Applied Research Conference in Africa, organised by the British Council, Accra Ghana.

Among the conferences attended by **Dr. Priscilla Kolibea Mante** were the 4<sup>th</sup> Conference of the STEM-Africa Initiative of the African Studies Center (ASC) held at Yaoundé, Cameroun, 2nd Ghana Neuroscience symposium at the University of Ghana, Legon, Accra, 10th Global Health Supply Chain (GHSC) Summit held at Kempinski Hotel, Accra and the 18th World Congress of the Basic & Clinical Pharmacology (WCP2018) in Kyoto, Japan.

## **RESEARCH AND COLLABORATION**

Departmental research involves pharmacological and toxicological investigations aimed at elucidating the scientific basis for the therapeutic efficacy and safety of indigenous medicinal plants of Ghana.

The Department has a specific interest in the area of medicinal plants with potential anti-inflammatory and analgesic, immunostimulant, anticonvulsant, antidiabetic, antiasthmatic, antioxidant and hepatoprotective actions and drugs that enhance learning and memory. Antibiotic resistance has also been a major research area of interest.

The Department has research links with the Departments of Theoretical and Applied Biology, Molecular Medicine, Medical Laboratory Technology of the KNUST and strengthened its links with the Centre for Scientific Research into Plant Medicine over the past year. Additionally, the Department collaborates with the Molecular Toxicology Unit of Imperial College London in the area of possible anticancer agents from plant sources.

## **PUBLICATIONS**

In the year under review, members of the Department published twenty-five (25) research articles in peer review journals.

## **SERVICE TO THE COMMUNITY**

The Department continues to provide consultancy services to the local pharmaceutical industry, research establishments, clinics, traditional medical practitioners and individuals on the therapeutic potential and toxicity profile of new drugs and medicinal plant products.

Members of the Department continue to provide professional services to various Government Departments such as the Traditional Medicine Directorate of the Ministry of Health, the Pharmaceutical Society of Ghana, the West African Postgraduate College of Pharmacists and the Ghana College of Physicians and Surgeons. The Council of the West African Postgraduate College of Pharmacists has representation from the Department.

In addition, some members of the Department have continued to serve as External Examiners and Assessors to Universities and Polytechnics in and outside Ghana and also as assessors for scientific journals. **Dr Newman Osafo** was appointed to the International Advisory Board of IRD India as an honorary member and to the post of Editorial Board Member of Pharmaceutical Crops. Some members of the Department also served as resource persons for programmes organised by the Pharmacy Council for Pharmacists. The Department has contributed to support the Pharmacy Council in diverse ways.



The University has also benefitted from inclusion of members of the Department in a number of Committees. For example, **Prof D.D. Obiri** is the Chairman of the Congregation Dinner and 4th KNUST Excellence Awards Committee, 2017/2018 and also serves as the College of Health Sciences representative on the Central Undergraduate Admissions Committee.

Dr. Cynthia Amaning-Danquah serves as a Member of the Global Executive Committee of the KNUST Alumni Association.

Dr. George Ainooson was appointed to the role of Project Coordinator (Healthcare Centre Brafoyaw).

## DEPARTMENT OF PHARMACY PRACTICE

### INTRODUCTION

The Department of Pharmacy Practice, continues its collaboration with other Departments in the Faculty. The Department works with the Experiential Training Office of the FPPS to coordinate experiential training programmes of the Doctor of Pharmacy students in research units and pharmaceutical establishments, in the communities, hospitals, industries, regulatory institutions and in policy and administration.

### PROGRAMMES OFFERED BY THE DEPARTMENT

**Undergraduate:** The year under review has been challenging as it is the first time there has been a 6th year graduating class, both for the regular PharmD and the Top-up programme. By dint of hard work and a lot of sacrifice and support, we did sail through. Experiential training (both Introductory and Advance Pharmacy Practice Training) was also organised for all the classes (1st year to Final year) to strengthen the skills and knowledge of students for development as competent professionals.

**Postgraduate:** Postgraduate programmes offered in the Department include PhD in Clinical or Social Pharmacy, and MPhil/MSc in Clinical Pharmacy. In 2017, one of our Faculty colleagues successfully defended her thesis and graduated with PhD in Social Pharmacy. We are currently working assiduously to enable other students submit their work (MPhil and MSc in Clinical Pharmacy) and thus graduate this year.

### FACULTY MEMBERS

The full-time Lecturers in the Department are made up of two Associate Professors and three Lecturers. Apart from these the Department also has two Professors who are on post retirement contract. One of these Professors on post retirement contract is with the Department of Pharmacology but supports teaching and research in the Department.

The Department has a number of Part-time and Adjunct lecturers at all the experiential training sites. The part-time and Adjunct lecturers are mostly practitioners, who support class room teaching and experiential training respectively for the PharmD students and postgraduate students in Clinical Pharmacy.

### TEACHING AND RESEARCH

Senior Members in the Department are actively involved in practice and health systems research, and also guiding post graduate research in certain areas some of which are listed.

- Antimicrobial use and resistance surveillance

- Medication safety and practices of Pharmacists in hospitals in Ghana
- Medicines Utilisation in hospitals and community settings
- New ways of taking medication history, documentation of clinical interventions and managing patients own medications in hospitals

New research projects that have been initiated and ongoing in the Department include: exploratory studies to understand the knowledge, attitude, behaviours and practices of diverse types of health professionals, the general public and prescribing clinicians on antimicrobial use and resistance, to inform educational interventions to improve behaviour and practices, and to minimize the risk of the emergence and spread of antimicrobial resistance. This is a collaborative research between a Faculty member of Pharmacy Practice from the University of Sussex, Dr. Geeta Hitch, under the Harry Grotto Research Foundation, and **Prof. Kwame Ohene Buabeng** in the Department, as well as other Faculty members from the Departments of Pharmacology, Clinical Microbiology, KNUST SMS/KATH and School of Public Health, all in the College of Health Sciences, KNUST.

Under the Building Stronger University Programme (BSU) supported by DANIDA, members of Faculty in the Department (**Prof. Kwame Ohene Buabeng and Prof. Berko Panyin Anto**), worked in collaboration with colleagues from the Departments of Pharmaceutical Chemistry, and Pharmacology as well as Clinical Microbiology of KNUST/SMS to assess water resources and the quality of water used by residents of the Asante-Akyem North and Central Districts in the Ashanti Region of Ghana. This was a \$10,000 grant project that was led by Prof. Kwame Ohene Buabeng. Abstracts from this study has been presented at the Inaugural symposium of African Forum for Research and Education that was held at the College of Physicians and Surgeons in Accra, BSU conference held at the Golden Bean Hotel and also at the Annual General Meeting of the Pharmaceutical Society of Ghana in August 2017 at KNUST.

Also ongoing is a project on Pharmacist-led hypertension detection and management programme in the Department with **Dr. (Mrs) Afia Frimpomaa Marfo** as the lead, with **Dr. (Mrs) Mercy Opare-Addo**, also leading one on Health care seeking behavior and the management of non-communicable diseases in community based pharmaceutical and health settings

## **PUBLICATIONS/CONFERENCE PROCEEDINGS**

In the year under review, Faculty Members had fourteen (14) papers published in different peer reviewed journal.

## **BENEFACTORS AND INTERNATIONAL AFFILIATIONS**

Co-operation with School of Pharmacy, University of Eastern Finland, Kuopio, Finland has resulted in several students visiting KNUST on exchange to study practice. In January 2018 for example, three students visited our Department from the University of Eastern Finland to undertake practical training in Pharmacy Practice in Developing Country settings.

Visiting Lecturers have also been appointed as a result of collaboration between the University of Rhode Islands and Rhode Island's Teaching Hospital, USA, Brown University, USA as well as The University of Maryland Teaching Hospital, USA to support the training in Pharmacotherapy and Pharmaceutical care concepts and philosophy to Doctor of Pharmacy students in the Advance Phase of their training, either as regular students or practicing Pharmacists in a Top-up Course. This academic year, we have had Dr. (Mrs.) Ruth Dapaah Afriye and Dr. Andrews Zullo visiting

from the University of Rhodes Island and its affiliated Teaching Hospital, and Dr. (Mrs.) Abena Ayim-Bediako, visiting from University of Maryland Teaching Hospital.

### **SERVICE TO COMMUNITY**

Members in the Department continue to provide useful service to the nation and their communities by undertaking consultancies, serving on Boards of various national Institutions, and actively engaged as resource persons or facilitators at workshops, Symposiums and Conferences related to health and pharmacy practice/research in Ghana.

**Prof. Kwame Ohene Buabeng** is a member of the Academic Board and currently the Head of the Division of Pharmaceutical Care, as well as Chair of the Faculty of Community and Family Health Pharmacy Practice of the Ghana Postgraduate College of Pharmacy, an establishment of the Ministry of Health to train Specialist Pharmacists in Ghana. He continues to serve as the Deputy Chair of the National Antimicrobial Resistance Platform of the Ministry of Health, which facilitated the Development and production of two important documents (the National policy and Action Plan) for the containment of Antimicrobial resistance in Ghana. These documents were launched by the President of the Republic of Ghana in April, 2018. Prof. Buabeng is also an advisor on the ADMER project, which is also aimed at the containment of antimicrobial resistance in Ghana, a Ghana-Dannish Collaboration project. He has currently been appointed (2017/18 academic year) as an External Examiner to the Department of Pharmaceutics and Pharmacy Practice of the University of Nairobi, Kenya. Prof. Buabeng was a member of the Editorial Board for the Ghana National Standard Treatment Guidelines 2017.

**Prof. Berko Panyin Anto** continues to serve as a visiting lecturer in Clinical Pharmacy to Madonna University in Nigeria. He also serves as External Examiner to leading Universities in Kenya and Sudan. He is currently the Experiential Training Coordinator for the PharmD programme at the Faculty of Pharmacy and Pharmaceutical Sciences. Professor Mahama Duwiewua, is a Member of the Executive Board of the Academia and Research wing of the International Pharmaceutical Federation (FIP), At the World Congress of Pharmacists and Pharmaceutical Scientists in Seoul 2017, he was nominated and awarded as a Fellow of FIP. Other consultancy works done by staff in the Department include initiative for Access to medicines for Hypertension, Diabetes and Cancer management.

All the senior members serve on various Committees in the Faculty, the College of Health Sciences, and the University at large.

## **SCHOOL OF MEDICAL SCIENCES**

### **PROGRAMMES**

The School currently runs three (3) undergraduate programmes; BSc Human Biology leading to the MBChB (Bachelor of Medicine, Bachelor of Surgery) and Bachelor of Dental Surgery (BDS) degrees, BSc Physician Assistantship (Aneasthesia) and BSc Disability and Rehabilitation Studies. Postgraduate programmes at MSc/MPhil and PhD levels are also run by the Departments of Community Health, Molecular Medicine, Clinical Microbiology, and Anatomy. The Department of Eye, Ear, Nose and Throat also runs Masters Programmes in Audiology and Speech Science. In addition, the School is involved in the training of postgraduate doctors for the professional membership and fellowship certification of the Ghana College of Physicians and Surgeons and

the West African Postgraduate Medical College. It also trains specialist medical personnel for the country and has sent proposals to the Ghana Health Service for the training of various paramedical personnel at the Bachelor's level.

Apart from the above, the School services courses in the School of Dentistry, Faculty of Allied Health Sciences, College of Engineering, College of Science and the Faculty of Pharmacy and Pharmaceutical Sciences.

### **SCHOOL ADMINISTRATION AND DEPARTMENTS**

The School is headed by the Dean who is supported by Heads of Departments and Administrative staff. Currently, the Principal Office holders of the school are;

Prof Daniel Ansong	– Dean
Prof Chrissie S. Abaidoo	– Vice Dean
Mr. Harley Anane	– Senior Assistant Registrar/School Secretary

There are fourteen Academic Departments in the School. Teaching and learning in these Departments is organised by the Heads of Department. Courses in Pharmacology are offered by the Faculty of Pharmacy and Pharmaceutical Sciences.

### **ENROLMENT**

Currently there are 1,298 undergraduate students on the Human Biology, 203 on the Disability and Rehabilitation and 5 on the Physician Assistantship (Anaesthesia) programmes respectively. The Human Biology programme has about 5% of foreign students.

### **HUMAN RESOURCE**

The total number of senior members now stands at 105 which includes 8 Professors, 19 Associate Professors, 34 Senior Senior Lecturers, 37 Lecturers and 6 Assistant Lecturers. These senior members of staff are supported by 30 technicians and 25 administrative staff. Most of the staff offer specialist clinical services to the Ghana Health Service/Ministry of Health.

### **INTRODUCTION OF NEW PROGRAMMES**

In response to the growing demands for access to higher education, the Department of Behavioural Sciences introduced new postgraduate programme in MSc International Masters Degree in Global Health Policy, Services and Development.

### **SUPPORT FOR SISTER MEDICAL SCHOOLS**

The School continues to play a greater role in supporting the growth of sister Medical Schools including; School of Medical Sciences, UCC and the School of Medicine and Hygiene, UDS. The University has consistently granted permission for the School to support teaching and other academic activities in these institutions. Through an affiliation agreement with KNUST, the School also supports the Central University College, and the Garden City University College, both private University Colleges in the training of some health personnel.

### **INITIATIVES FOR USE OF GHANA HEALTH SERVICE FACILITIES FOR TEACHING**

The School has successfully dialogued with the Ghana Health Service for the use of some of its facilities for teaching. Currently the School uses Manhyia, Kumasi South, Maternal and Child Health and University Hospitals as affiliate teaching sites. Adjunct Faculty with relevant qualifications and experience working in these facilities have been recruited by the University.

Together with staff from the School they teach and offer specialist services at these affiliate Institutions. It is hoped that with these specialist activities on offer at the sites, this will lead to decongestion at the Komfo Anokye Teaching Hospital which has served and will continue serving as our main teaching hospital.

Plans are far advanced to work towards the use of other health facilities in the region and beyond to support student teaching. These will include both non-Governmental and private facilities which have the necessary infrastructure.

## **INFRASTRUCTURE**

During the academic year under review, some infrastructural projects to support teaching and learning were undertaken. Some of these have been completed while others are ongoing. With funding from the Internally Generated Fund (IGF), the School has embarked on two three-storey classrooms/lecture theatres for pre-clinical students near Agricultural Mechanisation Unit. Further, to that the School has refurbished its teaching laboratories and have expanded and created classrooms for graduate students.

The School administration has installed power inverter systems in the Dean's Office and some Laboratories, it is expected to be extended to the various offices of the Departments.

The School has also acquired one hundred and fifty computers (150) to beef up its ICT/e-learning centre and has written to the Director of Works to change the face of the ICT Centre by modernizing it into a first-class IT centre. It is also in the process of employing video-conferencing technology in the delivery of lectures in some of lecture theatres/classes.

An Anatomage (Virtual Cadaver) and models were also procured for the Department of Anatomy, fifty (50) microscopes for the Departments of Anatomy, Microbiology and Pathology. The Pathology Department has been resourced with a modern laboratory where some of the microscopes have been installed for teaching and research activities.

The School has initiated the construction of the road leading to the Faculty of Allied Health Sciences, School of Dentistry and School of Public Health while Close circuit television (CCTV) has been installed in its major entry and exit points. Access control system is being developed in the main entrance.

## **EXTERNAL RESEARCH SUPPORT**

The School is in the forefront of malaria vaccine research together with other countries with support from GSK. Other malaria research and capacity building is being supported by the Wellcome Trust, EDCTP, Malaria Vaccine Initiative, DFID (UK) and the Gates Foundation. The Gates Foundation also supports research in Reproductive Health, and Child Survival including growth and stunting. The School has funding from the World Health Organisation for research into Buruli Ulcer and other Neglected Tropical diseases. USAID has provided funding to support research into HIV Most at risk populations. The Fogarty Institute (US) is supporting research and capacity building in Injury prevention. Research into kidney diseases and lifestyle diseases (including obesity and hypertension) is supported by the NIH. Our recent research partner is the Royal Society which is supporting research and capacity building in Cancer and aflatoxins, and liver disease.

## COMMUNITY SERVICE

In addition to the provision of clinical services by the School at the Komfo Anokye Teaching Hospital and other Health Service facilities, the School serves on many committees of the Ghana

### **Health Service and the Ministry of Health.**

The School appreciates the many Ghana Health Service facilities which supports the training of students during their Community Health rotation programmes. Their partnership in the training of health manpower for the country has been invaluable.

## CONFERENCES

The School successfully held its first Maiden Annual Students Research and Awards Conference under the theme ***‘Effective Communication of Research Findings; A prerequisite for Effective Health Care Delivery in Ghana’*** on the **22<sup>nd</sup> May, 2018**. The aim of the Conference was to bring final year students of the School to a common academic platform, to communicate their research findings to the wider academic community and the public. It was also to give various categories of awards to deserving students. Over 800 participants attended the conference. This included students from sister Medical schools in the country.

## MEDICAL STUDENTS ACADEMIC LITERATURE READING PROGRAMME

A new reading programme titled **“Medical Students Academic Literature reading programme”** has been introduced. This programme started in December, 2017 and is compulsory for all year groups. Departmental Heads provided articles on their courses were uploaded unto the Virtual Classroom (Online Learning Platform) for students to access.

## SMS-KNUST RESEARCH ELECTRONIC DATA CAPTURE SYSTEM (REDCAP)

The School of Medical Sciences has now introduced a Research Electronic Data Capture System called **REDCap**. REDCap is a mature, secure web application for building and managing online surveys and databases. Using REDCap’s stream-lined process for rapidly developing projects, applicants may create and design projects using 1) the online method from your web browser using the Online Designer; and/or 2) the offline method by constructing a ‘data dictionary’ template file in Microsoft Excel, which can later be uploaded into REDCap. Both surveys and databases (or a mixture of the two) can be built using these methods. REDCap provides automated export procedures for seamless data downloads to Excel and common statistical packages (SPSS, SAS, Stata, R), as well as a built-in project calendar, a scheduling module, ad hoc reporting tools, and calculated fields. Advanced features, such as branching logic, file uploading, and calculated fields. The platform is ready for use and can be accessed on [rcsms.knust.edu.gh](https://rcsms.knust.edu.gh)

## SMS-KNUST/ KATH – Committee on Human Research, Publications and Ethics (CHRPE)

The SMS/KATH has now introduced an online ethical clearance application form to promote the paperless act and also reduce the stress some applicants go through. This advancement seeks to help applicants to visit the site and create an account which will enable them to fill the application forms at any time without restrictions and has therefore eliminated the stress of coming to the office to pick an application form. All the important requirements needed for the process can be found on the site, hence the ethical clearance process will be rejected by the system if the requirements are not met. The reviewing process and approvals are all done electronically on the same platform. This appears to be faster and easier than the manual method. Applicants can access the Ethics online application form on [www. Chrpe.smsknust-kath.org](http://www.Chrpe.smsknust-kath.org)

## **IT SUPPORT FOR TEACHING AND LEARNING**

The School of Medical Sciences has purchased the following items to support teaching and learning for both Preclinical and Clinical programmes.

1. **100** – computers for lower class (HB1 – HB3).
2. **50** – computers for clinical school at Kath (MBCHB1).
3. **1** – Canon 60D camera for Clinical Audiovisual.
4. **1** – Led light with stand to support Clinical Audiovisual recordings.

## **COLLABORATION/LINKS/MoU's WITH OTHER INSTITUTIONS**

Links/Collaborations/MoU were established with a number of institutions including the following:

1. Komfo Anokye Teaching Hospital, Kumasi Ghana.
2. Hopexchange Medical Centre, Kumasi Ghana.
3. University of Illinois, USA.
4. Asokwa Childrens' Hospital, Kumasi, Ghana.
5. Ghana Health Service.

## **SUPPORT FROM CORPORATE GHANA**

The School is very grateful to Genser Energy for signing an MoU to support the School over the next 5 years.

Ghana-Reinsurance has consistently supported the School for over 10 years.

## **CURRENT RESEARCH PROJECTS**

### **Epidemiology of deep vein thrombosis in a tertiary care hospital in Ghana –Association of asymptomatic malaria parasitaemia and deep vein thrombosis.**

A collaborative project with the University Medical Centre Hamburg-Eppendorf (UKE), Germany. The **Collaborators and Collaborating Institutions are the following:** Dr. Isaac Kofi Owusu of SMS and KATH, Kumasi, Ghana, Dr. Christof Vinnemeier, and Dr. Thierry Rolling all of University Medical Centre Hamburg-Eppendorf (UKE), Germany.

This research is being funded by the University Medical Centre Hamburg-Eppendorf (UKE), Germany.

### **Prevalence of Cardiovascular Disease Risk Factors and Target Organ Damage among Ghanaians**

A Collaborative Study with the Guangdong Cardiovascular Institute. Guangzhou. China. The research is being funded by the Chinese Government through the Guangdong Provincial Cardiovas Institute, Guangzhou, China.

### **The Sickle Pan-African Research Consortium: SPARCO**

SPARCO is a 4-year project (2017–2021) supported by a grant from the National Institutes of Health (NIH) (Ghana's site award is USD 333,971.29). SPARCO seeks to increase skills to ensure that there is a critical mass of healthcare professionals, educators and scientists working in SCD.).

### **Training mothers and caregivers to recognise the early clinical signs of pneumonia in children less than 2 years in Ghana: proof of concept study**

A research team led by Prof Daniel Ansong, (Dean, SMS) conducted a study aimed at equipping mothers and primary caregivers with skills for early detection of childhood pneumonia. This

proof of concept study was funded by the “Building Stronger Universities” initiative which is a KNUST-Danish Universities consortium partnership.

The study holds a prospect of a service that when integrated into the continuum of care could address the issue of late recognition and reporting of pneumonia morbidity. This in the long run will aid in reaching the **current SDG target of a** significant reduction in childhood mortality to at least 25 per 1000 live births by 2030.

### **Stroke Investigative Research and Education Network (SIREN)**

Phenomics and Genomics investigation of 3000 stroke cases and 3000 controls recruited from 10 hospital sites in Ghana and Nigeria. This is a collaboration between KNUST and University of Ibadan, Nigeria.

### **Phone-based Intervention under Nurse Guidance after Stroke (PINGS)**

Pilot trial of mHealth (smart phone) intervention to improve care processes and outcomes among 60 recent stroke recruited from Komfo Anokye Teaching Hospital in Ghana with hypertension. Collaboration between KNUST and Medical University of South Carolina, USA (Prof. Bruce Ovbiagele).

### **Evaluation of Vascular Event Risk while on Long-term Antiretroviral Suppressive Treatment (EVERLAST)**

EVERLAST is premised on systematically assessing the prevalence and predictors of CVD risk among a cohort of HIV-patients receiving ART in an urban setting in Ghana. The inclusion of two control groups – HIV positive ART-naïve subjects and HIV uninfected subjects, will allow for a rigorous and unbiased evaluation of the relative risk of both ART exposure and presence of HIV to CVD risk among HIV patients ART in SSA. Collaboration between KNUST and Medical University of South Carolina, USA (Prof. Bruce Ovbiagele).

### **Stroke Minimisation through Additive Anti-Atherosclerotic agents in Routine Treatment (SMAART trial)**

SMAART aims to assess in a phase 2 pilot/pragmatic Randomised Controlled Trials (RCT), whether a polypill containing fixed doses of 3 antihypertensives, a statin and antiplatelet therapy taken once daily orally would result in carotid intimal thickness regression-a surrogate marker of atherosclerosis, improved adherence and tolerability compared with ‘usual care’ group on separate, individual secondary preventive medications among Ghanaian stroke survivors in a single center study. Collaboration between KNUST and Medical University of South Carolina, USA (Prof. Bruce Ovbiagele).

\*Details of these research can be obtained from the School.

## **CHALLENGES**

Inadequate office accommodation, laboratories and lecturers’ rooms continue to be a challenge for the School. The School still requires more modern lecture rooms, laboratories and offices for staff.

Additional academic staff would also be needed to deal with the large student numbers.



## **DEPARTMENT OF ANAESTHESIOLOGY AND INTENSIVE CARE**

### **INTRODUCTION**

The Department doubles as the Directorate of Anaesthesia and Intensive Care of the Komfo Anokye Teaching Hospital (KATH) and has two (2) main sub-specialties:

- Anaesthesia
- Intensive Care

### **ACADEMIC MEMBERS OF STAFF**

The Department has two Senior Lecturers, one Lecturer and two Adjunct Lecturers.

### **COLLABORATION**

The Department has collaboration with

- The Department of Anesthesiology, University of Utah, U.S.A.
- The Department of Anaesthesia, University of Ulm, Germany
- Kansas University, U.S.A. and
- Hospital for Special Surgeries (HSS), New York, U.S.A.

### **ACTIVITIES**

The Department continues to:

1. Train undergraduates in the basics of Anaesthesia, intensive care and pain management.
2. Train Residency/Postgraduate students in Anaesthesia and Intensive Care.
3. Train Medical and non-medical personnel in Resuscitation.
4. Provide clinical anaesthetic Services for KATH.
5. Provide Intensive Care Services for KATH.

### **ACHIEVEMENTS**

1. In collaboration with the International Association for the Study of Pain, the Department organises Annual Update in Pain Management for medical practitioners in the country.
2. The Department continues to serve as the only centre in the Subregion selected by the World Federation of Societies of Anaesthesiologists for training in Nerve blocks.
3. The Department in collaboration with the University of Kansas organised a training in Airway Management for anaesthesia providers in KATH.
4. The Department also collaborated with the Hospital for Special Surgeries in New York, organised a three-week workshop on Ultrasound Guided Nerve Blocks.

### **POSTGRADUATE TRAINING**

The Department attained full accreditation status from the West Africa College of Surgeons for Specialty training in Anaesthesia and Intensive Care. This is in addition to the full accreditation from the Ghana College of Physicians and Surgeons.

The Department continues to serve as the Accredited Centre for the World Federation of Societies of Anaesthesiologists (WFSA) for the training of Doctors in Ultrasound Guided Nerve Block for the African sub region.

### **PROJECTIONS**

1. To strengthen the Pain Management component of our mandate.

- 2 To attract more Residents in the Department to serve other areas like Obstetrics and Gynaecology Intensive Care Unit.
- 3 To train more Doctors in Cardiac Anaesthesia in anticipation for the establishment of a Cardiothoracic Centre in KATH.

## **DEPARTMENT OF ANATOMY**

### **INTRODUCTION**

This is the only Department involved in the teaching of Human Anatomy to almost all the students in the College of Health Sciences and to Optometry students in the College of Science.

### **STAFF**

The Department has one Professor, two Associate Professors, two Senior Lecturers, one Lecturer, three Assistant Lecturers and three Visiting Professors. The senior academic staff are supported by eleven research, technical and supporting staff. The Department continues to depend on the support of the technical and supporting staff for the day – to-day running of the Department.

### **TEACHING**

The Department offers courses in Anatomy and Developmental Anatomy to undergraduate students pursuing certain programmes in the Colleges of Health Sciences and Science and also provides courses at the postgraduate level in Reproductive Anatomy, Reproductive Health, Disability and Rehabilitation and at the Medical Professional level (Primaries) for West Africa College of Surgeons and the Ghana College of Surgeons and Physicians.

A special support tutorial system has been established to increase the number of practical sessions and assessments for academically weak students and this has resulted in dramatic changes in the perception of the subject. In addition, the Department encourages research-led teaching, promotes student-centred learning and team-based and self-directed learning by students.

In addition, the Department is supervising 18 final year Medical Laboratory Technology students.

### **POSTGRADUATE TRAINING**

The Department runs PhD programmes in Human Anatomy and Cell Biology and Human Anatomy and Forensic Science, MPhil programmes in Human Anatomy and Cell Biology, Human Anatomy and Forensic Science, Human Anatomy and Cell Biology (Morphological Diagnostics Option) and Mortuary Science and Management. These programmes combine research with taught courses in varied areas. The Human Anatomy and Forensic Science programme is to provide training in anatomically-based forensic anthropology, comparative forensic osteology, biometrics and exposure to human form and function with direct relevance to the identification process.

The MPhil programme in Mortuary Science and Management is a unique programme that combines the study of behavioural, physical, and applied sciences with the intent of preparing graduates for careers as knowledgeable, skilled, and innovative as mortuary science and funeral service. During the period under review 6 of our MPhil students in Human Anatomy and Cell Biology and Human Anatomy and Forensic Science graduated. The Department has also made progress in student thesis supervision and is currently supervising 11 PhD students and 31 MPhil

students researching into various aspects of skeletal anthropometry, biometry, osteometry, fertility and infertility and reproductive system tumours.

### **STAFF DEVELOPMENT**

The Department responded to the urgent need for qualified lecturers by admitting 4 PhD students and 5 MPhil students through the Staff Development Programme. These students are being supervised in collaboration with the Department of Biomedical Science, University of Sheffield, UK. So far, all of them have successfully completed their taught courses and oral examinations.

### **BODY DONATION FOR MEDICAL EDUCATION**

The Department administers a body donation programme for Medical Education. The programme is dedicated to provide for the needs of the ever-growing educational and research areas of medical science. During the year under review four people donated their bodies to the Department. The generosity of these body donors adds immeasurably to our quality of life.

### **RESEARCH AND COLLABORATION**

The Department still has research links with the Department of Anatomy and Neurobiology, University of Utah, Department of Biomedical Science, University of Sheffield, UK, and the Departments of Anatomy (UGMS), Obstetrics and Gynaecology (SMS), Pharmacology, Pathology (SMS & UGMS) and Biological Sciences, KNUST.

### **RESEARCH ACTIVITIES**

Research in the Department on facial anthropometric parameters, foot dimensions and percutaneous measurements of the long bones has provided baseline data in Ghana for forensic and biometric purposes. Research in the Department comprises several integrated themes based on anthropometry, developmental biology, infertility, oncology and musculoskeletal biology. Whilst these research themes are particular strengths of the Department, there is a great deal of crossover and collaboration between researchers from different groupings. Currently, the following collaborative research projects are ongoing:

- Percutaneous measurements of the clavicle, humerus, radius, ulna, femur, tibia, fibula for height and sex determination
- Assessment of facial parameters of the Sisaalas, Dagaabas, Akans and Ewes
- Anthropometric study of Ghanaian skeletal remains, fingerprint patterns, palmpoint patterns, footprint patterns, height, weight, finger length, blood group, ear lobe, dental records and digit ratios.
- Foetal Biometry and morphology and ultrasonography of the endometrium in fertile and infertile Ghanaian women.
- *In Vitro* models of human implantation using the human trophoblastic cell line (BeWo) and endometrial epithelial enriched cultures.
- Effect of ethanolic fruit extract of *Xylopi aethiopica*, garlic, ginger, Chinese aphrodisiacs on the morphology and reproductive function of male and females.
- Quantitative assessment of human umbilical cord and placenta and perinatal outcome in HIV seronegative and seropositive mothers.
- Histomorphometric studies of reproductive system tumours and their association with infertility.

## **INFRASTRUCTURE AND LABORATORY EQUIPMENT**

In the academic year under review, the New Multipurpose Laboratory, Dissection Hall and Anatomy Multipurpose Laboratory were refurbished to improve the natural illumination and ventilation in these laboratories and also provide additional space for teaching and learning in the Department. Also the School procured an Anatomage Table (a multipurpose virtual cadaver which allows importation of patient scans, provides unlimited teaching material and endless reusability), models and 50 light microscopes with student-friendly and teacher-friendly features to further enhance the efficiency and effectiveness of the practical sessions, tutorials and demonstrations.

## **INCOME GENERATION**

The Department continues to generate income through embalming and storage of cadavers brought in by the public. The Walk-in Mortuary Refrigerator has been refurbished and there is more storage space for the large numbers of student cadavers required for the increasing student population, for staff and their dependants and also for the public. The Department also hopes to continue to generate some income through the existing training programme for mortuary personnel of the emerging mortuaries.

## **SERVICE TO THE COMMUNITY**

Academic members of staff continue to give invaluable services as external examiners to sister Universities and consultancy services to the Ghana Police Service.

# **DEPARTMENT OF BEHAVIOURAL SCIENCES**

## **INTRODUCTION**

The Department is primarily concerned with the teaching of the behavioural sciences in the pre-clinical as well as psychiatry to those in the clinical areas.

## **MEMBERS OF STAFF**

The Department has one Professor, two Senior Lecturers and two Lecturers with different areas of expertise. These academic members of staff are supported by staff from the Komfo Anokye Hospital as well as some non academic staff of the University.

## **TEACHING**

Our teaching activities could be categorised into Preclinical and Clinical.

### **Preclinical Teaching**

The Department teaches Behavioural Sciences (mainly Psychology and ethics) to Human Biology Students (first to third year medical students) at the preclinical level and Disability and Rehabilitation students. In addition to the above, the Department teach students in the following Departments: Nursing, Medical Laboratory Technology, Sonography and Optometry.

### **Clinical Teaching**

The psychiatric clinicians within the Department led by Dr. Frimpong-Manso Addo, contribute towards the teaching of Clinical Psychiatry to medical students and graduate doctors who are specializing in psychiatry. This includes classroom didactic teaching and interactive tutorials, bedside teaching and demonstrations in the out-patient clinic.

## **ONGOING PROJECTS AND COLLABORATIONS**

The Department maintained its links with partners in the United Kingdom, Ireland, Canada and Australia through teaching and research. This year the Department benefited from the visit of Drs. Sammy Ohene and Liam Smith through the initiative of psychiatrists in the diaspora who support the teaching of clinical psychiatry in the country.

In collaboration with the Dean of the School of Medical Sciences, Prof Daniel Ansong and his vice Prof. Chrissie Abaidoo an early psychiatric intervention service which identifies medical students who show early signs of mental illness and offered the necessary interventions in collaboration with their parents or guardians has been put in place. The need for this service is driven by concerns raised by various lecturers of SMS that the incidence and prevalence of Mental illnesses are on the ascendancy among medical students.

## **POSTGRADUATE TRAINING**

There was an on-going collaboration between our Department and, Department of Psychiatry, Faculty of Medicine & Dentistry, University of Alberta, Canada initiated by alumnus Prof. Vincent Agyapong to establish a postgraduate Masters programme in Global Mental Health Policy, Services and Development. Through the hard work of the Head of Department and her staff, the Dean of SMS and Prof. Vincent Agyapong, the programme has been approved by the Vice Chancellor and is due to commence in the forthcoming academic year 2018/2019.

## **RESEARCH ACTIVITIES**

Together with Prof Oye Gureje of University of Ibadan, Prof. Appiah-Poku of the Department of Behavioural Sciences has teamed up with the PaM-D team to lead a research project aimed at a partnership between Orthodox and Alternative Mental Health Practice and how Mental Health could be developed in Africa.

The Department leads a team of KNUST experts in the provision of expertise in the conduct of Examinations to support the Nurses and Midwifery Council in the introduction of on-line examination in a CINOP project. NICHE 261 funded by the Netherlands government.

Currently there is research in the Department led by Rev. Sr. Dr. Emily Owusu Ansah focusing on indices of mental health promotion in the area of subjective wellbeing, disability, and indigenisation of psychotherapy for context-specific efficacy and also on predictors of suicide among university students.

## **SERVICE TO COMMUNITY**

The Department is a major service provider for mental health services for Kumasi and its surrounding geographical areas and the northern sector of Ghana. Other services the Department provides include psychotherapy, liaison and forensic assessment and report writing as well as preventive mental and educational health talks.

## **HEALTH TALKS/ RESOURCE PERSONS**

The Department offers public health education on various topics of Psychiatry through the media (air waves and television) and talks in churches and schools.

## **OTHER ACTIVITIES AND ACHIEVEMENTS**

The conference room at the Psychiatric Unit of KATH where clinical Psychiatry is taught has been re-furnished.

The Department provides psychotherapy and psycho educational programmes to staff and students of KNUST and persons in the community. Staff of the Department particularly, Rev. Sr. Dr. Emily Owusu Ansah, currently ran the services of the University Counselling Centre for both staff and students of the University Community.

A proposal to develop a full campus based psychiatric unit written by Dr. Frimpong-Manso Addo has been approved by the KNUST Hospital Committee and is due to start as soon.

Since the beginning of this year Prof. Daniel Ansong, has initiated a Group Therapy Service offered by Drs. Emma Adjaottor and Frimpong-Manso Addo for students of SMS who trail some subjects at the end of year examinations. Feedback about the benefits received from such students has so far been encouraging.

## **DEPARTMENT OF CHILD HEALTH**

### **INTRODUCTION**

The Department runs the Child Health Course as an undergraduate programme on a rotational basis with Obstetrics and Gynecology and Community Health for the 5<sup>th</sup> Year of the MB ChB Programme. The Directorate currently has a total of about 320 beds (including 120 cots in a recently commissioned Mother-Baby Unit (MBU, 2018) and 8 beds in the Paediatric Intensive Care Unit (PICU)). It sees about 12,000 in-patients and 32,000 out-patients annually and currently operates with six main in-patient Units, each of which sees both general and specific subspecialty paediatric cases.

The Directorate at KATH receives a wide variety of patients from the surrounding regions and the northern sector of the country, hence exposing students to a diverse group of clinical cases and scenarios for learning. Student enrolment for the 2017-2018 academic year for the Child Health Programme stands at 203.

### **STAFF**

The Department currently has four (4) Associate Professors, two (2) Senior Lecturers, four (4) Lecturers and one (1) part-time Lecturer. In view of the large number of clinical students the Department engages the services of 18 other paediatricians (accredited by the Ghana College of Physicians or West African College of Physicians or both) as adjunct staff to support clinical training activities. The Department is supported administratively by one Senior Administrative Assistant (Secretary) and a Cleaner/Messenger.

### **TEACHING**

The Child Health course is currently a 16-week programme comprising 10 weeks of junior clerkship and 6 weeks of senior clerkship interspersed by a 6-week rotation in Community Health. The clerkship consists of 1-2 hours of structured didactic lectures and seminars followed by bedside teaching and learning in scheduled clinical rotations under the supervision of paediatricians who are lecturers or adjunct lecturer.

To support effective clinical training of medical students, the Department currently engages four (4) External Teaching Sites (ETS) (Hospitals) for training in Child Health, namely, Sunreso, Kumasi South, and Manhyia Government Hospitals, as well as Asokwa Children Hospital (a private hospital). Here, Specialist Paediatricians have been appointed as adjunct lecturers to support clinical teaching in general and community paediatrics.

In February 2018, a new Mother-Baby Unit was completed and commissioned by the First Lady, Mrs Rebecca Akuffo-Addo, purposely to help ease patient congestion as a matter of urgency. Unfortunately, very little provision was made for student teaching in this new structure. While the engagement of Adjunct Lecturers helps ease the teaching load on the few permanent lecturers, persistent space limitations still undermine effective teaching and learning at KATH, especially, for tutorial/small group sessions for neonatal care. It is, therefore, our desire to expand our external teaching sites and to involve them in clinical teaching throughout the entire programme.

### **SERVICE DELIVERY**

The Department at KATH provides secondary and tertiary general paediatric and subspecialty services mostly under the leadership of academic staff who function as Honorary Senior Specialists or Consultants at KATH. General Paediatric services are provided daily with emergency services round the clock. Academic staff also lead in the delivery of numerous health promotion activities as part of national health promotion activities and also locally with the media.

### **POSTGRADUATE TRAINING ACTIVITIES:**

The Directorate of Child Health, KATH, is currently accredited by the Ghana and West African Colleges of Physicians (GCP, WACP) for post-graduate training in Child Health/Paediatrics towards the award of Membership and Fellowship degrees. The postgraduate programme is a 3-year structured Membership training programme followed by a 2-year Fellowship programme after at least two years of practice as specialist. Certification for the Fellowship programme includes the presentation and defense of a dissertation as a requirement. These programmes lead to the award of the degree of Member or Fellow of the Ghana College of Physicians (Child Health), respectively.

### **COMMUNITY SERVICES**

Staff continue to provide regular services to the Ghana Health Service and other national and international organisations (WHO, UNICEF, PATH, etc) through facilitation in Continuous Medical Education programmes and other programmes for capacity building, development of health policies and health policy documents and well as public presentations and education on health issues in child health.

### **RESEARCH AND COLLABORATIONS**

The Department has been involved in several collaborative research with outside Institutions. Previous collaborative research studies include:

1. Severe Malaria in African Children (SMAC Network); NIH sponsored Multi-Center Clinical Research into Malaria in African Children.
2. Malgene; a KCCR sponsored genomic research into severe malaria.
3. Artesunate Quinine randomised controlled trial (Aquamat); a Multi-Center Randomised Controlled trial of injection artesunate and injection quinine.
4. WHO sponsored multi-center clinical trial of the safety and effectiveness of plasmotrim suppository in the treatment of children with severe malaria.
5. WHO-sponsored multi-center Amoxicillin-Penicillin Pneumonia Study (APPIS).
6. WHO/Ministry of Health supported surveillance activities for Vaccine Preventable Diseases, namely, Rotavirus, Bacterial Meningitis, Congenital Rubella Syndrome, and Enteric Fever.

## **PUBLICATIONS**

Publications by members of staff in the year under review can be found in the University's Quality Assurance Bulletin.

## **DEPARTMENT OF CLINICAL MICROBIOLOGY**

### **INTRODUCTION**

The Department focuses on undergraduate teaching of medical and dental students.

### **STAFF STRENGTH**

The Department has two Professors, one Associate Professor, four Senior Lecturers, three Lecturers and eight administrative and supporting staff.

### **TEACHING**

The Department offers courses to undergraduate students pursuing the following programmes in the Colleges of Health Sciences and Science: Medicine, Dentistry, Medical Laboratory Technology, Nursing, Midwifery and Sonography.

The Department offers graduate training and research programmes leading to the award of MPhil/PhD.

### **RESEARCH ACTIVITIES**

Members of the Department undertook many activities in 2017/18 academic year resulting in publications of 26 articles in peer reviewed journals.

### **RESEARCH COLLABORATIONS**

The Department continues to collaborate with the following institutions:

1. KCCR, KNUST/ Bernard Nocht Institute for Tropical Medicine, Hamburg
2. Noguchi Memorial Institute for Medical Research
3. Navrongo Health Research Institute, Navrongo
4. London School of Hygiene and Tropical Medicine, London
5. University of Ghana Medical School.

### **GRANTS**

Individual members of the Department managed to acquire Grants for their research projects.

### **DEPARTMENTAL FACE-LIFT**

The Department merged two small underutilized rooms into an ultra modern Board room and had its corridor renovated with modern floor tiles.

## **DEPARTMENT OF COMMUNITY HEALTH**

### **INTRODUCTION**

The Department houses the Centre for Disability and Rehabilitation Studies (CEDRES) and its undergraduate and graduate programmes. The Bachelor of Medicine, Bachelor of Surgery (MB ChB) final part II for Medical Students is another programme run by the Department.



## **STAFF**

The Department has four permanent teaching staff, one part-time and one adjunct for the CEDRES. Fourteen (14) Senior Members of the School of Public Health support the Department's programmes.

## **PROGRAMMES**

### **MSc Programme in Disability, Rehabilitation and Development**

The programme is made up of one year of taught courses and a second year of clinical and attachment with research leading to a thesis. The 2017-year group is made up of six students.

### **BSc Disability and Rehabilitation Studies**

This is a four-year undergraduate programme of the CEDRES. The programme has maintained its research portfolio with themes derived from the eight (8) thematic areas of the Disability Act (ACT 715) and the Community Based Rehabilitation (CBR) Matrix. A total of 37 persons will be graduating from this programme during the Congregation.

### **The Community Health Programme of the MB ChB course**

The Community Health programme for Medical Students remains a great part of the Department's activities. Senior Members from the School of Public Health fully support the teaching and research activities of the programme. Ninety-five (95) final year students of the Department took part in the Maiden Annual Students Research Conference and Awards of the School of Medical Sciences on May 22, 2018. The conference theme was "Effective Communication of Research Findings: A Prerequisite for Efficient Health Care Delivery in Ghana". At the conference students made oral and poster presentations of findings from their dissertation work. All the students will be writing their final year Community Health examinations and are expected to graduate as Physicians by the end of the academic year.

## **TEACHING, RESEARCH AND SERVICE**

Faculty of the Department have been actively engaged in teaching, research and service to the community.

In the year under review, Faculty have published over 16 manuscripts in peer-reviewed journals and presented 35 conference papers across the globe.

To enhance the visibility of CEDRES whilst simultaneously exposing our students to the Research and Scientific World, the Department participates in the annual Ghana Biomedical Conference (GBC). The 2017 version of the GBC organised at the premises of the Noguchi Memorial Institute for Medical Research, saw 12 of our undergraduate students making poster presentations whilst 3 others made oral presentations on their project works. Other conferences included those at the AFRINEAD (23 presentations), the Lancaster University, Ghana (3 presentations) and the International Conference on Disability and Development.

Mr. Isaac Owusu represented the Department at a course on "Access to Justice for Persons with Disability" organised by the University of Ghana Law School in collaboration with Open Society Initiative for West Africa (OSIWA). The five-day course was aimed at, among others, identifying the scope of the right to access to justice for persons with disability, barriers to access to justice for persons with disability and interventions to address these barriers.

The group Advocacy for Disability (AforD) was formed in 2017. Members of the group are Faculty of diverse backgrounds from our University who have issues of disability at heart. The group seeks to promote disability issues on campus and beyond in the coming years.

### **COLLABORATIONS**

The Department is continuing its collaboration with SWEB Foundation, a non-governmental organisation in Accra, which has been providing products of CEDRES opportunities for field and practical training in disability. Building on the relationship that started in 2017 with the Canadian+ Network on Disability Inclusive Development (CANDID), a grant proposal was submitted to the Social Sciences and Humanities Research Council (SSHRC) of Canada early this year. The Department is awaiting feedback on the outcome of the application. Another grant proposal application was submitted in collaboration with the Faculty of History of the Wilfrid Laurier University in Waterloo, Canada.

Faculty paid a working visit to the Dormaa Ahenkro Presbyterian Hospital in 2017 to familiarise with activities and to discuss collaborative activities. This collaboration has a great potential of resulting in diverse activities to the benefit of our students and all other stakeholders involved.

## **DEPARTMENT OF EYE EAR NOSE AND THROAT (EENT)**

### **STAFFING**

The Department of EENT has three Senior Lecturers, two Lecturers, one Assistant Lecturer, two Part time Lecturers, one Technical Officer and an Administrative Assistant.

### **UNDERGRADUATE TEACHING**

The Department mainly teaches undergraduate subjects to MBCHB medical student in the special subjects of ophthalmology, ear, nose and throat and also teaches other subjects for other Departments in the Allied Health Sciences, Dentistry and Optometry. The Department receives students from all these Departments for their clinical attachments and rotations.

Students from the Disability Centre are also brought to the Department for teaching in the clinical aspects of hearing speech and sight disabilities.

### **POSTGRADUATE COURSES**

The Department offers two postgraduate courses. These are – Speech and Language Pathology and Audiology.

### **COLLABORATION**

The Department has collaborative links with the University of Michigan and the University of Utah Moran eye centre for training and students exchange.

### **COMMUNITY SERVICE**

The Department engages in community service by running outreach hearing assessments in the community. This is possible due to a fully equipped mobile Land Rover that has a hearing assessment equipment on board.

### **INCOME GENERATION**

The Department generates some income from the hearing assessment that is done in the community.

## DEPARTMENT OF MEDICINE

### INTRODUCTION

The undergraduate programme aims to train undergraduates in specific clinical skills and promote a desire to continuous professional development, proficiency and commitment in patient care. The Department also takes a lead role in training post-graduate residents for the various postgraduate professional colleges.

### STAFF

The Department of Medicine has thirteen full-time academic staff (one Professor, four Associate Professors, three Senior Lecturers and five Lecturers), supported by twelve adjunct Lecturers and eight Visiting Professors and Lecturers.

### ACTIVITIES

The Department's curriculum is designed for Junior and Senior Clerkships spanning two academic years. The emphasis is on acquisition of technical skills as the basis of diagnosis and clinical problem-solving, and the interpretation of data from a variety of investigative techniques.

The increase in student numbers continue to have negative impact with reference to staff, patient numbers, and clinical facilities. Efforts are being made to utilize extra-teaching sites in the Kumasi Metropolis such as Suntreso Government Hospital and KNUST Hospital.

Postgraduate and undergraduate programmes are supported by Trainers from UK, US and parts of EU.

### RESEARCH ACTIVITIES

Some of the research areas covered by Faculty include:

- Pathogenesis, diagnosis and management of *Mycobacterium ulcerans* disease (Buruli ulcer).
- Hepatitis B & C infection.
- Hepatocellular carcinoma.
- HIV and co-infection of HIV with Hepatitis B, C, D, E virus co-infection.
- HIV Infection in adolescents.
- Co-infection of *M. ulcerans* disease and *M. perstans* filariasis.
- Tuberculosis.

\*Further details on research can be obtained from the Department.

### POST GRADUATE TRAINING

Faculty were involved in training postgraduate students registered with the West Africa College of Physicians and Ghana College of Physicians programme.

### COLLABORATION

**University of Liverpool, South Tee's Hospital, Middlesbrough (London)** – The Department collaborated with University of Liverpool (London) and South Tee's Hospital (UK) in finally evaluating the outcomes of introduction of Tenofovir in treating patients with Hepatitis B and HIV co-infection. This has been ongoing collaboration since 2008.

**University of Loyola (Chicago)** – The Department in collaboration with the University of Chicago, Obuasi Municipality in Ashanti region and Daboya in the Northern Ghana carried out a population based evaluation of HCV to establish the true burden of the disease in Ghana.

This multi-disciplinary structured “hepatitis network” that will enhance the collective ability to address the fundamental questions surrounding the hepatitis epidemic in West Africa has been established. The Africa Collaborative Hepatitis Network (HEPNET) was created through collaborative effort between the Department of Medicine and Loyola University in Chicago, USA.

### **Cardiology Collaborations**

The Cardiology unit collaborates with local and international collaborators. Local collaborators include the Departments of Molecular Medicine, Community Health and Clinical and Social Pharmacy as well as the Kumasi Centre for Collaborative Research in Tropical Medicine (KCCR). International partnerships have also been established with Cardiostart International (for cardiac surgery and pacemaker implantation), Department of Cardiovascular Medicine, University of Michigan Health System, Department of Cardiovascular Medicine, University of Utah, (USA), and Medtronic Global Health Initiative.

### **Neurology Collaborations**

#### **Stroke collaboration**

SIREN is the largest study of Stroke in Africa to date and aims to characterise the novel and emerging vascular and genetic risk factors for stroke among Africans. This study is in collaboration with the University of Ibadan.

#### **Parkinsonism collaboration**

In collaboration with Parkinson’s Institute in Milan, Italy, the Department of Medicine is investigating the genetics of predisposition to Parkinson’s disease. The Department currently provides Levodopa/Benserazide free of charge to patients with Parkinson’s disease who otherwise could not afford these medications.

#### **Neurology training**

By collaborating with the Universities of Utah and Stanford in the United States Faculty from these institutions visit every year for 2-3 weeks to provide neurology training for medical students and residents.

The Department of Medicine still has educational links with the Tropical Health and Education Trust (THET), UK.

\*Further details on collaborations can be obtained from the Department.

### **COMMUNITY SERVICE**

Academic staff provide specialist care for patients attending clinics set in the Directorate of Medicine of KATH. The clinics include: Oncology, Haematology, Renal/Hypertension, Asthma, and HIV/AIDS. Specialist clinic support is also provided for Agogo Government Hospital, Tepa Government Hospital, Dunkwa Government Hospital and Nkwie Government Hospital with respect to managing patients with Buruli ulcer.

## **DEPARTMENT OF MOLECULAR MEDICINE**

### **INTRODUCTION**

The Department has nine senior members made up of three Associate Professors, one Senior Lecturer and four Lecturers and one part-time Lecturer. These are supported by five Senior/Junior Staff.

### **TEACHING**

The Department teaches Medical Students, Allied Health Science Students and Pharmacy Students. Besides, the Department offers graduate training and research programmes leading to the award of M. Phil/PhD in Chemical Pathology/ Clinical Biochemistry and Clinical Immunology.

### **COLLABORATIONS**

The Department has research collaboration with Edith Cowan University (Australia), KCCR, Aptagen LLC, Pennsylvania, USA, the Noguchi Memorial Institute for Medical Research as well as the following Departments and units: Medicine, Anatomy, Behavioural/Psychiatry Sciences, Obstetrics and Gynaecology, Surgery, Urology, Oncology and Pharmacology.

In the 2017/2018 academic seven PhD and fourteen M. Phil students successfully completed their programmes.

The Department currently has a total of forty-three (43) graduate students.

### **COMMUNITY SERVICE**

The Department rendered medical screening for Presbyterian pastors during their annual pastors' conference. In addition, some Senior Members of the Department served as Vice Dean of the Medical School, Head of Clinical Biochemistry Laboratory of KATH, member of technical and advisory committee on clinical trials of Food and Drugs Authority, external examiners, School and Departmental examinations officers.

### **INCOME GENERATION**

The Department periodically organises medical screening for churches, schools and organisations and corporate bodies.

## **DEPARTMENT OF OBSTETRICS AND GYNAECOLOGY**

### **INTRODUCTION**

The Department runs a course for the MB ChB programme. The Department which serves as a Directorate became accredited for residency training by both the West African College of Surgeons under the West African Postgraduate Medical College and the Ghana College of Physicians and Surgeons.

### **STAFF**

The directorate has an academic staff strength of twelve. (Two Professors, three Associate Professors, two Senior Lecturers and five Lecturers and one part-time Lecturer). These are supported by five Senior/Junior Staff. The academic staff is supported by senior specialists and specialists employed by Komfo Anokye Teaching Hospital, as well as residents who assist with teaching.

## **TRAINING AND RESEARCH ACTIVITIES**

### **POSTGRADUATE TRAINING**

The Department runs the Fellowship postgraduate training programme in Obstetrics and Gynaecology under the West African College of Surgeons and the Ghana Postgraduate Medical College.

### **TEACHING**

The Department has produced two handbooks in Obstetrics and Gynaecology for medical students to reflect our local unique conditions. The handbook first in 2012 has subsequently been revised twice, with the latest (3<sup>rd</sup>) edition coming out in 2017. These books have immensely improved teaching and learning in the Department.

The Department is also involved in teaching and training students in Emergency Nursing, General Nursing, Midwifery, Dental Surgery and MPH/MPhil Students from the School of Public Health.

### **COMMUNITY SERVICE**

The Directorate provides tertiary level women's health care and training and is involved in the Millenium Development Accelerated Framework (MAF) programme to help reduce maternal mortality and morbidity. Staff have personal oversight responsibilities over peripheral hospitals where they regularly visit and provide teaching and clinical support to doctors involved in the provision of services in obstetrics and gynaecology.

The Department still organises continuous medical education in basic surgical skills courses and ultrasound for district and mission hospitals.

### **RESEARCH ACTIVITIES**

Some current research activities in the directorate include the following:

- 1000+ OBGYN Project to build and strengthen academic partnerships between low and high-income countries towards obstetric capacity to reduce maternal and neonatal mortality and morbidity in Sub-Saharan African countries
- Audit of Emergency Gynaecologic and Obstetric Operations & Procedures in a Tertiary Hospital in Ghana
- Review of Primary Postpartum Haemorrhage in Ghana
- Use of the Modified WHO Partograph in Kumasi metropolis
- Hypertension in pregnancy
- Obstetric and gynaecological ultrasound
- Contraceptive use among high-risk women
- Assessment of infertility patients; quality of relationship/intraspousal violence

### **CONFERENCES ATTENDED**

Members attended a number of conferences including the following:

- 58th Annual Conference of the West African College of Surgeons in the Gambia
- 13th Annual Conference, Ghana College of Physicians and Surgeons, Accra
- Annual General Conference of the Society of Obstetrics and Gynaecologists of Ghana (SOGOG), Kumasi.

- 7th Annual Scientific Conference, College of Health Sciences, KNUST

Presentations were made at some of these conferences.

### **VISITORS**

The Department played host to Professors Tim Johnson, Erica Marsh, Carolyn Johnston, Dr. Ralph R. Chesson all from USA and Dr. Toni Bazi from Lebanon. Their visits have greatly impacted on the training of fellows in the various subspecialties.

### **CONCLUSION**

The Department is making great strides in teaching, research and service provision and is keen in collaborating with other centres of excellence in research and manpower training to help improve women's health.

## **DEPARTMENT OF PATHOLOGY**

### **INTRODUCTION**

The Department is one of the Departments in the composite programmes of Bachelor of Human Biology (BSc Human Biology), Bachelor of Medicine and Surgery (MBChB) and Bachelor of Dental Surgery (BDS) and also renders services towards the award of other Bachelor's degrees to the following Departments: Medical Laboratory Technology, Nursing, Midwifery, Optometry, Sonography and Herbal Medicine.

The Department has a clinical unit which renders Diagnostic Histopathology and Forensic Pathology services to Komfo Anokye Teaching Hospital.

### **STAFFING**

The Department has three Senior Lecturers and is supported by a Lecturer from the Department of Medical Laboratory Technology, two demonstrators from the Pathology Department of Komfo Anokye Teaching Hospital and one Administrative staff.

### **TEACHING SERVICES**

- General Pathology for Medical and Dental students.
- Systemic Pathology for Medical and Dental students.
- General Pathology for Allied Health Sciences students.
- Histopathology Technique for Medical Laboratory Technology Students.
- Gross Morphology in Pathology for Sonography students.

### **CLINICAL SERVICES**

The Department offers a range of clinical services as component of health service delivery in Komfo Anokye Teaching Hospital.

The clinical services include:

- Diagnostic Histopathological services
- Diagnostic cytopathological services
- Forensic Pathological services
- Immunohistochemistry and Molecular Pathological services

## **RESEARCH SUPPORT**

The Department renders support to all other units of the University that undertakes research in the areas of diagnostic pathology and has persistently rendered support to the Department of Pharmacy in their animal model translational researches.

## **RESEARCH**

Current areas of focus on research in the Department include Breast Cancer, Gastrointestinal and Liver Diseases, and Cervical Cancer, Prostate Cancer, Lymphomas and Cytopathology.

## **RESIDENCY TRAINING**

The Department's academic members of staff participate in the residency training of the Department of Pathology of KATH. This provides avenue for sustenance of academic manpower of the Department. It has two residents in training at the Korle Bu Teaching Hospital, Accra.

## **CONCLUSION**

The Department has been positioned for steady growth to support the University in its vision.

# **DEPARTMENT OF PHYSIOLOGY**

## **STAFF**

The Department has one Professor, one Associate Professor, one Senior Lecturer, one Lecturer, and one Assistant Lecturer. The Department is supported administratively by one Senior Administrative Assistant (Secretary) and a Cleaner/Messenger.

## **POSTGRADUATE STUDENTS IN THE DEPARTMENT**

The Department has Sixteen (16) MPhil students. Two of them Mr. Rufai Safianu Mr. George Tweneboah graduated in late 2017. Two other Mr. Kofi Adu and Mr. Robert Agyapong have defended their theses and will be graduating this July.

## **TEACHING**

The Department teaches the Physiology component of the BSc Human Biology programme (Human Biology I and Human Biology II) for Medical and Dental Students and also services the teaching of Physiology on the programmes of the Faculty of Allied Health Sciences.

In addition, the Department services the teaching of Physiology on the following: BSc Herbal Medicine programme of the Faculty of Pharmacy & Pharmaceutical Sciences and the DVM programme of the School of Veterinary medicine.

### **Some on-going projects by members in the Department are:**

- Phase IIIb Randomised, Open, Controlled, Multi-Center Study to Evaluate the Immunogenicity and Safety of the RTS, S/AS01E Candidate Malaria Vaccine, when Administered as Primary Vaccination at 6, 7.5 and 9 Months of Age with or without Co-Administration of Measles, Rubella and Yellow Fever Vaccines followed by RTS,S/AS01E Booster Vaccination 18 Months Post Dose 3, to Children Living in Sub-Saharan Africa (GSK Funded).
- Phase IIb randomized, open-label, controlled, multicenter study of the efficacy, safety and immunogenicity of GSK Biologicals' candidate malaria vaccine RTS,S/AS01E evaluating schedules with or without fractional doses, early Dose 4 and yearly doses, in children 5-17 months of age living in sub-Saharan Africa (PATH-(MVI and GSK funded)



- H3 Africa Kidney Disease Research Network” Study. This is a multicenter collaborative study of the genetic basis of Kidney diseases in Africa which started in February 2013 and is funded by the National Institutes of Health (NIH) of the USA.
- 12 Year follow-up of Stroke Prevention Study originally funded by the Wellcome Trust of the U.K. This project started in February 2014.

## **DEPARTMENT OF RADIOLOGY**

### **INTRODUCTION**

The Department doubles as the Directorate of Radiology of Komfo Anokye Teaching Hospital (KATH) and has two Lecturers and three Adjunct Lecturers.

The Department has two (2) main sub specialties: Diagnostic Radiology and Interventional Radiology

### **COLLABORATION**

The Department has collaborations with:

- Radiological Society of North America (RSNA) and
- Royal Liverpool University Hospital, UK.

### **ACTIVITIES**

- Runs undergraduate training in basics of Radiology, including plain X-Rays, ultra sonography, Fluoroscopic procedures, CT scan and MRI.
- Runs residency/Postgraduate training in General Radiology and Radiology sub specialties.
- Organises joint clinical meetings and update courses for non Radiologist clinicians on Radiological imaging modalities
- Provide Radiological Services for KATH

### **RESEARCH**

The following research is currently on going in the Department:

Augustina Badu-Peprah, Alexander T. Odoi, Edward T. Dassah, Yaw Amo-Wiafe. Department of Radiology, Komfo Anokye Teaching Hospital, Kumasi, Ghana; Department of Obstetrics Gynaecology, Komfo Anokye Teaching Hospital, Kumasi, Ghana.

Sonohysterography: Time to Step up its use in Gynaecologic Imaging in West Africa.

Adam Gyedu, Kwadwo Adaye – Aboagye, and Augustina Badu-Peprah.

Prevalence of cholelithiasis among person’s undergoing abdominal ultrasound at the Komfo Anokye Teaching Hospital, Kumasi, Ghana.

### **POSTGRADUATE TRAINING**

The Department has attained accreditation from both the West African College of Surgeons and the Ghana College of Physicians and Surgeons for training of specialists in Diagnostic Radiology. Five specialists Radiologists were produced under the year in review.

## **PROJECTIONS**

To improve Radiology turnaround time and decrease patient waiting times and to establish academic partnerships including exchange programme for specialists and residents, with training institutions in North America.

## **DEPARTMENT OF SURGERY**

### **INTRODUCTION**

The Department also referred to as the Directorate of Surgery of the Komfo Anokye Teaching Hospital, comprises the following subspecialties:

- General Surgery.
- Trauma and Orthopaedic Surgery.
- Urology.
- Plastic and Reconstructive Surgery.
- Paediatric Surgery.
- Neurosurgery.
- Cardiothoracic & Vascular Surgery.
- Maxillofacial Surgery.

### **STAFF**

### **TEACHING**

Both undergraduate and postgraduate teaching has been intensified with the introduction of new concepts while all lecturers use PowerPoint presentations.

### **ACTIVITIES:**

Specialists in the Department:

- Organised 3 specialist surgical outreach teams, under the auspices of APRIDEC Medical Group, to Upper East and Upper West Regions.
- Together with Ghana Cleft Foundation organised a cleft surgery outreach team to Ho Regional Hospital.
- In collaboration with the University of Utah Plastic Surgery, USA, organised plastic and reconstructive surgical services for breast reconstruction in the Ashanti Region.
- In collaboration with the University of Michigan Breast Cancer Research Team organised 2 breast cancer seminars on breast cancer treatment and research in the Ashanti Region.
- In collaboration with the International Urological Society/International Volunteers in Urology organised two seminars on treatment and research on rare paediatric urological pathologies at KATH.
- Under the auspices of KATH Reconstructive Plastic Surgery and Burns Unit organised 2 workshops on burns wound management to nurses and doctors in KATH and beyond.

### **RESEARCH**

Research continues to be a major focus of the Department and all consultants have research programmes. New and ongoing research programmes include:

- Breast cancer (ongoing).

- Aetiology of gastric outlet obstruction (ongoing).
- Gastric malignancies (ongoing).
- Prospective study in typhoid perforations (ongoing).
- Buruli ulcer management and disability studies(ongoing).
- Burns prevention disability studies (ongoing).
- Epidemiology of trauma and violence in Ghana (ongoing).
- Colonic cancers (ongoing).
- Sigmoid volvulus (ongoing).
- Acute abdomen management and prevention in sub-Saharan Africa Hospital (ongoing).
- Neonatal malformations (ongoing).

### **CONFERENCES/WORKSHOPS**

Members of staff attended various conferences (both locally and internationally) to upgrade their knowledge and skills in surgery.

- Participated fully, presented papers at the 10th Annual General and Scientific Meeting (AGSM) of the Ghana College of Physicians and Surgeons in December 2017 in Accra and also in the 55th AGSM of the West African College of Surgeons in Ouagadougou, Burkina Faso in March 2017.
- Paediatric Urology workshop on 17th of April 2018
- All the visiting professors visited the Department; gave lectures and seminars/workshops in their various fields to students and postgraduates (surgical trainees) in the Department.

### **PUBLICATIONS**

Publications made by academic members of staff can be found in the University's Quality Assurance Bulletin for the year.

### **COMMUNITY SERVICE/CONTRIBUTION TO SOCIETY/RECOGNITIONS**

During the year under review the Department of Surgery Faculty members continued to provide high quality specialized services to the community. Outstandingly, one of our colleagues – **Dr. Oheneba Owusu Danso** an adjunct lecturer, a Plastic and Reconstructive Surgeon – has been appointed as the Chief Executive Officer (CEO) of the Komfo Anokye Teaching Hospital.

Listed below are some of the community services/contributions to society/recognitions during the year:

#### **PROF. C. K. GYASI-SARPONG**

- Examiner of WACS and Ghana College of Physicians and Surgeons.
- National Coordinator for basic sciences programmes for 1<sup>st</sup> year resident of GCPS.
- Academic Board Member, Faculty of Surgery, Ghana College of Surgeons.

#### **PROF. P. DONKOR**

- Examiner for West African College of Surgeons and Ghana College of Physicians and Surgeons.
- President, Ghana Cleft Foundation.

- Council Member, West African College of Surgeons.

**PROF. R. E. QUANSAH**

- Examiner for Ghana College of Physicians and Surgeons.
- Facilitator Forgarty Project with the American Health Services.
- Supervisor for a post graduate project in Immunology.

**PROF. P. AGBENORKU**

- Examiner for West African College of Surgeons and Ghana College of Physicians and Surgeons.
- Monitoring Invigilator for West African College of Surgeons.
- SMS Representative on College of Science Appointments and Promotions Sub – Committee.
- External Examiner for BSc Physician Assistant, Central University College, Miotso – Accra.
- Presbyter and Annual Synod Meeting Facilitator, Global Evangelical Church, Ghana.
- Chairman, Global Evangelical Church Health Services Board.

**DR. E. ADU**

- Examiner for West African College of Surgeons.
- External Examiner for MB ChB, Department of Surgery, School of Medicine and Health Sciences, University for Development Studies, Tamale.
- Head Plastic Surgery Unit, KATH.

**DR. J. AKPALOO**

- Partner, Charis Missions International.
- Volunteer, APRIDEC Medical Outreach Group.

**DR. J. YORKE**

- Partner, Charis Missions International.
- Volunteer, APRIDEC Medical Outreach Group.
- Clinical Coordinator Postgraduate and Undergraduate programme.

**DR. ADAM GYEDU**

- Member, International Surgical Society.
- Member, Society of American Gastrointestinal and Endoscopic Surgeons.
- Volunteer, APRIDEC Medical Outreach Group.

**DR. FRANCIS AITPILLAH**

- Residents training Coordinator, Faculty of Surgery, for WACS and GCPS.

**PUBLIC EDUCATION**

The Department intensified its public education programme during the year under review and also participated in public lectures, radio and television programs. Patients attending outpatient clinics were educated particularly on the advantages of early attendance to hospital.

## **LINKS/INTERNATIONAL RELATIONS**

At the undergraduate level, the Department enjoys linkages with the various Universities that have linkages with the School of Medical Sciences. Students from the U.S.A., Germany, Sweden, Denmark and UK came for their surgical elective training in our Department.

At the postgraduate level our linkages with the University of Ulm, Germany, the University of Washington, University of Michigan and the University of Utah, all in the USA continue to be strong.

## **CONCLUSION**

The Department is making progress in the areas of teaching, research and service. The challenge is getting the requisite number of surgeons to teach the increasing numbers of medical students in the University. Efforts should be made by the authorities of the University to employ more lecturers in surgery.

## **FACULTY OF ALLIED HEALTH SCIENCES**

The Faculty of Allied Health Sciences is made up of the following Departments:

- Department of Sonography (Medical Imaging).
- Department of Medical Laboratory Technology.
- Department of Nursing.
- Department of Sports and Exercise Science (Sports and Physiotherapy Science).

## **STAFF**

The Dean of the Faculty is Dr. Otchere Addai-Mensah. Low staff strength remains a critical issue particularly in the Departments of Medical Imaging and Nursing. Efforts have been intensified in the recruitment drive and there is confident hope of success.

## **OFFICE ACCOMMODATION FOR LECTURERS AND CLASSROOMS FOR STUDENTS**

The Faculty's new building complex has been completed and currently in use. This has especially come to ease access to lecture halls. Unfortunately, it lacks internet connectivity and it is our hope that will be done soon.

## **New Undergraduate and Postgraduate programmes**

The Department of Nursing in collaboration with the Ministry of Health continues to run Diploma Top Up programs in Nursing, Midwifery and Community Health Nursing for certificate holders. This year, plans are well advanced to mount BSc. Top Up programmes in Nursing, Midwifery and Community Health Nursing in some selected Nursing and Midwifery Training Colleges.

## **Postgraduate Programmes**

Master's programme in MPhil Hematology mounted last year is in its second year now. MSc and MPhil in Nursing have started and there are plans to roll out PhD programme in Nursing, Haematology and Biomedical Sciences.

## **RESEARCH ACTIVITIES IN THE FACULTY**

The Faculty continues its research in Neglected Tropical Diseases (NTDs) with other sister universities such as Edinburgh University in the UK, Bonn University in Germany, Case Western University in the USA, University of Buea in Cameroon.

### **Link with other institutions of Higher Learning**

The Faculty still has exchange programmes with Universities such as Westminster University, UK, University of Nottingham School of Nursing, Midwifery and Physiotherapy, UK and the School of Nursing, Ramapo College, New Jersey. The University of Michigan, USA, is supporting the training in the Emergency Nursing programme and the School of Nursing, Ramapo College, New Jersey is supporting in the development of postgraduate programmes.

## **DEPARTMENT OF MEDICAL LABORATORY TECHNOLOGY**

### **INTRODUCTION**

The Department runs a B.Sc. Medical Laboratory Technology Programme and also runs an MPhil programme in Haematology which is in its 3<sup>rd</sup> year.

The Department still has a Human Capacity Development collaboration with the Westminster University which allows exchange of students between the two institutions. Currently, three (3) of the Department's Senior Members are pursuing PhD programmes in Germany and United Kingdom.

### **STAFFING**

The Department had two Associate Professors, one Senior Lecturer, seven Lecturers, ten Service lecturers and one Senior Administrative Assistant.

### **STUDENTS NUMBERS**

Undergraduate – 245

Postgraduates – 16

### **LINK WITH OTHER INSTITUTIONS**

The Department still has links with the School of Biomedical Science of the University of Westminster, UK and University of Michigan, USA.

## **DEPARTMENT OF NURSING**

### **PROGRAMMES OFFERED BY THE DEPARTMENT**

The Department offers Bachelor of Science in Nursing, Emergency Nursing and Midwifery. Three Diploma Top-up programmes (Nursing, Midwifery, and Community Health Nursing) are offered in collaboration with the Ministry of Health and these take place in the Ministry of Health training institutions. The first batch of students in the Diploma top-up programmes successfully completed their programme this year.

### **STAFFING**

The Department has ten Full-time Lecturers with two on study leave, five Part-time Lecturers and an Administrative Staff.

## **STAFF DEVELOPMENT**

Two Senior Members graduated with PhD during the academic year and two others have enrolled in PhD programme

## **STUDENT NUMBERS**

Student numbers in the year under review stands at six hundred and seventy-four (674).

## **TEACHING**

The Department provides intensive theoretical and clinical teaching in Nursing, Midwifery and Emergency Nursing. It also benefits immensely from the services of other lecturers in the College. The Skills Laboratory has been equipped with resources to provide pre-clinical teaching of nursing and midwifery procedures.

## **RESEARCH IN THE DEPARTMENT**

Senior Members continue to disseminate their research findings through peer-reviewed journals and at conferences, particularly to the nursing and midwifery communities. Areas of the researches include:

- Maternal Health
- Neonatal and Child Health
- Quality of Life for Patients with Renal Conditions
- Emergency Nursing in Developing Countries

## **EXTERNAL PROGRAMMES**

In collaboration with the Ministry of Health institutions, the Department organises final examinations for students of the Diploma training institutions.

## **LINKS WITH INSTITUTIONS OF HIGHER LEARNING**

The Department has maintained its international collaboration with the following:

- School of Nursing, Ramapo College, New Jersey, USA.
- University of Nottingham School of Nursing, Midwifery and Physiotherapy, UK

## **EXCHANGE PROGRAMMES**

The collaboration between the Ramapo College, USA and KNUST offers the opportunity for an exchange programme in public health. This was effectively implemented and hosted three Faculty members and eleven students from Ramapo College for two weeks.

## **PARTICIPATION IN WORKSHOPS/CONFERENCES/SEMINARS**

Staff participated in international and local conferences and workshops and disseminated their research findings on areas such as maternal health and emergency nursing in Ghana.

## **SERVICE TO THE COMMUNITY**

Senior Members continue to offer services to the University in various capacities. They serve on committees and boards. Some staff also serve on national boards like the Nursing and Midwifery Council Board. They provide technical support to the Ghana Health Service and serve on panels for auditing and assessment of programmes for the National Accreditation Board. They serve the University in other capacities as moderators for:

- Nursing and midwifery programmes

- Garden City University College
- St Karols School of Nursing (Accra)
- Christian Service University College
- Pentecost University College.
- Ministry of Health Diploma Schools

## DEPARTMENT OF SONOGRAPHY

**Currently**, the name of the Department which offers a BSc. Sonography Programme has **been changed to the Department of Medical Imaging**. Medical imaging encompasses the fields of radiography, magnetic resonance imaging (MRI), computed tomography (CT), ultrasound and nuclear medicine/positron emission tomography (PET).

### STAFF

Staff in the Department are made up of one Senior Lecturer, two Lecturers, one part-time Lecturer, two Adjunct Assistant Lecturers, two Senior Technicians and one Senior Admin. Assistant

### STUDENT POPULATION

The student population as at May 2018 stood at one hundred and twenty-eight (128), out of which twenty-nine are expected to graduate in July.

### TEACHING

Most of the courses are handled by lecturers from the Departments of Anatomy, Physiology, Pathology, Microbiology, Radiology and Molecular Medicine as well the Departments of Nursing and Physics. Efforts are being made to recruit more core staff.

### FUTURE PLANS FOR THE DEPARTMENT

It is hoped that subspecialty postgraduate programmes in medical imaging will be introduced at the Master's and Doctoral levels.

## DEPARTMENT OF SPORTS AND EXERCISE SCIENCE

**Currently**, the name of the Department which offers a BSc. Sports and Exercise Science Programme has **been changed to the Department of Sports and Physiotherapy Science**.

### FITNESS CERTIFICATE SHORT COURSE

The Department organised a short course in fitness assessment from the 8<sup>th</sup> to 12<sup>th</sup> January, 2018. This was a refresher course for professional running fitness and wellbeing centres in the country. Individuals who work as fitness instructors, gym operators, fitness and wellness facility operators, personal trainers, individuals in sports and recreation, individuals in health care service and students were enrolled.

There were ten (10) participants in all. The course was aimed at improving skill in fitness training for the participants and improving their managerial skills of the facilities.

### Evaluation

At the end of the four-day programme, participants agreed that the course was beneficial to them and they had learnt new skills to run their business.



## **Awards**

Participants were each awarded a certificate of participation.

## **THE WAY FORWARD**

Following the success of this pilot programme, the Department intends to run a Fitness Certificate Programme under the Institute of Distance Learning (IDL).

# **DENTAL SCHOOL**

## **INTRODUCTION**

The School has five academic Departments namely:

- Adult Oral Health.
- Basic and Diagnostic Oral Health Sciences.
- Child Oral Health and Orthodontics.
- Community Dentistry.
- Oral and Maxillofacial Sciences.

## **STAFF – ADMINISTRATION**

Administratively, the School is managed by a Dean who is supported by a Vice Dean and a School Registrar.

Dean	– Dr. Francis Adu – Ababio
Vice Dean	– Dr. Alexander Acheampong
Senior Assistant Registrar	– Mr. Maxwell Agyemang–Yeboah

## **ACADEMIC STAFF**

Each of the Departments in the School has a Head. Other members of staff apart from the various heads are one Full-Time Lecturer, three Adjunct Faculty Members, four Part-Time Faculty, a Chief Dental Technologist and one Principal Equipment Technologist.

## **STUDENTS**

Currently, the total enrolment in the school stands at 214. The 7<sup>th</sup> batch of forty (40) students from the School wrote their Final Bachelor of Dental Surgery (BDS) Part III examination in June 2018.

## **SERVICE DEPARTMENTS/TEACHING HOSPITAL**

The 3-year Bachelor of Science (BSc) Human Biology programme is hosted/taught by the School of Medical Sciences while the the Departments of Surgery, Medicine and Eye, Ear, Nose and Throat (EENT) continue to offer their services to the 4th year dental students.

The 3-year Bachelor of Dental (BDS) professional training is located at the Komfo Anokye Teaching Hospital (KATH).

## **INSPECTION AND RE-ACCREDITATION**

In January 2018, the Dental School was inspected by the Medical and Dental Council (MDC), Ghana. Consequently, a 3-year provisional re-accreditation which expires in August, 2021 was granted to the School.

## **FACULTY-TRAINEE DEVELOPMENT PROGRAMME**

Three past students (Dental Surgeons) are being considered by the College of Health Sciences (CHS) for sponsorship to support our Faculty-trainee development agenda.

## **CONFERENCES ATTENDED**

During the year under review, Academic Teaching staff attended Local and International Conferences. Notable among them was Dr. Solomon Obiri-Yeboah who presented papers at conferences held in Ethiopia, Kenya, the USA and the UK.

## **SERVICE TO UNIVERSITY/KATH**

Senior Members serve on various Boards and Committees in the University. Dr. Francis Adu-Ababio is a member of the current KATH Board.

## **COMMUNITY/OUTREACH PROGRAMME**

The Department of Oral and Maxillofacial Surgery conducted outreach activities in these places:

- Methodist Church, Bantama-Kumasi.
- Manhyia Prisons, Kumasi.

## **DONATIONS**

The Dental School received one (1) Mobile Dental Chair from Mr. Hagan Brown, the CEO of Willbern Dental Clinic, Ashanti New Town, Kumasi. Four Dental Chairs were also received from a Philanthropist based in the USA. Drs. Gyikua Plange-Rhule, Obiri – Yeboah and Alex Oti Acheampong facilitated this kind gesture.

## **RESEARCH ACTIVITIES/PUBLICATIONS**

Academic teaching staff are actively engaged in collaborative research which has led to publications in refereed journals.

Ongoing research activities in the Dental School include:

- The perspective of past graduates of KNUST.
- Post-graduate dental education. The Ghanaian experience
- Coping skills and strategies of mothers with cleft lip/palate children at KATH.
- Waste management in clinical dental practice: Knowledge, Attitude and Behaviour of health workers.
- Concordance between histopathological diagnosis and clinical diagnosis in KATH.

## **CHALLENGES**

The School faces some challenges among which are:

- Inadequate teaching staff remains the major obstacle facing the school with increasing students' enrolment.
- Severe students' congestion in the clinic due to the limited space.

## **RECOMMENDATIONS**

The School recommends the following:

- Expansion of clinical facilities at the KNUST Hospital to accommodate the growth in student population.

- Pursue the long term vision of completing the KNUST Teaching Hospital for training health professionals including Dentist.

## **ACKNOWLEDGEMENT**

The support received from the Provost, CHS, Prof. Yaw Adu-Sarkodie and his team as well as University Management in bringing the 12-year old school this far is highly appreciated. The collective efforts of the entire staff of the Dental School are also commendable. Indeed, posterity will recognise the modest contributions we have made, our shortcomings notwithstanding.

## **SCHOOL OF PUBLIC HEALTH** *(Technology for Public Health Improvement)*

### **BACKGROUND**

The School of Public Health (KNUST-SPH) has since its establishment, continued to pursue steps that will transform it into a veritable social movement that supports collective public health action at all levels of society.

### **STAFFING**

The School has twelve (12) full time staff and 20 part-time/adjunct staff. These are made up of one (1) Associate Professor, five (5) Senior Lecturers/Research Fellows and six (6) Lecturers.

### **NEW STAFF**

In the bid to bolster its staff strength, Dr. Edward Tiero Dassah was recruited into the Department of Population Family and Reproductive Health.

### **DEPARTMENTS**

The following are the six (6) Departments within the School:

1. Epidemiology & Biostatistics;
2. Health Promotion & Education;
3. Health Policy Management and Economics;
4. Occupational and Environmental Health;
5. Population Family & Reproductive Health, and
6. Global and International Health.

### **PROGRAMMES OF STUDY**

The School currently runs only post graduate programmes. They include:

1. MPH/MSc. Health Services Planning and Management.
2. MPH/MSc. Population and Reproductive Health.
3. MPH/MSc. Health Education and Promotion.
4. PhD Public Health.

### **NEW PROGRAMMES**

Two new programmes are on offer for the 2018/2019 academic year:

1. MSc/MPH Occupational & Environmental Health designed to meet the market demand for environmental health and occupational health specialists to address the myriad occupational health & safety, and environmental health challenges that Africa and the

developing world face. This programme is in partnership with the University of Michigan and the University of Ghana-School of Public Health.

2. The School has partnered Technical University of Berlin (TUB) to introduce a master's programme in Health Systems Research and Management. The project has a capacity building component; so far, seven Faculty of the School have been trained in Germany to build their capacity to handle the new course modules being introduced.

## PROPOSED FUTURE PROGRAMMES

The School is developing new programmes to meet critical manpower gap in public health. The curricula are being developed and the School hopes to roll out the programmes in 2019/2020 academic year. These include:

1. Practitioner (Executive) Master of Public Health (MPHEX) designed to serve public health practitioners who are unable to take up full time MPH programmes. The proposal is currently under review.
2. MSc. Field Epidemiology and Applied Biostatistics.
3. MSc/MPH Global and International Health
4. Bachelor of Public Health programme which would start as a top-up programme for practicing Certificate and Diploma holders who would join at level 200 and level 300 respectively. The programme would have a vertical integration into our post graduate programmes. Fresh Senior High School graduates would also be considered and would start at level 100.
5. Certificate short courses in various health service focused programmes including but not limited to; health insurance, family planning, SDGs etc.,.

## STUDENT ENROLMENT

Student enrollment for the year under review are as follows:

PROGRAMME	ENROLMENT		TOTAL
	Male	Female	
MPH/MSc. Health Services Planning and Management	14	9	23
MPH/MSc. Population and Reproductive Health	10	13	23
MPH/MSc. Health Education and Promotion	6	7	13
PhD Public Health	4	5	9
<b>TOTAL</b>	<b>34</b>	<b>34</b>	<b>68</b>

## VISITING INTERNATIONAL STUDENTS

The School hosted fourteen (14) students and two faculties from the University of Pennsylvania, USA to undertake a 6-week field residency in Public Health. We also received nine (9) students from University of Louisville, USA for one month field residency programme in Public Health.

## RESEARCH

Staff and Faculty of the School continue to attract grants to undertake research and promote knowledge. The multi-sector research portfolio of the School is directed towards reproductive health, malaria, child health, maternal health, environmental health, health systems, health management and policy and, communicable and non-communicable diseases. Translational

research at the School has led to various health policies in Ghana: child health policy concerning the home-based management of malaria, post-abortion care policy, malaria in pregnancy policy, first-line management of uncomplicated malaria, emergency obstetric care and home-based/ community-based management of non-severe pneumonia in children under-5 years of age and a review of the national tuberculosis control programme strategy.

The School is partnering Komfo Anokye Teaching Hospital to assess the effectiveness of Kangaroo Mother Care among low birth weight new borns.

UNFPA Ghana and Ghana Health Service have contacted the School to conduct a survey to assess reproductive health commodity security in Ghana.

Currently the School runs two (2) flagship research projects: the Performance Monitoring and Accountability 2020 (PMA2020) and the Primary Health Care Performance Initiative (PHCPI).

The PMA2020 project conducted nationally representative surveys which generated data that have informed policy directions in reproductive, maternal and adolescent health. The water and sanitation component has also generated a lot of discussion and subsequent action at the national level. Steps are being taken to generate sub-national data by pooling data across rounds to inform action at the sub-national level (regional and district levels).

The PHPI is a Bill and Melinda Gates Foundation funded project that seeks to assess the performance of primary health care systems in developing countries. The KNUST-SPH will be the first institution worldwide to pilot this assessment. The project will conduct a population-based nationally representative survey with a focus on service delivery points and women of reproductive age. The PMA2020 platform will be used for data collection and analysis.

## **OTHER PROJECTS**

### **MOBCHILD**

Reducing Child Mortality: The Role of Mobile Electronic Health Information System (MOBCHILD).

### **SETA**

Severe Typhoid in Africa Program (Seta).

### **GCRF/TCCP**

Tobacco Control Capacity Program – Ghana: Building Capacity for Applied Research to Reduce Tobacco-Related Harm in Low & Middle Income Countries.

### **SICKLEGEN AFRICA**

SICKLEGENAFRICA: Sickle Cell Genomics Network of Africa Project.

### **NAMRU\_TICK and MOSQUITO**

Mosquito and Tick-Borne Infections Surveillance.

### **TRANSMAL**

Assessing the Effect of Neglected Tropical Disease on the Transmission of Plasmodium Falciparum in an Area of Co-Endemicity.

### **APOC**

Appropriate Point of Care Diagnostics.

\*Further details about these can be obtained from the School.

## **COMMUNITY SERVICE**

Staff in the School serve in various capacities to provide immeasurable service to the community: External moderators in other universities/university colleges, consultants for health projects, and members of various boards/agencies, both nationally and internationally.

The School has been actively participating in the Regional Annual Review Meetings of the Ghana Health Service as well as the National Health Summit of the Health Development Partners.

UNICEF Ghana is collaborating with SPH to roll out Sanitation Social Norms Campaign in 40 districts across the country.

## **SPECIAL INITIATIVES**

The KNUST-SPH has adopted Anwomanso (near KNUST) as a pilot public health community. Steps are underway to conduct a population-based situation analysis, and based on the outcome, community-directed strategies will be developed to address the public health challenges. Similarly, the teaching staff of the School have adopted ten (10) districts in the Ashanti region to serve as pilot public health districts. The staff work with the various district/municipal health directorates to promote more open knowledge systems approach to public health in these communities.

The School has recently entered into partnership with Technical University of Berlin (TUB). The partnership with TUB is targeting the establishment of a Health Observatory Post for Africa. This has also culminated in the institution of annual Health Policy Dialogue which serves as a platform for stakeholders in the Health sector to deliberate on a key national health issue. The maiden policy dialogue was organised in Kumasi on 4<sup>th</sup> to 5<sup>th</sup> October, 2017; the second policy dialogue has been tentatively slated for 5<sup>th</sup> to 7<sup>th</sup> September, 2018 at Alisa Hotel in Accra.

## **COLLABORATIONS:**

The School's collaborates with public health research scientists of international repute among which are the following: the Johns Hopkins Bloomberg School of Public Health, the Harvard School of Public Health, the University of Utah, the University of Michigan, the University of Washington, Georgetown University, the University of Louisville and Columbia University (all in the USA), the London School of Hygiene and Tropical Medicine and Loughborough University (UK), the Academic Medical Centre and the University of Applied Sciences (the Netherlands), and the Bernhard Nocht Institute of Tropical Medicine, the University of Greifswald and the Technical University of Berlin (Germany).

In addition, the School has links with public health institutions in Nigeria, Liberia, Ethiopia, Malawi, Uganda, Kenya and Egypt. Locally, they partner sister Universities (both Public and private) Ministry of Health/Ghana Health Service, the Ghana Statistical Service, the United Nations Children's Fund (UNICEF), the United Nations Population Fund (UNFPA) and the World Health Organisation (WHO) etc.

## **FUTURE PLANS**

The School is focused on branding and identification through the marketing of its programmes and training philosophy, participation in international fora, publications and presentations. In the medium term it looks forward to the construction of a facility to serve the teaching space and office accommodation needs of the School, and the development of additional programmes to meet current health needs and demands.

## SCHOOL OF VETERINARY MEDICINE

### INTRODUCTION

The School of Veterinary Medicine (SVM) runs a six-year Doctor of Veterinary Medicine (DVM) programme with the focus on delivering high quality veterinary education using the “One Health Concept” approach and is in close collaboration with other Colleges of the University, essentially the College of Agriculture and Natural Resources, and the College of Science.

### ACADEMIC DEPARTMENTS

The School has the following Departments:

- Veterinary Anatomy and Physiology
- Veterinary Pathobiology
- Veterinary Pharmacology and Toxicology
- Veterinary Public Health and Epidemiology (was renamed as part of curriculum review; was formally Public Health, Food Hygiene and Food Safety)
- Veterinary Clinical Studies

### SCHOOL ADMINISTRATION

<b>Acting Dean</b>	Prof. Raphael D. Folitse
<b>Head, Department of Anatomy and Physiology /Coordinator</b>	Dr. Tony Opoku-Agyemang for Dept. of Pathobiology
<b>Head, Veterinary Clinical Studies/Dept. of Public Health</b>	Dr. Joseph Atawalna and Epidemiology
<b>Clinical Coordinator</b>	Dr. Joseph Atawalna
<b>School Examinations Officer</b>	Dr. (Mrs) Esther Amemor
<b>Senior Assistant Registrar</b>	Mr. Simon Yaw Boribah

### STAFF STRENGTH

The School has an academic staff strength of nine (9) full time Lecturers, eleven (11) Part-Time Lecturers and one (1) visiting Lecturer. Teaching staff is supported by three (3) technical staff, two (2) administrative staff, a driver and two (2) casual labourers.

### STAFF DEVELOPMENT

Two Lecturers are currently pursuing PhD programmes in the Department of Clinical Microbiology, KNUST and in Berlin, Germany respectively. Additionally, two Lecturers benefited from Faculty Exchange programme in the USA funded by USDA. They spent one semester in Iowa State University and Michigan State University respectively.

### ENROLMENT

The student population of the school during the period under review was one hundred and twenty three (123).

### CURRICULUM REVIEW

To keep pace with emerging trends in veterinary education and practice, and in accordance with the guidelines of World Organisation for Animal Health (OIE) the School submitted a

revised curriculum to the Vice-Chancellor's Office through the Provost, CHS for consideration and approval. Approval was given and the revised curriculum is now being used effective 1<sup>st</sup> August, 2017.

### **RE-ACCREDITATION**

The National Accreditation Board (NAB) visited the School and conducted re-accreditation assessment in November, 2017. All concerns raised have been addressed appropriately and the required documents submitted to NAB.

### **GRADUATION, OATH SWEARING AND INDUCTION**

During the year under review, the School graduated the third batch of students of the DVM programme.

With the support of the College and the Vice-Chancellor, the School successfully organised the first joint Oath Swearing and Induction ceremony with School of Medical Sciences and the Dental School, where newly qualified veterinary doctors and their human counterparts took their respective professional oaths and were inducted into their respective professions.

Awards were given to deserving students in selected disciplines.

### **WHITE COAT CEREMONY**

The School successfully organised the third "White Coat Ceremony" which symbolically ushers preclinical students into the clinical phase of the veterinary education. At the ceremony 24 students were decorated with white coats and stethoscopes and were ushered into the clinical phase of the programme.

The white coats and the stethoscopes were all donated by Dr. Andrew Quarcoopome of Tema Animal Hospital, who for the past three years has been making such donations to the School.

### **FACILITY FOR CLINICAL TRAINING**

The School continued to use the Government Veterinary Clinic at Amakom and the Kumasi Abattoir at Ahinsan for clinical training of the students.

### **SERVICE TO COMMUNITY**

The staff of the School continue to provide diverse services to community at both local and national levels. Such services include: Membership of College Committees, Membership of University Statutory Committees and Members of National Committees and Boards.

**Prof. R. D. Folitse** is a member of Veterinary Council of Ghana; member National Accreditation Board Panel of Assessors for accreditation of academic programmes.

**Dr. T. Opoku-Agyemang** is a member of National Cancer Board.

Additionally, the School collaborated with two District Directorates of Veterinary Services and District Directorates of Health Service within the Ashanti Region to undertake anti-rabies campaign programmes during the year under review.

### **LONG VACATION HANDS-ON SKILLS TRAINING**

Long vacation field trip was organised for the 4<sup>th</sup> and 5<sup>th</sup> year students to enable them acquire hands-on skills. Some selected farms in Kumasi and Ejisu were adopted for the purpose. Students also spent a lot of time at the facility of Kumasi Abattoir Company Limited. Additionally, the



students spent four (4) weeks in various Veterinary facilities in Accra. The trip was financially supported by the Provost of the College.

### **INTERNATIONAL COLLABORATION**

The School has Memorandum of Understanding for academic collaboration with the Schools of Veterinary Medicine of Tuskegee University, Tuskegee, Alabama; Purdue University, Lafayette, Indiana; University of Georgia, Atlanta, all in the United States of America. Proposed areas of collaboration include Faculty and students exchange programmes, research, access to electronic video and audio teaching aids, and partnership in physical infrastructural development. However, during the year under review little activity was undertaken.

The School also has Memorandum of Understanding for academic collaboration with the Faculty of Veterinary Medicine, University of Ibadan, Nigeria.

### **VISITING LECTURERS**

In the year under review, the following paid visit to the School:

Prof. Corrie Brown from the College of Veterinary Medicine, University of Georgia, Atlanta, USA visited the school. The visit resulted in the signing of MoU for academic collaboration between the two Universities.

Dr. Jean-Sebastien Palorme, College of Veterinary Medicine, Iowa State University, USA. He was the Mentor of Dr. Esther Amemor during her period of Faculty Exchange Programme. The visit was to assess the benefit of the Exchange Programme to our University.

Dr. Jessie Juarez, College of Veterinary Medicine, Iowa State University, USA. Dr. Juarez supervised Dr. Joseph Atawalna during his period of Faculty Exchange Programme. The visit was to assess the benefit of the Exchange Programme to our University.

Dr. David Liggett, a retired Veterinary Practitioner, from Indiana State, USA. The visit was to assess needs of our School for possible collaboration with some Colleges of Veterinary Medicine in the USA who are interested in “One Health Concept” approach to veterinary education.

Maarten C. Bosland, Professor of Pathology, College of Medicine, University of Illinois at Chicago, USA paid a follow-up visit to the School to renew discussions on a possible academic collaboration between our Veterinary School and College of Veterinary Medicine, University of Illinois, USA.

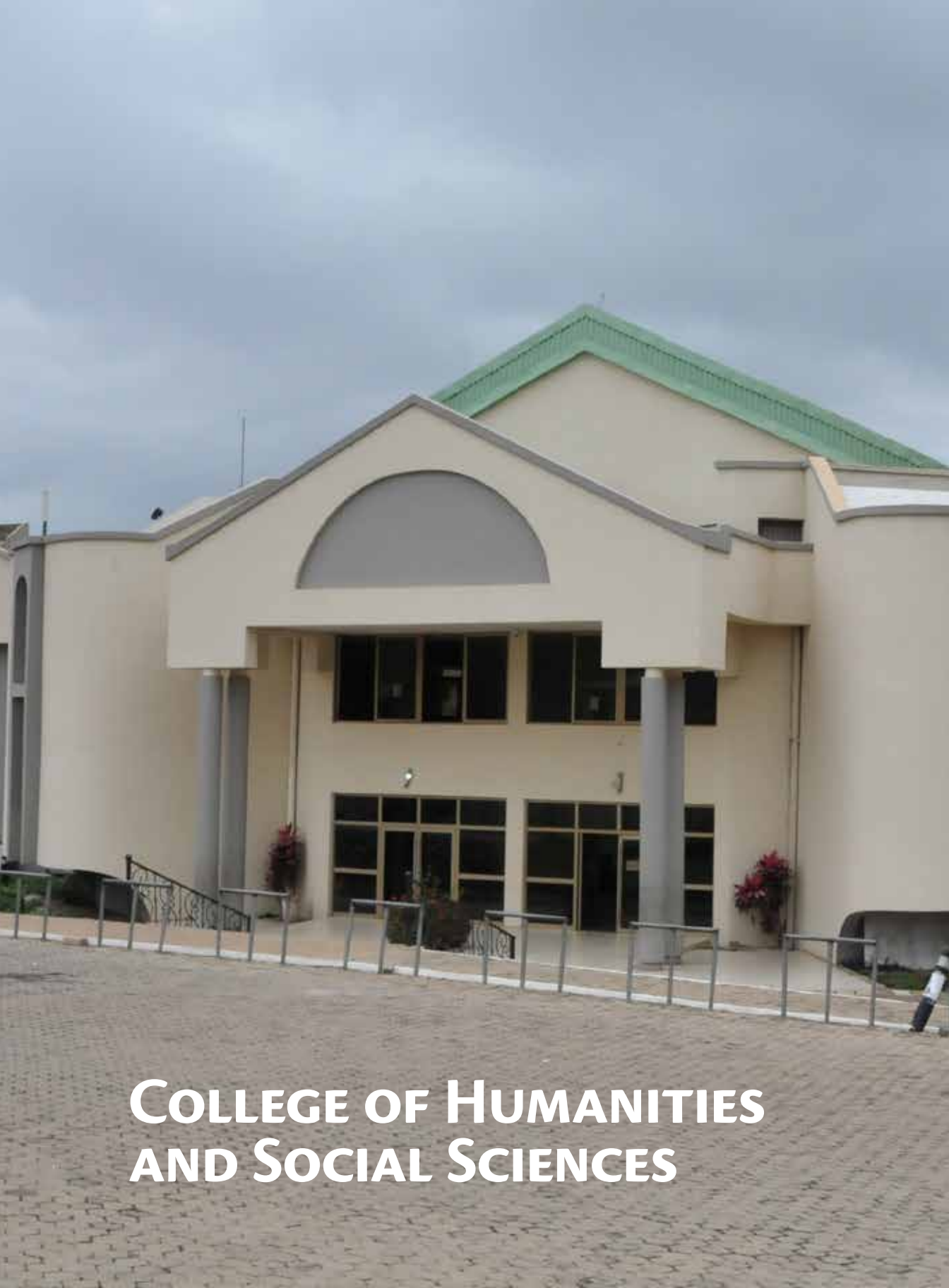
Prof. Melvyn Quan, University of Pretoria. The visit was to assess the readiness of our School for a possible collaboration with Faculty of Veterinary Medicine, University of Pretoria, South Africa. His visit resulted in an opportunity for a postgraduate training of one of our young graduates in the specialty of Tropical Animal Diseases at the University of Pretoria.

### **CONSTRUCTION OF SCHOOL OF VETERINARY MEDICINE COMPLEX**

Work has resumed on the first phase of the construction of the School of Veterinary Medicine Complex project and it is progressing steadily, thanks to the Vice-Chancellor.

### **CHALLENGES**

Challenges faced by the School include – One of the greatest challenges facing the School is finance. The population of students is very low, hence very small amount of AFUF is disbursed to the school. Academic staff strength and numbers are extremely low. The School faces difficulties attracting qualified specialists to teach most clinical courses, hence the way forward is to identify its newly qualified veterinary doctors who are willing and have the ability to enter the academia. Office accommodation is another challenge faced by the School.



# **COLLEGE OF HUMANITIES AND SOCIAL SCIENCES**

## INTRODUCTION

The College of Humanities and Social Sciences is made up of three Faculties and a Research Centre.

NO	FACULTY/CENTRE
1	Faculty of Law
2	Faculty of Social Sciences
3	KNUST School of Business
4	Centre for Cultural and African Studies(CeCAST)

## COLLEGE ADMINISTRATION

The College administration is headed by a Provost assisted by a team of administrators and academic staff (Deans and Heads).

Provost	- Prof. Imoro Braimah
College Registrar	- Mr. Solomon Panford, Esq, APR
College Accountant	- Mr. Charles Nsiah
Ag. College Librarian	- Mr. Michael Sekyi Boateng

The above are assisted by three support staff.

## FACULTY OF SOCIAL SCIENCES

### OVERVIEW

The Faculty of Social Sciences consists of seven teaching Departments.

Academic staff of the Faculty participated actively in collaborative research programmes at the national and international levels and also continued to carry out their individual research. Most members of staff were involved in the extension work and also participated in conferences, thus promoting the image of the University. Members of the teaching staff also attended conferences to present their research findings, interact with social scientists and renew and/ expand their contacts.

Notable among the events that took place within the reporting period were:

- i. A Public Lecture on “Effect of Policies on the Economic Development of Ghana”organised by the Departments of Economics, and History and Political Studies in partnership with the Economics Students Association (ESA). The Lecture, which was held on April 06, 2018, was delivered by Professor Joe Amoako-Tufour, Secretary, Government Economic Management Team;
- ii. The 2nd Ghana Sociological and Anthropological Conference, under the theme “ Discourses and Debates in Contemporary Africa” held from September 21 to 22, 2018;
- iii. The Construction and donation of a mechanised borehole to Bimma Community fo Sekyere East District by the Social Work Students Association, in collaboration with Students Representative Council (SRC); and
- iv. A Symposium on “The Dynamics of Religion and Culture on Women and Family Life” organised by the Department of Religious Studies and Associates (RESSA), in conjunction with the Cultural Cosulate of the Embassy of the Islamic Republic of Iran.

## **PROGRAMMES**

### **Undergraduate**

Departments in the Faculty offer courses leading to the award of Bachelors degree with specialisation in their subject areas. Altogether, there are eleven (11) undergraduate programmes in the Faculty.

### **Postgraduate**

With the exception of History and Political Studies, the following graduate programmes are run by their respective Departments:

- i. M.Phil./PhD Geography and Rural Development;
- ii. M.Phil./PhD French
- iii. M.Phil./PhD English
- iv. MA/M.Phil. Sociology
- v. MSc/M.Phil. /PhD Economics
- vi. MA/M.Phil. /PhD Religious Studies

## **STUDENT STATISTICS**

The student population during the year under review was 4,377. Out of these, there are 30 PhD students and 289 Masters Students.

## **STAFFING POSITION**

The staffing position of the Faculty in the year under review was as follows:

Two Professors (on post-retirement contract), six Associate Professor (three on post-retirement contract, twenty eight Senior Lecturers (seven on post-retirement contract), forty four Lecturers (six on post-retirement contract) and ten Assistant Lecturers. These academic staff are supported by twenty three other staff of various category.

## **ADMINISTRATION**

Professor Charles O. Marfo was re-elected as Dean of the Faculty for another one – year term while Dr. Hadrat Yusif was also re-elected for as Vice-Dean for another one-year term.

Some improvements to the teaching facilities in the Faculty were made during the year. The external walls of T. Owusu-Ansah Complex and Ebenezer Acquaye Building were painted to conform to the University-adopted branded colour. Three thousand new seats were also secured to replace the old metal/wooden seats.

## **COLLABORATION AND VISITS**

In the year under review, there were several collaborations between the University and other institutions, facilitated by the Departments of the Faculty. Some of these were:

- i. MoU between KNUST and Lingnan University, Hongkong, facilitated by the Department of Sociology and Social Work, signed in December, 2017;
- ii. The Department of Sociology and Social Work hosted twelve (12) students and two (2) Professors from Ramapo University from March 07-10, 2018;
- iii. The Department of Sociology and Social Work hosted ten (10) students and a Professor from the College of Social Work, University of Utah, USA from March 19-24, 2018;

- iv. The Department of Sociology and Social Work as part of its collaboration with the College of Social Work, University of Utah, has sent three (3) students to the University for Internship (practicum) in some Social Work institutions in USA.
- v. The Department hosted a student from Hochschule Darmstadt University of Applied Science, Germany;
- vi. The Department of Sociology and Social Work obtained funding for two (2) Social Work students to attend a summer school in the Hochschule Darmstadt University of Applied Science, Germany from May 09-20, 2018;
- vii. The Islamic Republic of Iran's Ambassador and the Cultural Consular to Ghana paid educational visit to the Department of Religious Studies for purposes of exploring possibility of linkage with the University.

## **CHALLENGES**

The following continued to be the challenges of the Faculty:

- i. High student-Teacher Ratio;
- ii. Inadequate lecture rooms, language laboratory and office spaces for administration and Faculty. The absence of language laboratory continued to make the conduct of oral examinations very difficult, inconvenient and time consuming. As a matter of urgency, the Faculty needs a permanent and more spacious language laboratory to make the teaching of languages more easier and to ensure that standard is not compromised;
- iii. Absence of reliable alternate source of electricity; and
- iv. Absence of large capacity vehicle for field work and outreach programmes.

## **DEPARTMENT OF ECONOMICS**

### **OVERVIEW**

The Department offers the Bachelor's degree in Economics, Master of Science in Economics, Master of Philosophy in Economics, and PhD in Economics. Apart from these programmes, the Department services other Departments of the Faculty and those of other Colleges of the University.

The Department organises week-end postgraduate programmes for workers. The Department also participated in programmes of the Institute of Distance Learning (IDL).

### **STAFF**

Currently the Department has two (2) Associate Professors, one on contract; nine (9) Senior Lecturers, one on contract; four (4) Lecturers; and four administrative and technical staff.

### **STUDENTS STATISTICS**

Total student numbers for the year under review were 1,260:

### **WORKSHOPS/SEMINARS/ JOB FAIR**

- A job fair was held on April 27th, 2018. The fair brought together representatives of corporations/companies to meet students in a rare opportunity and one-on-one interaction on prospects of job places after school.

- A workshop on data analysis and reproductive Health Economics for final year undergraduate economics students and MSc, MPhil and PhD Economics students of the Department was held from February 5-9, 2018.
- A workshop to disseminate research outputs; Powering the Powerless: Economic Impact of Rural Electrification in Ghana, and Assessing the Total Economic Value of Electricity in Ghana: A step toward Energising Economic Growth, was held on March 2, 2018

## **GRANTS FOR RESEARCH**

The Department attracted grants to support research activities from the following:

- Volkswagen Foundation, Germany;
- International Growth Centre (IGC) of London School of Economics; and
- Oxford Policy Management and Ghana Oil and Gas for Inclusion Growth (GOGIG), Ministry of Finance, Ghana.

## **BENEFACTION**

The Department benefited from the Centre of Excellence in Reproductive Health Innovation (CERHI), University of Benin, Ugbowo, Benin City, Edo State of Nigeria with the amount of GH¢ 64,000 as a sponsorship package for organisation of a workshop on data analysis and reproductive Health economics.

## **RESEARCH AND EXTENSION WORK**

Academic staff advanced research in various disciplines in Economics. These findings were published in both local and international journals.

Details of these can be found in the University's Quality Assurance Bulletin.

Most members of the teaching staff were also involved in the extension work, including consultancies, and also participated in conferences thus promoting the image of the University.

# **DEPARTMENT OF ENGLISH**

## **OVERVIEW**

The Department has a total of 17 Faculty members out of which two (2) are Adjunct Professors and three (3) Assistant Lecturers. The Faculty strength does not actually match the student population and this situation is a handicap to the Department. A temporary solution has been found by engaging the services of graduate assistants to handle tutorials.

The Department continued to focus on bridging the gap between the study of Literature and Language. It, therefore, maintained a vibrant Departmental seminar schedule and also organised a symposium in the first semester to sensitise the students to the need of taking writing as a career. In addition to its undergraduate and graduate programme, the Department services other Departments of the Faculty and those of other Colleges of the University. The Department also participates in programmes of the Institute of Distance Learning (IDL).

Further plans are underway to mount new programmes based on its revised curriculum. The new curriculum aims at enhancing the capacity of our graduates to effectively compete in the emerging communication skills market. The new programmes include writing course and film studies.

## **RESEARCH AND EXTENSION WORK**

Despite the overload of teaching, Academic Staff advanced research in the various discipline in English language, literature and other educational and social issues. Publications from research findings are published in both local and international journals.

The Department's research output was relatively good as shown in the University's Quality Assurance Bulletin.

## **CHALLENGES**

- i. Lack of equipped language laboratory, and
- ii. Inadequate office space for staff

## **DEPARTMENT OF GEOGRAPHY AND RURAL DEVELOPMENT**

### **OVERVIEW**

The Department of Geography and Rural Development continued to meet its primary responsibilities of providing teaching, research and extension services during the 2017/2018 academic year.

### **PROGRAMMES**

The Department deliver courses leading to the award of the Bachelor of Arts Degree in Geography and Rural Development and also coordinates and run the Four (4)-year Bachelor of Arts Degree in Culture and Tourism.

It also offers a Two (2)-year Master of Philosophy Degree programme and Three (3) year PhD Geography and Rural Development Programme.

In addition to its undergraduate and graduate programmes, the Department services other Departments of the Faculty. These include Departments of Sociology and Social Work and the Department of Theoretical and Applied Biology. The Department also participated in programmes of the Institute of Distance Learning (IDL).

The Department has initiated a process to review and re-organise its current programmes on offer and at both the undergraduate and graduate levels. New Bachelor of Science Programme in Geography and in Rural Development, Tourism and Events Management, Tourism and Heritage Management; MSc in Geography and Rural Development would be introduced.

### **STAFFING POSITION**

The Department has nine Senior Lecturers, six Lecturers and one part-time Professor.

### **RE-ORGANISATION OF STAFF SPECIALISATION INTO RESEARCH UNITS**

As part of efforts at repositioning the Department as a teaching and research entity, the various systematic aspects of staff specialisations in the discipline, would be organised into research units. This is to bring advancement in graduate studies, attract research projects and consultancies, and to enhance staff skills development. The following research areas (units) would be established:

1. Poverty and Rural Development Research Unit (PRDRU)
2. Regional and Urban Research Unit (RURU)
3. Transport, Tourism and Hospitality Management Research Unit (TTMRU)
4. Physical Geography and Geospatial Research Unit (PGGRU)

5. Environmental Management Practice Research Unit (EMPRU)
6. Population, Health and Gender Research Unit (PHGRU)

## **RESEARCH**

Faculty members continued with their individual research work in their areas of interest and specialisation. Publications from research findings are published in both local and international journals, contributing to knowledge generation and to address critical social issues in society. The Department research output was good as shown in the University's Quality Assurance Bulletin.

## **COLLABORATION/PARTNERSHIPS**

The Department continued with its collaboration with the Department of Geography, State University of New York (SUNY), Geneseo. As a way of strengthening its relationship, the Department, through the Canegie African Diasporal Fellowship Programme hosted Professor Samuel Adu-Prah of the Department of Geography and Geology of the Sam Houston State University of Texas, USA. In the course of his stay, a workshop on Teaching, Research and applications of Geospatial Technologies for Teaching and Research was organised for Staff and Students of the Department as part of a programme to develop staff capacity.

## **SERVICE TO SOCIETY**

During the year under review, staff of the Department provided diverse services to the University, public and private institutions and society in general.

# **DEPARTMENT OF HISTORY AND POLITICAL STUDIES**

## **OVERVIEW**

The Department offers courses leading to the award of a Bachelors degree in History/ Political Studies. It also offers graduate courses in these areas. In addition to its undergraduate and graduate programmes, the Department services other Faculties of the College and Departments of the Faculty including Faculty of Law, KNUST School of Business and Department of Geography and Rural Development. The Department also participated in programmes of the Institute of Distance Learning (IDL).

## **STUDENT NUMBERS**

The Department's enrollment stands at 1287. This includes undergraduate student under the parallel programme.

## **ACADEMIC STAFF**

The Department has three Senior Lecturers, seven Lecturers and one Assistant Lecturer.

## **RESEARCH**

Research findings are published in both local and international journals. Details of gthese are shown in the University's Quality Assurance Bulletin.

# **DEPARTMENT OF MODERN LANGUAGES**

The Department of Modern Languages is made up of three (3) constituent Sections (French, Akan, and Chinese).



## PROGRAMMES OFFERED

The Department runs Bachelor of Arts programmes in French and Akan and MPhil and PhD programmes in French. It also offers minor courses in Chinese for year one and two students.

## STUDENT NUMBERS

Students pursuing the undergraduate and postgraduate programmes in French are one hundred and eighty. These include six MPhil students and one PhD student. For the Akan Programme, there are one hundred and twenty nine students. This puts the total number of students in the Department as three hundred and nine.

## ACADEMIC MEMBERS OF STAFF

Academic members of staff for the two sections under the Department are presented in the table below:

### French

Status	Male	Female	Total
Professor	1	0	1
Senior Lecturer	1	0	1
Lecturer	5	1	6
Assistant Lecturer	1	2	3
<i>Part Time</i>			
Associate Professor	1	0	1
Lecturer	2	0	2
Coordinator French	0	1	1

### Akan

Status	Male	Female	Total
Associate Professor	1	0	1
Lecturer	1	1	2
Assistant Lecturer	2	1	3
<b>Total</b>	<b>4</b>	<b>2</b>	<b>6</b>

### Staffing Position (Chinese)

The Section has one full-time, male, expatriate staff as Lecturer on contract from China. Two Lecturers, one from the Department of History and Political studies and another from the Department of Materials Engineering provide service in the teaching of Chinese.

## PROJECT

A programmatic research on the Illustrations of the International Phonetic Alphabet (IPA) for Ghanaian Languages (commencing with Twi) was started in the year under study. A close scrutiny of the list of languages for which an Illustration of the IPA exists shows that there are few West African languages and no Ghanaian language. The Twi Illustrations will be the first to appear in the series of more than 115 languages.

## **SCIENTIFIC COLLABORATION**

Contact has been established for collaborative work with a Ghanaian researcher from La Trobe University, Australia to work on Illustration for Dompô, one of the highly endangered languages spoken by some inhabitants in Dompôfè, Bono Ahafo Region.

## **OUTREACH PROGRAMMES**

The Department offered service courses to various faculties in the University; French for Communication (Beginners and Intermediate levels), French for Scientists, French for Pharmacists and French for Engineers. The Department also has in place a Chinese Club where interested students and staff learn the Chinese Language.

## **TRANSBUREAU**

The Department continued to offer translation and interpretation services to the University Community and to the general public. They cover documents in various domains: business, economic, commercial, legal, literary, cultural, scientific and technological etc.

## **YEAR ABROAD**

The one year mandatory Language Emersion Programme Abroad component of the BA French course continues to be an indispensable aspect of our training and has continued to occupy a central part in our policy. The efforts of the Scholarships Secretariat made it possible to send a group of 48 students to the *Centre Béninois des Langues Etrangères* (CEBELAE) at the Université Abomey-Calavi, Cotonou, Benin. Two students went to the Université de Poitiers and the Université de Lille in France.

## **LA MAISON FRANÇAISE**

La Maison Française which houses the Department's state of the art language laboratory and the French Resource Centre continued to host the language lab activity which is compulsory for first year and second year students in the Conversational French classes as well as the French for Communication classes for other Departments.

## **COLLABORATION/VISITORS**

The Department continues to enjoy collaboration with the French Embassy, the Chinese Embassy in Ghana and the CEBELAE in Benin. Monsieur Sambienne Coffi, the Director of the (CEBELAE) and Monsieur Kenneth Ogouma paid a working visit to the Department in May 2018.

## **RESEARCH CONFERENCES, SEMINARS AND OTHER ACTIVITIES**

Papers emanating from research by academic staff were published as articles in peer reviewed journals and also as conference papers. These can be found in the Quality Assurance Bulletin for the year under review.

## **CHALLENGES**

Structural facilities – classrooms, offices, language laboratory are very limited. The Department, therefore, is handicapped whenever it was conducting oral examinations.

## **FUTURE PLANS**

- The French Section has submitted proposals to the KNUST Institute of Distance Learning (IDL) for running short Courses, Certificate and Diploma programmes in French;

- Labeling of laboratory instruments in Twi: The Akan Section is to embark on attributing Twi names to scientific instruments in the laboratories.
- In-service training for media practitioners: The Department intends to organise In-service Training Programmes for media practitioners on Language Usage to enhance their performance in the discharge of their duties.
- Introduction of BA Chinese programme. Discussions with relevant authorities including the Chinese Language Volunteers and the Chinese Embassy have started.

## **DEPARTMENT OF RELIGIOUS STUDIES**

### **OVERVIEW**

The Department offers a wide array of courses that cover the major religions of the world, with a strong emphasis on their history and their intellectual traditions.

### **STUDENTS NUMBERS**

The Department's enrolment stands at 264 total, which constitutes 221 undergraduates and (43) postgraduate students.

### **STAFFING POSITION**

Academic members of staff in the Department are made up of two Associate Professors, seven Senior Lecturers, five Lecturers and two Assistant Lecturers. These are supported by one senior Administrative Assistant.

### **RESEARCH AND PUBLICATIONS**

The Academic staff continued their individual and collaborative research in the following disciplines: Mother tongue: Biblical Hermeneutics, Rationality and Intercultural Dialogue etc. Publications from research findings were published in both local and international journals, contributing to knowledge promotion and address religious and social issues. Details of the research output are shown in the University's Quality Assurance Bulletin.

### **SERVICE TO THE COMMUNITY**

Academic Staff of the Department continued to serve the University community, national and international communities on various committees in various capacities including External/ Examiner, Reviewer and Editor.

### **CHALLENGES**

Challenges in the Department include low student numbers and limited classrooms and offices.

## **DEPARTMENT OF SOCIOLOGY AND SOCIAL WORK**

### **OVERVIEW**

The Department successively ran its undergraduate and graduate programmes in spite of the usual heavy burden these tasks placed on the limited number of lecturers at post. Individual lecturers also provided various services – research and public lectures – as part of their social responsibilities to the non-university community.

## **STUDENTS NUMBERS**

The Sociology Programme has 879 undergraduate students and 45 graduate students while the Social Work option has 380 students. This makes the Department's total number of students **1,304**

## **ACADEMIC STAFF**

The Department has a total of nineteen academic members of staff. Out of these three are on post retirement contract.

## **RESEARCH**

Academic staff of the Department undertook research in the various disciplines in Sociology and Social Work. Details of the research output are shown in the University's Quality Assurance Bulletin.

## **COLLABORATION AND VISITS**

Some of the collaborations between the University and other Institutions, facilitated by the Department were:

- **MoU between KNUST and Lingnan University, Hongkong**, facilitated by the Department in December, 2017;
- **Ramapo University, USA:** The Department of Sociology and Social Work hosted twelve (12) students and two (2) Professors from Ramapo University from 7<sup>th</sup> – 10<sup>th</sup> March, 2018. The purpose was to observe and experience social work practice in the Ghanaian cultural setting;
- **University of Utah, USA:** The Department hosted ten (10) students and a Professor from the College of Social Work, University of Utah, USA from 19<sup>th</sup>-24<sup>th</sup> March, 2018. The purpose was to observe and experience social work practice in the Ghanaian cultural setting;

The Department as part of its collaboration with the College of Social Work, University of Utah, has sent three (3) students to the University for Internship (practicum) in some Social Work institutions in USA. The exchange programme is to enhance the students' international appreciation of social work practice.

- **(Hochschule)(Darmstadt)-University of Applied Science, Darmstadt, Germany:** The Department hosted a student from Hochschule Darmstadt University of Applied Science, Darmstadt, Germany. He took various courses in Social Work to enhance his international social work knowledge and experience.

The Department obtained funding for two (2) Social Work students to attend a summer school in the Hochschule Darmstadt University of Applied Science, Germany from 9<sup>th</sup> – 20<sup>th</sup> May, 2018.

## **ACTIVITIES / EDUCATIONAL TRIPS**

Some of the activities undertaken by the Department in the year under review are as follows:

- The Department organised the 2nd Ghana Sociological and Anthropological conference at KNUST, from 21st-22nd September, 2017, under the theme "Discourses and Debates in Contemporary Africa: The Social Scientist and Sustainable Development"
- The Social Work Students Association of the Department in collaboration with the Student Representative Council, KNUST, the Sekyere East District Assembly and other donors, constructed a mechanised borehole and donated a 10,000 litre polytank for the people of

Bimma Community 2 in the Sekyere East District. The project was inaugurated on 10th November, 2017.

- The Sociology Students Association of the Department launched a Needy Trust Fund on 16th February, 2018, to mobilise resources to support needy but brilliant students in the Department.
- Some Faculty members of the Department participated in The World Bank IBRD-IDA Strategic Country Diagnostic programme on 7th March, 2018 which was held at KNUST, Kumasi. The programme was to assess the World Bank's diagnosis of poverty reduction strategies of Ghana.
- The Medical Social Work students in the Department embarked on an educational trip to some health institutions including Ankaful Psychiatric Hospital; Cape Coast School for the Deaf and Blind; Komfo Anokye Teaching Hospital; Garden City Special School.

In all the visits, donations of various items including food items were presented to the inmates. Resources were also mobilized for the renovation of Dining Hall at Garden City Special School.

## **CHALLENGES**

Among the challenges faced by the Department are inadequate number of lecturers resulting in high student-teacher ratio and inadequate infrastructural facilities to facilitate teaching and learning.

## **FACULTY OF LAW**

### **INTRODUCTION**

#### **PROGRAMMES**

The Faculty presently runs undergraduate and post-graduate programmes leading to the award of Bachelor's Degree in Law (LL. B) and Master of Laws (LLM). During the year under review, there have been structural developments to the LL. B programme by the introduction of new courses such as the Comparative Law, African Union Law, and Medical Law and Ethics.

The pioneer Master of Laws class is set to graduate in November this year as the Faculty prepares to introduce specialised executive LLM programmes. The specialised LLM programme will offer the opportunity of specialisation in various areas of legal practice. The programme will also contribute to training lawyers to formulate and undertake policy analysis which is properly informed by law and be able to employ the law to enhance scientific and technological progress without sacrificing essential societal values.

Additionally, the Faculty will soon begin to run its Doctor of Philosophy (PhD) programme in support of staff development and in contribution to the production of domestically trained legal academics and practitioners.

### **STUDENTS**

#### **Enrolment**

In the year under review, enrolment for the LLB programme stood at 780 which represents a 23.6 percent increase over the previous year's enrollment, while that of the LLM was 32. This is made up of a majority of Ghanaian students and a very diverse community of international students.

### **From the Students' Desk**

During the year under review, students of the Faculty distinguished themselves nationally and internationally and won a number of prestigious awards.

### **Moot Court – Awards 2018**

In February 2018, Faculty's moot team defended its title as the national moot champions by winning the national rounds of the Philip C. Jessup International moot competition. By this, the Faculty once again earned a place to represent Ghana at the international rounds of the Philip C. Jessup International Law Moot Court Competition at Washington DC in April, 2018. The Philip Jessup Moot Court is the largest annual International Law moot court competition. It is organised by the International Law Students Association (ILSA) and draws participation from law students all around the world.

### **Ghana School of Law Awards**

During the year under review, alumni of the Faculty again made the Faculty and the University proud by winning seven out of eleven awards at the October 2017 call of new lawyers to the Ghana Bar.

### **Individual Students' Awards**

Miss. Priscilla Wepia Ametame, a third year student of the Faculty, received the following awards and honours during the year under review:

- Recipient of Resolution Fellowship Award presented at the Harvard National Model United Nations Conference, Harvard University, USA in February 2018.
- Recipient of Overall Best Delegate and Most Outstanding Delegate award in the Social, Cultural and Humanitarian Committee at a Model United Nations Conference organised by Life-link Ghana, August 2017.
- Delegate to Ghana United Nations Youth Observer and representative of the youth of Ghana at the 72nd United Nations General Assembly, UN Headquarters, New York, September 2017.

### **Summer School**

The Faculty has instituted a summer school programme to prepare its students for the Ghana School of Law (GSL) entrance examination. This is to ensure that alumni of the Faculty make a smooth transition from the Faculty to the Ghana School of Law for their professional law course.

## **STAFF**

### **Academic Staff**

The Faculty is made up of three Departments: Commercial Law, Public Law, and Private Law. In the year under review, the members of academic staff are as follows:

#	DESIGNATION	NUMBER
1.	Associate Professor	1
2.	Senior Lecturer	3
3.	Lecturer	7
4.	Assistant Lecturer	6
5.	Principal Research Assistant	3

6.	Adjunct Professor	2
7.	Adjunct Associate Professor	5
8.	Adjunct Senior Lecturer	3
9.	Adjunct Lecturer	1
	<b>TOTAL</b>	<b>31</b>

The Faculty continues to make efforts to recruit more teaching staff in order to attain the General Legal Council student – teacher ratio of 18:1 and to maintain the Faculty’s competitiveness among Faculties of Law around the world.

### **Administrative Staff**

The Faculty’s administrative staff headed by a Senior Assistant Registrar remains a formidable support to the Faculty.

### **STAFF DEVELOPMENT**

A Staff Retreat was held at the Engineering Guest House. Among other things discussed at the retreat, was a draft staff development policy prepared by Mr. Simon Yaw Boribah, Registrar of the Faculty of Law. The policy outlines the setting up of a staff development fund aimed at supporting the career development of staff of the Faculty. The Faculty is working on finalising the plan in order to start its implementation.

Two Principal Research Assistants have completed their Masters of Law programmes. One is also pursuing his LLM programme at the Faculty. Two members of staff are also pursuing their postgraduate research at doctoral level while a number of others are preparing their proposals for the same purpose. The Faculty’s PhD programme which is soon to begin, is among others, a programme in support of staff development.

### **STAFF RESEARCH**

A significant number of academic papers have been published by Senior Members of the Faculty in the academic year. These included papers in some peer reviewed journals, book chapters and international and national conference proceedings. Details of these can be found in the University’s Quality Assurance Bulletin for the year under review.

### **COMMUNITY SERVICE**

Members of the Faculty teach a number of law courses (service courses) in various Faculties/ Departments of the University including Land Economy, Building Technology, School of Veterinary Medicine, Faculty of Biosciences and Faculty of Social Sciences, KNUST School of Business etc. Faculty members also offer their skills and expertise, through service on investigative issues and other committees of the University, consultancies, legal advice to and conducting training programmes for members of the University community and the general public.

### **CONFERENCES**

#### **Conference of Legal Academics**

During the year under review, the Faculty of Law hosted the maiden Conference of Legal Academics which was held at the Institute of Distance Learning (IDL) Conference Centre, from 20<sup>th</sup> – 22<sup>nd</sup> October 2017 under the theme: ‘The Future of Legal Education in Ghana.’ The conference

attracted speakers and participants from Ghana, Nigeria, USA, UK among others. The Keynote Speaker was Prof. Stephen Offei.

### **Law, Medicine and Ethics Conference**

The Department of Commercial Law, organised the Law, Medicine and Ethics Conference on 12<sup>th</sup> April at the IDL Conference Centre on the theme “The beginning and end of life: A Discourse on Legal and Ethical Issues in Ghana.” The conference, which was the first of its kind in the whole of Africa, was chaired by Nana Dr. S.K.B Asante, the Omanhene of Asante Asokore. The keynote speech was delivered by Prof. Katrina A. Choong of the University of Central Lancashire, Preston, UK, on the topic: “Organ Procurement: Should Ghana Import a Western Definition of Death?”

The conference also saw the launch of the KNUST Africa Healthcare Law Review (K-AHLR) another novelty in healthcare law in Africa.

### **AFRICAN UNION LAW RESEARCH AND STUDY CENTRE**

The Faculty has put in place structures to set up an African Union (AU) Law Research and Study Centre. As a prelude, the Faculty has, in the academic year ending, introduced AU Law into its curriculum as an elective course. This among others will contribute to generating the necessary research interest in the subject and produce the right human resource for the Centre. The Faculty is expecting the arrival of Dr. Josephine Dawuni, a Fulbright Scholar, to manage the Centre in the 2018/19 academic year. It is hoped that the Centre will develop to become a Centre of excellence in Africa.

### **INFRASTRUCTURAL DEVELOPMENT**

During the 2017/18 academic year, the Faculty of Law auditorium was renovated to give the facility a facelift, major areas include reroofing, replacement of worn-out seats, installation of new air conditioners and repainting. The Sir Arku Korsah Library of the Faculty was also repainted. The University is preparing for the construction of an ultra-modern Moot Court Complex. Apart from these, other infrastructural development works was also done.

### **15<sup>TH</sup> ANNIVERSARY CELEBRATIONS**

The Faculty of Law, KNUST which began in September 2003 is 15 years old. The anniversary celebration, which will span over a period, is scheduled to be climaxed in September 2018. Activities for the anniversary will include public lectures, photo exhibitions, moot court competitions, alumni homecoming and anniversary durbar among others. It is hoped that proceeds of the anniversary celebration will be seed money for the setting up of an endowment fund for the Faculty.

### **BEREAVEMENT**

The sudden death of Miss. Abena Achaa Agyapong, a final year student of the Faculty of Law KNUST, occurred on 4<sup>th</sup> September, 2017. The Faculty held a Tribute and Memorial Service in her honour on 14<sup>th</sup> September, 2017.

Prof. Stephen Offei, an Adjunct Professor of the Faculty of Law, KNUST, and the immediate past Dean of the Faculty as well as former Acting Provost of the College passed away on 11<sup>th</sup> April, 2018.

### **CONCLUSION**

The Faculty of Law is grateful to God for its accomplishments in year ending and hopes that it will continue to be a leader in excellence and innovation in legal education nationally and globally.



## **KNUST BUSINESS SCHOOL**

### **INTRODUCTION**

The KNUST School of Business (KSB) runs undergraduate and postgraduate degrees in business administration and management in all its specialisations to meet the needs of prospective students. The School has four (4) academic departments, namely, the Department of Accounting and Finance, the Department of Human Resources and Organisational Development, the Department of Marketing and Corporate Strategy, and the Department of Supply Chain and Information Systems. In all, there are forty-two (42) academic staff including two (2) Associate Professors and twelve Senior Lecturers.

## **DEPARTMENT OF ACCOUNTING AND FINANCE**

### **INTRODUCTION**

The Department is one of the four Departments of the KNUST School of Business and The Department currently runs nine programmes at both the undergraduate and graduate levels. The graduate programmes include Doctor of Philosophy in Business and Management and Doctor of Business Administration

### **STAFF**

The staff strength presently is fifteen (15), comprising one (1) Associate Professor, two (2) Senior Lecturers, seven (7) Lecturers, three (3) Assistant Lecturers and two (2) Part-time Lecturers.

### **ACADEMIC PROGRAMMES OFFERED**

The Department runs Bachelor of Business Administration options in Banking and Finance; Accounting, and Insurance and Risk Management. It also runs the Master of Business Administration specialisations in Finance and Accounting as well as Master of Science with varied options.

Plans are under way to mount the under-listed postgraduate programmes in the Department:

1. MSc/MPhil Development Finance
2. MSc. Financial Engineering
3. MSc. Financial Planning

### **ACTIVITIES IN THE YEAR**

#### **PROVISION OF SERVICE TO ACADEMIC DEPARTMENTS**

Faculty in the Department teach and supervise research work, not only at the Department but also in other Departments of the University. Here the Department provides service courses in Accounting to almost all other Departments of the University at both Undergraduate and Graduate levels.

#### **STAFF DEVELOPMENT**

On staff development, five (5) Lecturers have enrolled on a PhD programme.

#### **WORKSHOPS/SEMINARS**

The Department organised a 2-day Accounting and Finance Research Seminar in March, 2018 to among others enhance the capacity and skills of both Faculty and research students. The key

note speakers were Prof Roy Mersland (Director of PhD Programmes, University of Agder Business School, Kristiansand, Norway) and Prof Oystein Strom (University of Oslo). In all, six research articles were presented by present and past students during the 2-day event.

### **COLLABORATION**

The Department continues to collaborate with the following professional bodies:

1. The Association of Certified Chartered Accountants-UK
2. The Institute of Chartered Accountants-Ghana

### **PUBLICATIONS**

The Department produced 51 peer-reviewed scholarly publications in both local and international journals.

### **SERVICE TO THE COMMUNITY**

The Department, in collaboration with the ARB Apex Bank, organised a day's seminar for managers and credit officers of the Rural and Community Banks in Ashanti Region on 29<sup>th</sup> June, 2018.

## **DEPARTMENT OF HUMAN RESOURCE AND ORGANISATIONAL DEVELOPMENT**

The Department has a total of eight (8) full-time staff.

### **ACADEMIC PROGRAMMES OFFERED**

The Department offers five undergraduate in Management; Human Resource Management; and Hospitality and Tourism Management. At the postgraduate level, the Department offers specialisations in Management and Human Resource Strategy; Human Resource Management; Management and Organisational Development, and Management and Human Resource Strategy.

### **ACTIVITIES IN THE YEAR**

#### **Seminars and Workshops**

- a) The Department organised a series of thesis writing seminars for its final year postgraduate and undergraduate students.
- b) To provide students with the opportunity to view aspects of the hospitality industry and related areas that are not readily available in regularly scheduled courses, the Department also organised a series of seminars on Professional Development for the Hospitality and Tourism Management students in fulfilment of their programme requirements. The seminars were held at the Saarah-Mensah Auditorium, KNUST.
- c) Educational tours to Lake Bosomtwe, Golden Bean and Golden Tulip on 17th March 2018, 10th April 2018 and 23rd April 2018 were also organised for the Hospitality and Tourism Management students to enable them understand how the concepts and theories learned in class are practised in the industry.
- d) On Wednesday, 8th November 2017, the Department in, collaboration with the Executives of the KSB Students' Association, organised a seminar on "What Employer's Look for in a Job Applicant" for all KSB students. This seminar was aimed at preparing students (especially final year students) for the job market by highlighting the perspectives of the employer during the recruitment and selection process.

- e) A series of lectures were organised for the second year MBA (Management and Organisational Development) students. The lecture series dealt with the practical aspects of the Organisational Development Consulting course.

### **STAFF DEVELOPMENT AND AWARDS**

Three of the Department's staff whose papers were accepted by the African Academy of Management (AFAM), won the AFAM/Emerald Best Paper Award in the Organisational Behavior and Human Resource Management and Business Strategy Tracks. The Faculty members are:

- i. Dr. F. Asiedu-Appiah
- ii. Dr. H. V. Osei
- iii. Dr. H. K. Mensah

Dr. F. Asiedu-Appiah and Dr. Henry Mensah also attended the African Academy of Management 4<sup>th</sup> Biennial Conference in Addis Ababa, Ethiopia from the 3<sup>rd</sup> to 6<sup>th</sup> of January 2018.

### **COLLABORATION AND INSTITUTIONAL LINKAGES**

The Department is one of the beneficiary Departments of the Arizona State University/KNUST building stronger university programme. The MasterCard Foundation Programme 3+1+1 offers undergraduate students the opportunity to do their final year at ASU and subsequently pursue a one-year Master's programme. This year, 3 students from the Department pursuing BSc. Business Administration – Human Resource Management Option were awarded scholarships on the programme and they will start during the next academic year.

Also, the Department has clinched collaborative arrangements with several hospitality facilities in Kumasi and Accra to help ease the difficulties students face in getting placement to do their internships during the long vacation.

### **PUBLICATIONS**

Altogether, Faculty members in the Department published twenty-six (26) articles in refereed journals, one (1) book chapter and three (3) refereed conference papers in the year under review.

## **DEPARTMENT OF MARKETING AND CORPORATE STRATEGY**

### **INTRODUCTION**

The Department has a staff strength of eight (8) Faculty members. Of this number, four (4) are Senior Lecturers and the rest are lecturers. Apart from these, there are four (4) part-time lecturers. Lecturers in the Department continue to provide service to other academic Departments in the University.

### **ACADEMIC PROGRAMMES OFFERED**

The Department runs two postgraduate options in Marketing and Strategic Management and Consulting. It also has two undergraduate options in Marketing and International Business.

Two new postgraduate programmes have been introduced – MSc. Marketing and Ph.D. in Business and Management. The MSc Marketing programme is underway with the first batch of students going into second year. For the Ph.D. the Department currently has three students who are almost through with their first year; having finished all their taught courses.

## ACTIVITIES IN THE YEAR

### Staff Development Programme

Two members of staff are currently on Ph.D. at the Alborg University in Denmark, and the KNUST School of Business.

### Institutional Linkages

The Department is collaborating with the Ghana Office of the International Finance Corporation (IFC) to establish a centre for research on Corporate Governance and Leadership at the KNUST School of Business. Workshops have been organised to train lecturers in the School/Department by representatives of the IFC.

## PUBLICATIONS

In the year under review, the academic staff published sixteen (16) articles in refereed journals.

## SERVICE TO THE COMMUNITY

In conjunction with the other Departments, the KSB engaged members of the Association of Small Scale Industries in Kumasi for a collaboration intended to inure to their mutual benefits. This collaborative session started with students of the School visiting members of ASSI at their workplace to study how they conducted their business, culminating in a debriefing session with the industries on campus on 15<sup>th</sup> May, 2018.

## DEPARTMENT OF SUPPLY CHAIN AND INFORMATION SYSTEMS (SCIS)

### INTRODUCTION

The Department has a total of eleven (11) academic staff, two (2) of who are Senior Lecturers. One (1) staff is currently on study leave in New Zealand.

### ACADEMIC PROGRAMMES OFFERED

The Department runs both undergraduate and postgraduate programmes as shown in the table below. Both the undergraduate and postgraduate programmes have different specialisation options.

No.	Title of Programme
1	BSc. LOGISTICS AND SUPPLY CHAIN MANAGEMENT
2	BSc. BUSINESS INFORMATION TECHNOLOGY
3	MBA LOGISTICS AND SUPPLY CHAIN MANAGEMENT
4	MBA MANAGEMENT INFORMATION SYSTEMS
5	MSc. LOGISTICS AND SUPPLY CHAIN MANAGEMENT
6	MSc. PROCUREMENT AND SUPPLY CHAIN MANAGEMENT
7	MPhil BUSINESS & MANAGEMENT (MANAGEMENT INFORMATION SYSTEMS Option)
8	MPhil BUSINESS & MANAGEMENT (LOGISTICS AND SUPPLY CHAIN MANAGEMENT Option)
9	MPhil BUSINESS & MANAGEMENT (PROCUREMENT AND SUPPLY CHAIN MANAGEMENT Option)

10	PhD BUSINESS & MANAGEMENT (LOGISTICS AND SUPPLY CHAIN MANAGEMENT)
11	PhD BUSINESS & MANAGEMENT (PROCUREMENT AND SUPPLY CHAIN MANAGEMENT)
12	PhD BUSINESS & MANAGEMENT (MANAGEMENT INFORMATION SYSTEMS)

## **ACTIVITIES IN THE YEAR**

### **Workshops**

Lecturers from the KNUST School of Business, were invited to attend a 'Train the Trainer' programme in Enterprise Systems (ES) Fundamentals for Business with SAP, organised by the Enterprise Systems Education for Africa (ESEFA) Centre, at the University of Cape Town, South Africa. Dr. David Asamoah represented the Department of Supply Chain and Information Systems at the training, which took place from the 3<sup>rd</sup> to the 7<sup>th</sup> of April, 2018 at TSIBA Education, Cape Town, South Africa.

### **Educational Trips**

An educational tour, led by Mr. Kwame Owusu Kwateng, was organised for the Department's Business Information Technology students to the Ghana Community Network (GCNET) and 'Ecobank E-Processing', Accra, on 8<sup>th</sup> November, 2017.

Lecturers and Business Information Technology students of the SCIS Department honoured an invitation from the Ministry of Communications through the National Cyber Security to the National Cyber Security Week, under the theme – Securing Ghana's Digital Journey. The event was held at the Accra International Conference Centre from Monday, 23<sup>rd</sup> to Friday, 27<sup>th</sup> October, 2017.

### **ASU-KNUST IADP COHORT 2 SCHOLARS**

Seven of the Department's Logistics and Supply Chain Management students were selected as the Cohort 2 Scholars of the Arizona State University-KNUST 3+1+1 International Accelerated Degree Program (IADP) which is in collaboration with the MasterCard Foundation Scholars Programme.

### **KNUST SELECTED TO HOST CARNEGIE AFRICAN DIASPORA FELLOW**

The University was selected by the Carnegie African Diaspora Fellowship Programme (CADFP) to host two African Diaspora scholars from the United States to work with Faculty at the School of Business, on a collaborative project on Graduate Student Training/Mentoring and Research Collaboration with Faculty and students.

### **PUBLICATIONS**

In the year under review, Lecturers in the Department published a total of twenty-two (22) articles in high ranking journals.



**COLLEGE OF SCIENCE**

## INTRODUCTION

The College of Science is the third largest College in the University, with an overall student population of 6,497, comprising 6,169 undergraduates and 328 postgraduates, with a staff strength of 267. The College makes efforts in team work, dedication to duty, discipline and excellence to achieve its vision. These efforts always lead to the provision of quality training, research, and extension services in the basic and applied sciences, towards national industrial and economic development. The College continues to pursue this mandate in earnest, with the goal of becoming an established centre of excellence for the advancement of knowledge in the sciences, nationally and internationally.

## STRUCTURE OF COLLEGE

The Provost is the Head of the College and assisted in the day to day management and administration of the College by a College Registrar, Senior Administrative support staff, Deans and Heads of Department.

The College is made up of two faculties with ten (10) Departments; namely;

### Faculty of Biosciences

Department of Biochemistry.

Department of Food Science and Technology.

Department of Optometry and Visual Science.

Department of Theoretical and Applied Biology.

Department of Environmental Science.

### Faculty of Physical and Computational Sciences

Department of Chemistry.

Department of Computer Science.

Department of Mathematics.

Department of Physics.

Department of Statistics and Actuarial Science.

## COLLEGE ADMINISTRATION

Prof. (Mrs.) Ibok Nsa Oduro	- Provost.
Mr. V. A. Ankamah-Lomotey	- College Registrar.
Mr. Festus Nyame	- Senior Assistant Registrar.
Mr. F. O. Boateng	College Accountant.
Mr. Richard Bruce Lamptey	- Ag. College Librarian.
Mrs. Mavis Osei Boateng	- Junior Assistant Registrar.

## ACADEMIC PROGRAMMES

The College runs twelve undergraduate programmes, and continues to add unto the multiple postgraduate programmes at the Master's and Doctorate levels. Apart from the regular programmes, a number of programmes are offered by the distance learning mode. These include postgraduate programmes in Environmental Science, Information Technology, Food Quality Management, Industrial Mathematics, and a top-up programme in Optometry & Visual Science, as well as undergraduate programmes in Statistics, Information Technology, among others.

## **ACTIVITIES**

The period under review witnessed some significant developments and activities at the College, Faculties and Departments, highlights of which are here-in provided.

## **NEW ACADEMIC PROGRAMMES**

The College continues to review its academic programmes and introduce new programmes. The MPhil and PhD Vision Science has been advertised and students would be admitted for the 2018/2019 academic year.

## **STAFF RECRUITMENT AND PROMOTIONS**

During the period under review, 12 lecturers were recruited. The College will, however, continue its drive to identify and recruit high caliber staff for all its programmes.

Fifteen Senior Members were promoted: One Associate Professor to Full Professor; Five Senior Lecturers to Associate Professors, Eight Lecturers to Senior Lecturers and One Assistant Registrar to Senior Assistant Registrar. Fifteen support staff were also promoted.

Three additional Support Staff were upgraded from Junior Staff to Senior Staff. In the year under review, a Junior Assistant Registrar was transferred to the College to replace the Senior Assistant Registrar who had been transferred to the School of Dental.

## **LEARNING ENVIRONMENT**

### **The Learning Commons**

The College has good teaching facilities but the learning environment needed improvement. It is for this reason that the undergraduate Learning Commons has been created. It currently accommodates 108 users who could hold discussions and a quiet contemplative area.

The Learning Commons is a common space that encourages exploration, creation, and collaboration among students. The Learning Commons currently offers the ultimate benefit to students. The Commons encourages engagement with information in its various forms, reinforces the value of collaborative inquiry, creating new opportunities for student's interaction, and supporting students to adjust to and succeed academically.

The old reading room for undergraduate students is under renovation to be used by postgraduate students for learning.

### **E-Library Development**

The College is creating a 30 seater e-library to provide access to online resources, online e-journals, electronic documents and virtual resources. It is believed that this facility will provide better services for researchers to access the structured information from the desk top in the College library.

### **Smart Classrooms (E-PODIUM)**

We are liaising with the University ICT Consultant to implement some Multimedia Setups in some of the larger Lecture Halls to bring about effectiveness and efficiency in lecture delivery given our increasing student population. This we believe will bring a lot of improvement as far as teaching and learning is concerned. The first batch of the equipment set has been procured and would soon be installed.



## **COMMISSIONING OF LABORATORIES**

### **Simulation Laboratory**

A Simulation Laboratory was commissioned by the Vice-Chancellor on 25<sup>th</sup> October, 2017. The facility has various simulation software programmes installed on high-end machines with several modules to facilitate research. It has a file server for data storage and dedicated wireless access points for fast and reliable internet. The laboratory has five cubicles, an office, classroom and a conference room.

### **Digital Forensic Laboratory**

In the year under review, the College in collaboration with E-Crime Bureau put up a digital forensic laboratory and this was commissioned on 25<sup>th</sup> October, 2017 by the Vice-chancellor, the Inspector General of Police and the Provost.

## **TECHNOLOGY INNOVATION**

A Lecturer of the Department of Computer Science, Dr. Edward Danso Ansong, as part of his PhD research, developed an NSA-grade Security based Linux Operating System for both Desktop and Server Environments. The Operating System code named “TrendOS” (Trusted Resilient Enhanced Networked Distributed Operating system) comes with a hacker-proof version of the Linux Kernel patched with several security protocols and cryptographic algorithms to augment the existing security policies integrated in current operating systems. The Operating System is already shared with NITA (National Information Technology Agency) of the Ministry of Communication and other Security Agencies to test the security of the system which is already generating good feedback. The package is already available on <https://trendoslinux.com> for download and use. With this result, the Department of Computer Science of KNUST has joined the global research institutions that are contributing to the ongoing research in Operating System Kernels.

## **CAPACITY BUILDING**

### **College of Science Students’ Achievement Programme**

As part of efforts to assist academically challenged students, and improve on student performance, the College’s ‘Committee for Students’ Achievement’ continue to organise special tutorial classes to cater for the needs of all such students and monitor their individual progress throughout their period of study. In the year under review, Nine Hundred and Three (903) students participated in the programme held from 16<sup>th</sup> to 30<sup>th</sup> April, 2018.

### **Short Courses**

The College in collaboration with E-Crime Bureau organised the first Digital Forensic short course in November, 2017. It attracted participants from the Ghana Police, Rural Banks and some private tertiary institutions and the theme for the course was “Cyber Forensics and Investigation Techniques.

The College has also introduced a short course in photography to train students to enhance their creativity as well as introduce them to a wide spectrum of opportunities. The programme was held for three days between 29<sup>th</sup> January and 9<sup>th</sup> of February, 2018. Fifteen (15) students participated in the programme.

This short course was aimed at helping students to take high quality pictures for their project works.

## **Seminars and Conferences**

The College, in collaboration with the Ghana Science Association organised a seminar and poster presentation to help strengthen the research capacities of members of staff. This is also to foster collaboration between the College, the Association and Research Institutions in Ghana and beyond, to advance knowledge in science to solve societal problems.

We have institutionalised Faculty seminars whereby the Faculties organise seminars for both members of staff and students to make presentations.

The College, again, in collaboration with the College of Humanities and Social Sciences organised a food festival and conference whereby presentations were made on local delicacies and an exhibitions carried out to showcase rich Ghanaian delicacies. Participants had the opportunity to taste the exhibits.

On 26th September, 2017, the College organised its first Science Café dubbed ‘Combating Water Pollution: The Role of the Quintuple Helix. Academia, government, the industry players and the media were invited to share their views on the topic.

The College again organised an entrepreneurship, Innovation and Creativity (SCINNOVA) Seminar for its final year students on 12th October, 2017.

The SCINNOVA Seminar was to:

1. Inform students about the plan to incorporate Entrepreneurship, Innovation and Creativity in the College curricula.
2. Evoke Creativity and Innovation in final year research project students.
3. Prepare students to recognise business/entrepreneurial skills for the corporate world after school.

Students were taken through steps in becoming an entrepreneur, the need for training in critical thinking in identification of problems, recognising opportunities and risk-taking in becoming an entrepreneur, student-lecturer/researcher as stewards of innovation and creativity, by well experienced people to equip them with entrepreneurial skills for the world after school.

## **COLLEGE OF SCIENCE HARDWARE UNIT (CoSHU)**

The College of Science has set up a hardware unit to provide repair services to a range of ICT infrastructure used in research, teaching and learning for lecturers and students. These equipment include laptops, desktop computers, projectors etc., are key as far as education is concerned; and must therefore be repaired as soon as they go faulty. This is done at affordable fees. This initiative is also to protect our students from losing their learning gadgets to some miscreants who parade themselves as device technicians.

## **COLLEGE OF SCIENCE E-NEWSLETTER**

In the year under review, the College introduced a bi-weekly electronic newsletter to update the University community on the happenings within the College. Currently, we have had at least twelve (12) editions featuring current events, programmes, workshops, staff recognitions, etc. It is distributed to students and other stakeholders via Short Message Service (SMS) with an online link to the PDF document.

## **COLLEGE RESEARCH INITIATIVES**

### **College Office of Grant and Research**

The College has established an Office of Grant and Research with a project manager who oversees the office to boost grantmanship in the College. With time, the College hopes to employ a full-time staff to manage the office. Projects such as 'Cyanide and Mercury Pollution Abatement and Treatment', 'Antitumor Activities and Mechanistic Actions of selected Ghanaian Medicinal plants', 'Assessment of Genetic Diversity in West African Roselle Accessions using Biochemical markers and expressed sequence tagged-simple sequence request (EST-SSR) profiling', and 'Investigating dietary intake, nutritional status, and other factors associated with birth outcomes in pregnant adolescents' have won grants. A Committee has been set up to help in the writing of proposals to help attract more grants to the College.

### **POSTGRADUATE SCHOLARSHIP AWARDS**

Staff at the College have used their sitting allowance and retreat funds to set up a research fund. The total amount as at 24<sup>th</sup> January, 2018 was One Hundred and Eighty-Two Thousand, Six Hundred and Seventy Ghana Cedis (GH¢182,670.00) to assist in postgraduate training in the College.

Out of this fund, the College has awarded scholarships to four (4) PhD students and four (4) MPhil students. Each PhD student was awarded Ten Thousand Ghana Cedis (GH¢10,000.00) per annum for two (2) years and the MPhil students were also awarded Ten Thousand Ghana Cedis (GH¢10,000.00) for a year. The awardees for the two categories have also been exempted from paying administrative fee. In all, four (4) females and four (4) males were given scholarships.

### **TRAINING WORKSHOP FOR TECHNICAL STAFF**

In the year under review the College organised two different workshops for the technicians in the College. The first was a two day workshop on "Online Resources and Information Retrieval". Participants were taken through internet searches, information evaluation and how to do effective online searches, academic database searches, introduction to some web 2.0 tools, etc.

A three days' workshop was also organised for Technical Staff in the College from 22<sup>nd</sup> to 24<sup>th</sup> May, 2018. Participants were trained on laboratory hazards assessment and risks management, laboratory safety and management systems, basic laboratory records keeping and management, instrument maintenance and management, laboratory waste management, laboratory auditing of records and procurement processes for buying laboratory goods. These were all intended to sharpen the skills of the technicians in the College.

## **COMMUNITY ENGAGEMENT**

### **Science and Technology Seminar Series for Females in First Cycle Institutions**

The project is an initiative of Prof Ibok Oduro, Provost, College of Science and A team of DANIDA alumni to make Science, Technology, Engineering and Mathematics (STEM) friendly to females in first cycle Institutions. A grant was awarded in March 2018 by the Danish Ministry for Foreign Affairs and the DANIDA Fellowship Centre to facilitate this effort. The pilot project was implemented in **June, 2018** for 56 female Junior High School students and 14 teachers in the Ayeduase Community. The students were enlightened on the various programmes in senior high schools, their linkages to science and technology programmes in higher institutions of

learning as well as career prospects in Science, Technology, Engineering and Mathematics. They were also given a tour of selected laboratories and workstations on KNUST campus to further ignite their interest. The teachers' workshop was tailored to empower them to coach and mentor students as well as guide them in the selection of secondary school courses towards reaching their personal academic and career aspirations. The long term goal of the initiative/ project is to use this seminar as the 'model project' for more career guidance seminars in first cycle institutions.

## **INTERNATIONAL ACTIVITIES/ENGAGEMENTS**

### **Collaborations and MOUs**

The College had a few visitors from its international collaborators. These include ISA Lille from France, University of Nottingham, Africa lead and Aarhus University from Denmark.

The College, has signed memorandum of understanding with IBM and Erasmus+.

## **ACADEMIC INITIATIVES**

### **KNUST – ISA LILLE ACTIVITIES (2017/18 ACADEMIC YEAR)**

In 2017, KNUST partnered ISA Lille, France, to win an Erasmus+ Mobility Grant of € 96,720, funded by the European Union to promote Faculty and student mobility between the two institutions for a two year period. This grant has helped to support the 3+2 accelerated MSc programmes in Environmental Science and Food Science and Technology currently being run in partnership with ISA Lille, France. In the first year of this programme (i.e. 2017/18 academic year), four third year students from the Department of Food Science were supported to undertake their final year abroad at ISA-Lille. Their academic record at ISA Lille were submitted to KNUST in time and processed for them to graduate with their colleagues. This has been possible because the final year of the BSc syllabus in Environmental Science and Food Science and Technology at KNUST have been synchronised with the first year of the MSc syllabus in the respective programmes at ISA Lille. Thus, those students pursuing the 3+2 programme, having graduated from KNUST, would proceed with an additional one year at ISA Lille to obtain a masters degree. Four additional third year students (two each from Environmental Science and Food Science and Technology) have been selected to be supported to study abroad at ISA Lille in 2018/19 academic year. The selection process was very rigorous; interested students were made to apply, wrote an aptitude test and were interviewed by a combined team from KNUST and ISA Lille. In the 2017/18 academic year, two Faculty members from Environmental Science and another two from Food Science and Technology were supported by this grant to visit ISA-Lille on Teaching and Training Mobilities, while two Faculty members from ISA-Lille also visited the College of Science on Teaching Mobilities and taught courses in Environmental Science and Food Science and Technology. Similar exchanges of Faculty members have been scheduled for the 2018/19 academic year.

### **MASTERCARD FOUNDATION PROGRAMMES**

In the 2013/2014 academic year, the University admitted the first cohort of students on the Mastercard Foundation Scholars Programme. This programme is an initiative between Mastercard Foundation, Canada and KNUST in 2012/2013 academic year. Eight (8) members of the first cohort were in programmes in the College of Science specifically, BSc Statistics and BSc Actuarial Science. These batch of eight (8) scholars comprising four (4) females and four (4) males are graduating

this year (2018) with very good performances. As pioneers of this initiatives from the College of Science, the College congratulates them.

## **STUDENT ACTIVITIES**

### **1<sup>st</sup> Semester of 2017/2018 Academic Year**

The 2017/2018 academic year started with Apprentice SCISA which was organised by the Women's Commission in September, 2017. The main aim was to teach women basic skills such as soap making, baking etc. The new reading room and discussion area was opened in October 2017. This was followed by the Business and Entrepreneurship Summit in October 2017 in which public figures such as Rev. Kusi Boafo (CEO, Public Sector Reforms) and Ama Duncan graced the occasion. Due to the new academic calendar, SCISA Week was held in November 2017. Activities held within the SCISA week included the week launching, SCISA games, outreach to Krofrom MA JHS to give an insight into science related programs, PHYSAG 25<sup>th</sup> anniversary, SCISA electro repairs (whereby students who had software and hardware issues brought their devices for fixing) and the SCISA movie night.

### **2<sup>nd</sup> Semester of 2017/2018 Academic Year**

Second semester started with the SCISA bursary in which 165 students benefited. The bursary was given to students who had financial difficulties.

The SCISA socialisation which came off in February was attended by 2,500 students. The event received positive feedback from students as one of the best socialising events ever.

In March, a mini SClthon was organised whereby students sat in groups to share ideas and come out with solutions to problems in the areas of environment and health, business and science.

## **BENEFACTORS**

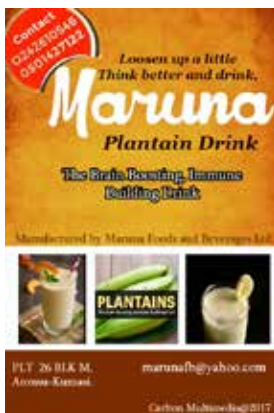
As has been the case over the past few years, the College received cartons of books, donated by Ramapo College of New Jersey, in the United States. The books covered disciplines in both the basic and applied sciences.

Miss. Jolene Mateko Azagba-Nyako, an alumna of the Department of Food Science and Technology and Prof. Kwabena Nsiah of the Department of Biochemistry and Biotechnology donated some assorted books to the College to enhance the College Library.

Mrs Faustina Mensah of the Department of Biochemistry and Biotechnology also donated some laboratory equipment to the College.

## YOUTH EMPOWERMENT

Find below Businesses that have been developed by College of Science students in pictures:







## **A PROFILE ON WOMEN IN SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS (WiSTEM)**

### **BACKGROUND**

The role of women in society has evolved from passivity to active involvement in contemporary times and can no more be overlooked. It has been agreed that the development and growth of a nation would not be possible unless women are brought into the main stream of National Development. This is because women make important contribution to Economic Development and further make significant improvement to life. In most regions of the world, women make up half the national workforce, may earn more college and graduate degrees than men especially in the social related fields of study, and by some estimates represent the largest single economic force in the world. Yet, the gender gap persists to a large extent than in other professions, particularly in Science, Technology, Engineering and Mathematics (STEM). Women's empowerment through science and technology has the potential to enable them to realize their aspirations, shape their life in accordance with their ambitions, and also to strengthen the advancement of scientific innovation and eventually wealth accumulation.

It is for this reason that the Provost, College of Science, KNUST (the foremost University of Science and Technology in Ghana), with a team of dedicated women, under the auspices of the Vice Chancellor have taken up the challenge to establish Women in Science, Technology, Engineering and Mathematics (WiSTEM) as a platform to building the capacity of women in STEM for National Development.

The main aim of the WiSTEM<sub>Gh</sub> Initiative is to stimulate the interest of the females in choosing Science, Technology, Engineering and Mathematics (STEM) as a career and encourage their roles as models through mentoring and leadership programmes for early career women in STEM fields.

### **OBJECTIVES**

The overall objective of WiSTEM<sub>Gh</sub> is to; facilitate scientific, technological and leadership capabilities of women; provide a framework for intra and inter institutional collaboration and promote a science and technology culture in the society.

### **WiSTEM 2018 ACTIVITIES**

The local chapter of WiSTEM<sub>Gh</sub> was successfully launched on January 18<sup>th</sup> 2018 by the Pro Vice Chancellor, KNUST at a ceremony well attended by about 50 female senior members and some male senior members in STEM and other principal officers of the university. At the event, the need to sensitize young women in the basic schools to choose science and science related subjects was discussed. It was agreed that a mentoring system be instituted for early career females in the STEM fields to boost their confidence and increase their participation for national development and actualize the SDGs for Africa.

In February 2018, the WiSTEM<sub>Gh</sub> organisation team embarked on an inter-College visitation programme, where assigned members visited colleagues in a particular College to discuss issues that would improve their career progression and to share ideas on WiSTEM in terms of organisation and growth.

On 20<sup>th</sup> March 2018, a colloquium was organised where over 70 women and some male senior members were in attendance. At the end of the colloquium, a committee was setup to draft a



communiqué to be sent to the KNUST management on the under-representation of women in STEM professions.

### **Upcoming 2018 Events for WiSTEM**

On 15<sup>th</sup> June 2018, WiSTEM will support a “**Science and Technology Seminar Series for Female students and tutors in First Cycle Institutions.**” The pilot event will be organised for 56 female Junior High School students and 14 tutors in the **Ayeduase** community. The project is a partnership between a team from the DANIDA Alumni Network-Ghana and the College of Science, KNUST with Grant support from DANIDA Fellowship Centre and the Danish Ministry of Foreign Affairs.

Also later in June, WiSTEM aims at launching WiSTEM<sub>Gh</sub> national chapter through a conference at the Great Hall of KNUST. The conference seeks to bring together eminent women in the STEM field all over the world to serve as role models, a source of inspiration and motivation for younger women in STEM as well as girls in second cycle schools. Similarly, as part of the conference mentoring sessions will be organised for young women in second cycle schools.

### **CHALLENGES**

One of the biggest challenges is achieving the institutionalization of a gender policy. The absence of this places a progression bar on women in STEM. Coupled with this is to correctly and effectively communicate the WiSTEM vision to female scientists in order to harness our collective strengths to effect the much needed change. There is also the challenge of sourcing for funds because more often than not, would be sponsors do not appreciate the importance of supporting women in STEM.

Below is a list of members of the Expanded Committee of the local (KNUST) chapter of WiSTEM<sub>Gh</sub>

Prof. (Mrs) Ibok Oduro	Provost College of science
Prof. (Mrs) Atinuke Olusola Adebajji	Mathematics
Dr. (Mrs) Mercy Badu	Chemistry
Dr. (Mrs) Augustina Slyverken	Theoretical and Applied Biology
Dr. (Mrs) Antonia Tetteh	Biochemistry and Biotechnology
Dr. (Mrs) Linda A. Fondjo	Molecular Medicine
Dr. (Mrs) Akosua B. K. Amaka-Otchere	Planning
Dr. Marian Asantewaa Nkansah	Chemistry
Dr. (Mrs) Yaa Asantewaa Osei	Pharmaceutics
Dr. (Mrs) Linda B. Debrah	Clinical Microbiology
Dr. Abena A. Boakye	Food Science and Technology
Dr. (Mrs) Vivian E. Boamah	Pharmaceutical Microbiology
Miss Dorcas Attuabea Addo	Mathematic (PhD Student)



## PHOTO GALLERY

Clockwise from top left: Launch of local WiSTEM<sub>Gh</sub> on 18<sup>th</sup> January, Inter-College visistation and Colloquium of 20<sup>th</sup> March, 2018.

# **INSTITUTE OF DISTANCE LEARNING**

## **INTRODUCTION**

The Institute of Distance Learning (IDL) serves as a viable complement to the conventional lecture room session conducted within the confines of the walls of KNUST.

The Institute is made up of three Centres that work in collaboration with other Departments to carry out the mandate of the Institute. These are Centre for Continuing Education and Training (CCET); Centre for E-learning Technologies (CELT) and Centres for Academic Programmes, Research & Development (CARD)

## **STAFF STRENGTH**

The Institute is manned by permanent KNUST staff and casuals as well as National Service Personnel. The permanent University staff comprise twelve (12) Senior Members, made up of one (1) Professor; the Director, a Deputy Director (1) Senior Research Fellow, one (1) Senior Assistant Registrar, one (1) Assistant Registrar, (one) Senior Accountant and five (5) Zonal Coordinators. In addition, there are fifteen (15) senior staff and eight (8) junior staff. Also there are sixteen (16) Casual staff and some twenty eight (28) National Service personnel.

The Director's office runs the Kumasi Centre and coordinates the activities of all the other centres.

## **LEARNING CENTRES**

The Institute currently provides facilitated face-to-face sessions at eleven (13) learning Centres. The other centres are – Ho, Koforidua, Takoradi, Sunyani, Tamale, Tema, Cape Coast, Bolgatanga Kwabenya, CSIR and Wa Centres.

The Accra and Kumasi Centres have the largest number of students, with Takoradi and Tamale with the next highest numbers.

## **STUDENT POPULATION**

The total student numbers for undergraduate and postgraduate programmes for the 2017/18 Academic year was 2,611 and 3,734 respectively, totaling up to 6,345 students.

## **PROGRAMMES**

The Institute currently runs a total of seventeen (25) undergraduate and forty five (45) postgraduate programmes. Further Four (4) postgraduate and One (1) undergraduate new programmes are also being introduced for the 2018/2019 academic year.

At the undergraduate level, the Institute runs two-year Top-Up programmes for Diploma and HND holders and also runs programmes for all Colleges in the University at both the undergraduate and graduate levels.

## **PHYSICAL INFRASTRUCTURE DEVELOPMENT**

### **Accra Campus**

IDL has completed its KNUST-IDL Accra city building, comprising classrooms and offices at Kwabenya.

### **KNUST Campus**

- IDL Conference Center: (a) 40-seater syndicate room
- (b) 50-seater telepresence room

(c) 120-seater conference room (availability with WiFi and Generator)

- E-learning Studio: State of the Art recording studios for lectures
- 100-seater Computer Room
- IDL Guest House with nine (9) executive rooms and 1 physically challenged room
- The Institute also completed its Sekondi/Takoradi city campus at Kansaworodo as well as an Executive Conference Centre at Moree/Akatakyiwa.

## **INTERNATIONAL PROGRAMMES OFFICE**

### **INTRODUCTION**

The International Programmes Office (IPO) continues to engage its stakeholders (Colleges, Faculties and Departments) in a number of activities that strengthen already existing collaborations as well as initiate new ones.

### **STAFFING**

The Office is made up of Dean, Senior Assistant Registrar and a Principal Administrative Assistant. These members of staff are supported by one casual staff, a service person and a driver.

### **AGREEMENT AND MEMORANDUM OF UNDERSTANDING SIGNED**

During the year under review, KNUST and a number of universities in Asia, Europe, Northern and Southern America and Africa signed academic collaboration agreements as well as Memoranda of Understandings. Among the Universities/Institutions are the following:

- South Dakota State University, Brookings, USA, 29/03/2018 – 29/03/2023
- Friends University, USA, 07/07/2017 – 06/07/2022
- Davidson College, North Carolina, USA, – 14/08/2017
- University of Georgia, Athens, USA, 14/08/2017 – 14/08/2022
- The University of Arkansas Fayetteville, 17/08/2017 – Indefinite
- Edinburgh Napier, UK, 19/06/17 – 18/06/2022
- German Academic Exchange Service, Germany, 26/10/17
- Maastricht School of Management Netherlands, Netherlands, 12/07/2017– 31/01/2018
- Abo Akademi University, Finland, 18/12/17 – 18/12/2022
- Ghana National Association of Poultry Farmers, Ghana, 08/01/18 – 07/01/2019

*\*Details of these can be obtained from the International Programmes Office, KNUST*

### **INTERNATIONAL STAFF AND STUDENT EXCHANGES**

Twenty (20) staff/students were received at KNUST for a semester/year study during the 2017/2018 academic year. It must however be noted that there could have been other study abroad students and staff on campus whose admissions and engagements might have been handled at the Department and Faculty levels without any recourse to the IPO. Following are highlights:

## **VISITING STAFF TO KNUST**

### **CIRCLE 2017**

The activities of Dr. Adebukunola Olufunmilayo Lala from the Federal University, Nigeria and Dr. Olukunle Olaonipekun Oladapo from Ladoke Akintola University of Technology, Nigeria two Research Fellows under the Cohort 3 of the Climate Impact Research and Leadership Enhancement in Sub-Saharan Africa (CIRCLE) ended in December 2017.

### **State University of New York at Geneseo (SUNY)**

Based on the Memorandum of Understanding signed between the University and State University of New York, Geneseo (SUNY), five (5) member educationist delegation from SUNY, USA led by Dr. Crystal Simmons paid two (2) months visit to the University. They had classroom experience at the Colleges and the Basic School.

### **Confucius Institute/Fulbright**

Based on the agreement between the Confucius Institute Headquarters (HANBAN) and KNUST, Ms. Lichun Peng from College of Chinese Language was posted to the Department of Modern Languages in August 2017 as a Chinese Language Volunteer for a period of one year. With the growing interest of students in the Chinese Language, Mr. Liu Feng's contract was renewed for another year (July 2017 to July 2018).

## **STUDY ABROAD STUDENTS**

Miss Antonia Kerrom, a student from Frankfurt University of Applied Sciences, Germany joined the third year B.A. Social Work Degree Programme during the first Semester of the year under review.

Mr. Maximilian Martin Nowak a student from Hochschule Darmstadt-University of Applied Sciences, Germany also joined the third year B.A. Social Work Degree Programme for a year.

Miss Shanel L. Smith and Mr. Derek Lamonde Edwards; students from North Carolina A&T State University had a semester programme at the Departments of Mechanical Engineering and Theoretical and Applied Biology respectively. Mr. Derek Lamonde Edwards could not complete the year since he had to return home because of a family emergency.

Messrs. Cyprien Lepoutre and Stanislas Labouche from École Spéciale des Travaux Public, Paris, France, were received as exchange students at the Department of Civil Engineering for a semester's Masters Programme.

Misses Esme Janne, Demi Janson and Eva van der Klugt from the University of Applied Sciences, Netherlands had 3 months exchange at the Centre for Disabilities, SMS from 30th September to January, 6th 2018.

## **KNUST STUDENTS TO PARTNER INSTITUTIONS**

Three (3) Nursing students from the Department of Nursing, visited Ramapo College of New Jersey, USA for a four (4) week clinical experience from 3rd January to 3rd February, 2018. This was based on the existing Memorandum of Understanding between the two institutions.

Based on the on-going collaboration between KNUST and Ramapo College of New Jersey, USA, a group of eleven (11) student leaders (Students' Representative Council) from KNUST had twelve days exchange at the Ramapo College of New Jersey, USA from Thursday, 15th to Monday, 26th

February, 2018. Mrs. Ida Saeed, the Senior Assistant Registrar of International Programmes Office was selected to chaperon the group to Ramapo.

The long-standing agreement between KNUST and University of Utah, USA awarded Misses Jemima Konadu Oppong Agyeman, Belinda Lebene Ami Bamezor and Selina Adjei Barfo from the Department of Sociology and Social Work, the opportunity to engage in students' exchange at the University of Utah for a period of two months from 28th April, to 28th June, 2018.

Dr. Daniel Yaw Addai Duah, a Senior Lecturer, and Miss Janet Ami Husunukpe, a Master's student from the Department of Architecture, participated in the Teachers and Students Exchange Workshop and Seminar on the Volta and Rijn-Mass at Delft University of Technology, Netherlands from 13th to 17th May, 2018. The workshop was hosted and facilitated by Delta Alliance.

### **STAFF AND STUDENTS EXCHANGES IN THE 2017/18 ACADEMIC YEAR**

Fifty-one (51) staff/students from the University had administrative and academic interactions/exchanges at partner institutions in USA, Germany, Netherlands, South Africa, Kenya and Nigeria during the 2017/2018 academic year. It must however be noted that there could have been other engagements in the Colleges without any recourse to the IPO. The following are some of the highlights:

#### **KNUST Staff to Partner Institutions**

##### **CIRCLE**

Some Senior Members who were offered CIRCLE Visiting Fellowship under the Climate Impact Research and Leadership Enhancement in Sub-Saharan Africa (CIRCLE cohort 3), successfully completed their projects in December 2017 and have since returned to Ghana.

##### **CIRCLE Workshop – Kenya**

The Climate Impact Research Capacity Leadership Enhancement Programme (CIRCLE) invited Prof. Rexford Assasie Oppong, Dean, IPO and Mrs. Ida Saeed, Senior Assistant Registrar also of IPO to participate in CIRCLE workshop in Kenya from Saturday, 9<sup>th</sup> to Thursday, 14<sup>th</sup> December, 2017. The workshop focused on institutional strengthening programmes and actions implemented by CIRCLE institutions.

##### **Madonna University**

The Madonna University, Nigeria, invited three academic staff from the Department of Optometry for a three (3)-week academic interaction with staff and students of the Optometry Department, Madonna, from Monday, 20<sup>th</sup> November to Friday, 8<sup>th</sup> December, 2017. The three (3) academic staff again participated in an evaluation programme held at Madonna University by the National University Commission of Nigeria (NUC).

Ten (10) selected Senior Members from different Departments in the Faculty of Pharmacy & Pharmaceutical Sciences were also invited by the Madonna University, Nigeria, for a four (4)-day academic interaction with staff and students of their Faculty of Pharmacy from Monday, 23<sup>rd</sup> to Friday, 27<sup>th</sup> April, 2018.

##### **Vice-Chancellor and two others to Ramapo College of New Jersey**

The Vice-Chancellor, Professor K. Obiri-Danso together with Professor R. Assasie Oppong, Dean of International Programmes Office and Professor William G. Akanwariwiak, Dean of Students made a follow-up visit to Ramapo College of New Jersey, USA from 24<sup>th</sup> February to 5<sup>th</sup> March,

2018. Discussions were held on joint collaborative projects and knowledge expansion in the area of international education and administration.

### **Vice-Chancellor and two others to South Dakota State University**

Based on the collaboration between KNUST and South Dakota State University (SDSU), the Vice-Chancellor, Dean of International Programmes Office and Mr. Ebenezer Asamoah-Nyarko, Pharmacist, KNUST Hospital visited SDSU from 25<sup>th</sup> March to 1<sup>st</sup> April, 2018. The visit discussed the inter-institutional collaboration, US higher educational system and curriculum of interests for building upon the Memorandum of Understanding between SDSU and KNUST.

### **SCHOLARSHIPS OFFERED WITH RESPECT TO SIGNED MEMORANDUM OF UNDERSTANDINGS/ ACADEMIC AGREEMENTS**

In line with the implementation of the Memorandum of Understandings and Academic collaborations signed with partner institutions in Europe, North America, Asia and Africa; KNUST staff and students were offered the following Scholarships/Grant during the 2017/2018 academic year.

No	Name	Value	Coordinating Partners	Period
1	CIRCLE/ACU Grant	US\$ 2,600.00	Association of Commonwealth Universities (ACU)	August 7, 2017
2	Erasmus + Grant	35,000.00 €	University College of Northern Denmark	May 22, 2018
3	Erasmus +/DAAD	25,000.00 €	Frankfurt University of Applied Sciences, Germany	March to July, 2018
4	DAAD In-Country/ In-Region Scholarship)	125,760.00 €	Kwame Nkrumah University of Science and Technology, Ghana	2017/2018 academic year
5	Baden-Württemberg-Stipendium Grant	6,000.00 €	Staatliche Akademie der Bildenden Künste Karlsruhe, Germany	27th April to 15th July, 2018
6	TWAS/ENEAS	US\$ 12,336.00	The World Academy of Sciences (TWAS)/Energy and Sustainable Economic Development (ENEAS) Training, Italy	31st May to 1st November, 2018

### **SCHOLARSHIPS OFFERED TO INTERNATIONAL STUDENTS TO STUDY AT KNUST**

#### **Association of Commonwealth Universities Scholarship 2017-2020**

KNUST under the Association of Commonwealth Universities scholarship admitted Mr. Almachiusi Rwegasira Rweyemamu from Tanzania for MPhil Chemistry in the Department of Chemistry and Mr. Ntani Suh Nsutebu from Cameroon for MPhil. Clinical Pharmacy in the Department of Pharmacy Practice for two (2) year Masters programme in the 2017/2018 academic year.

Mr. Hilary Kibele Harawo from Kenya and Miss Engonwie Sharon Mbachan from Cameroon were selected under the 2018/2019 Commonwealth Scholarship Scheme to study MSc. Disability, Rehabilitation & Development and MSc Agricultural Engineering programmes in the University from 2018 to 2020.

## **NOMINEES FOR OTHER PROGRAMMES**

Some academic members of staff and some students were nominated to attend some Conferences. Among them were:

- Global Bamboo and Rattan Congress 2018 at the China National Convention Center Beijing, China.
- 2018 BRAIN-GAIN Conference and Awards Programme, Stuttgart Germany
- EPF-ESTP Summer School, Paris France

## **Nominations for Tractor for Africa Project**

Professor E.Y. H. Bobobee of the Department of Agricultural Engineering was nominated by the Vice-Chancellor as KNUST's Contact Person for the "Tractor for Africa Project" which the Vice-Chancellor negotiated for during a visit to South Dakota State University (SDSU), Brookings, United States of America in March/April, 2018.

## **Innovation and Creativity – Mexico**

Relatedly, Professor E.Y. H. Bobobee of the Department of Agricultural Engineering and Prince Lartey Lawson, a student at the Department of Geomatic Engineering were nominated to be part of a team to develop an innovative and creativity project in the area of products and services at National Polytechnic Institute Campus Guanajuato, Mexico.

## **OTHER ACHIEVEMENTS**

The year under review saw some other achievements of the Office. Among these were:

- Major facelift of the International Programmes Office
- Access to Vodafone SMS Portal
- Electronic Access Control Systems in the IPO Guest House
- GRE/GMAT/TOFEL Classes to enable students access foreign scholarships. The classes are organised by ACE Consult.

## **WORKSHOPS**

### **4<sup>th</sup> Ghana – France, Higher Education Fair**

The IPO in collaboration with the French Embassy organised the 4<sup>th</sup> Ghana – France, Higher Education Fair on 3<sup>rd</sup> to 6<sup>th</sup> October, 2017. As part of the activities, Institutional Session Meetings were held for both tertiary and second cycle institution/schools at the Great Hall Conference Room.

### **CIRCLE Workshop for Early Female Career Researchers/Administrators**

The Office in collaboration with Association of Commonwealth Universities and Climate Impact Research Capacity Leadership Enhancement (CIRCLE), organised a workshop dubbed "*CIRCLE Workshop for Early Career Researchers/Administrators*" from 11<sup>th</sup> to 12<sup>th</sup> October, 2017 at the IDL Conference Centre – KNUST and Building and Road Research (CSIR), Fumesua.

## **INSTITUTIONAL AND ORGANISATIONAL VISITS TO KNUST**

The Office received delegations from the under listed institutions. The purposes of most of the visits were to seek collaborations with the University.



NO.	COLLABORATING UNIVERSITY	COUNTRY
1.	North Eastern University in Boston	USA
2.	SUNY Geneseo, Geneseo, NY,	USA
3.	McGill University	Canada
4.	University of Houston-Downtown	USA
5.	University of Arkansas, School of Art	USA
6.	University of Liverpool	UK
7.	Designs School Kolding	Denmark
8.	Algade SA	Denmark
9.	Abo Akadaemi University	Finland
10.	OHO-von-Gueriche Universität Magdeburg,	Germany
11.	University of Applied Sciences	Denmark
12.	University of Nottingham,	Austria
13.	Skyline University, Shariah	UAE
14.	Catalonia, Trade & Investment	Spain
15.	Jilin Normal College of Engineering and Technology	China
16.	University of Malawi	Malawi
17.	Global Teknokrat Hub/KNUST Alumni Executive	Ghana
18.	CSUC	Kumasi

## CONCLUSION

Over the years the Office has had challenges with transportation and accommodation of large number of visitors and the status quo remains today. In spite of the challenges, the Office is vigorously pursuing its mandate of fostering collaborations with institutions with similar focus both nationally and internationally.

## OFFICE OF GRANTS AND RESEARCH

### INTRODUCTION

The Office of Grants and Research (OGR) continues to deliver on its mandate of providing Research and Grant administration support services to sponsored research activities in KNUST. The Office provides pre and post-award support to staff engaged in research projects, administers the University's Research Fund and promotes the dissemination of the University's research outputs.

### STAFF

The following constitute staff of the Office:

Professor Robert Clement Abaidoo – Director

Ms. Nadia Tagoe – Grants and Research Manager (on study leave)

Mr. Edward Abeku Ampah – Senior Administrative Assistant

Mr. Emmanuel Ebo Ocran – Account Officer

The office is also supported by one (1) Project Administrator and two (2) National Service Persons.

## ACTIVITIES OF THE OFFICE

### Management of KNUST Research Fund

The University KNUST Research Fund (KReF) which was established in 2015 has successfully awarded grant in the sum of Two Hundred and Eighty-Four Thousand, Nine Hundred and Thirty Cedis, and Twelve Pesewas (GHC 284,930.12) for the 3<sup>rd</sup> round of the KNUST Research Fund (KReF). This amount covers awards for seed and interdisciplinary team research in the six Colleges. The purpose of the KReF is to stimulate research and build capacity of staff and Departments in grant proposal writing. It also seeks to encourage interdisciplinary research among staff, and enhance collaboration and linkages among disciplines within the University as well as external partners for the socio-economic development of Ghana in particular and Africa in general. The KReF's main focus is to support applied, problem solving and interdisciplinary research so as to prepare beneficiaries to apply for external grants successfully.

The breakdown of the application is as follows:

College of Art and Built Environment	-	4 applications (3 seed, 1 Interdisciplinary)
College of Health Sciences	-	10 applications (3 seed, 7 interdisciplinary)
College of Engineering	-	2 applications (1 seed, 1 interdisciplinary)
College of Science	-	11 applications (3 seed, 8 interdisciplinary)
College of Agriculture & Natural Resources	-	5 applications (2 seed, 3 interdisciplinary)
College of Humanities & Social Sciences	-	2 applications (1 seed, 1 interdisciplinary)

### LIST OF SUCCESSFUL KREF APPLICANTS

Name of Principal Investigator	Department / College	Project Title	Type of Grant	Amount
Prof. S. K. Oppong	Wildlife & Range Management, CANR	KNUST Biodiversity Inventory Project (K-BIP)	Interdisciplinary	GHC 30,020.00
Dr. Clifford Amoako	Department: Planning, CABE	Issues of IGF mobilization in MMDAs in Ghana	Interdisciplinary	GHC 29,900.00
Prof. E. Y. Bobobee	Department: Agricultural & Biosystems Engineering	Performance Evaluation of Motorized Cassava Peeling Machine	Interdisciplinary	GHC 30,000.00

Name of Principal Investigator	Department / College	Project Title	Type of Grant	Amount
Dr. Divine Odame Appiah	Geography and Rural Development, COHSS	Building capacity in on-farm climate smart adaptation strategies in the Ejisu-Juaben municipality, Ghana	Interdisciplinary	GHC 29,600.00
Prof. Daniel Ansong	Child Health, COHS	Mobile app to support efficient hospital communication and patient care in tertiary hospitals in Ghana – Proof of concept study in Komfo Anokye Teaching Hospital, (KATH)	Interdisciplinary	GHC 26,000.00
Dr. Mariam El – Boakye – Gyasi	Pharmaceutics, COHS	Development of okra pectin as a drug release modifier in the formulation of controlled (extended) release matrix tablets of metformin for the management of chronic diabetes	Interdisciplinary	GHC 30,000.00
Dr. Caleb Kesse Frempong	Biochemistry and Biotechnology, COS	Antitumor activities and mechanistic actions of selected Ghanaian	Interdisciplinary	GHC 30,000.00

Name of Principal Investigator	Department / College	Project Title	Type of Grant	Amount
Dr. Antonia Tetteh	Biochemistry and Biotechnology, COS	Assessment of Genetic Diversity in West African Roselle ( <i>Hibiscus sabdariffa</i> var. <i>altissima</i> ) Accessions using Biochemical markers and Expressed Sequenced Tagged – Simple Sequenced Repeat (EST-SSR) profiling.		GHC 30,000.00v
Dr. Michael Ansong	Silviculture and Forest Management, CANR	Motor Vehicles as a potential Pathway of invasive plants introduction: Example from Ghana's land borders	Seed	GHC 10,000
Prof. D. K. Ahadzie	Centre for Settlement Studies, CABE	Profiling workplace behavior on the use of Air Conditioners in Public Building	Seed	GHC 9,987.62
Dr. Y.A.K. Fiagbe	Mechanical Engineering, COE	Development of Mechanized 'Kente' Weaving Loom	Seed	GHC 9,922.50
Dr. Samuel Asamoah Sakyi	Molecular Medicine, COHS	Vitamin B12 Deficiency and Metformin Use in Patients with Type 2 Diabetes: Evaluating the implications for better management	Seed	GHC10,000.00
Dr. Sr. Frances Owusu-Ansah	Behavioural Sciences, CoHS	Predictors of Suicide Among KNUST Students	Seed	GHC9,500.00

## TRAINING AND OUTREACH PROGRAMMES

The Office held Six (6) workshops during the year under review as shown below:

No.	Workshops	Target Group
1.	Grant Accounting Management Software (GAMs)	Principal Investigators (PI's) and College Accountants
2	Research Administrator Development Workshop	Office of Grants & Research staff/ Project Administrators
3.	Workshop on Research Management Information System	Academic staff and Research Assistants
4.	Indirect Cost Rate, Effort & Compensation Policies workshop	Principal Investigators, Researchers
5.	Proposal Review and Submission	Office of Grants & Research Staff/ Project Administrators and PI's
6.	Budget Monitoring and Financial reporting	Office of Grants & Research Staff/ Project Administrators

## FUNDER REGISTRATIONS

New registrations and renewal of existing ones with funding agencies were carried out by the Office to ensure that institutional registrations remained active. Records of all registrations are managed at the Office and Staff continues to access these for use during grant applications. The University has the following active registrations on funder systems:

System/Registration	Funding Agency
Data Universal Numbering System (DUNS)	USA National Institutes of Health (NIH)
Grants.gov	USA National Institutes of Health (NIH)
Sam.gov (formerly CCR)	USA National Institutes of Health (NIH)
eRA Commons	USA National Institutes of Health (NIH)
NSF Fastlane	National Science Foundation
eGrant System	Wellcome Trust
Joint Electronic Submission (Je-S) System	Research Councils UK
Potential Applicant Data Online Registration (PADOR)	European Commission
Participant Identification Code (PIC)	European Commission

## SUPPORT FOR PROPOSAL DEVELOPMENT AND AWARD MANAGEMENT

During the year under review, a number of services were rendered to researchers who needed assistance at the various stages of the grant cycle. The Research support services accessed by our clients included dissemination of funding opportunities, proposal advisory services and development, proposal submission assistance, processing of grants sub-contracts and provision of resources to support applications.

The Office circulated approximately 146 Funding Opportunities released in monthly volumes through Alerts sent to staff via their emails and on the OGR Official Web Site. These Funding Opportunity Announcements covered topics in Health Sciences, Natural Sciences, Humanities and Social Science, Engineering and Planning.

The Office also worked with staff to apply for funding from various funding agencies including National Institute of Health, Wellcome Trust, European Union and DANIDA. Below is a breakdown of the service regarding grant applications:

Request	Number
Letters of Support / Intent	20
Proposal Development	15
Budget Development	1
Sub Contract Agreement	5
Grant Agreement Processing	3
Training & Development	2

## **COLLEGES GRANTS AND RESEARCH OFFICES**

The OGR and the Management of the six Colleges with support from the Building Stronger Universities II Project have established Grant and Research Support Offices in all the Colleges.

## **STAFF TRAINING**

Training session for staff included both collaborations and those organised solely by OGR. These sessions were organised to give participants the opportunity to learn about the administrative aspects of Proposal development and how to 'hunt' for funding opportunities. Seminars were held for researchers and accounting staff to obtain their inputs for the development of the two research management systems – the Research Management Information System (ReMIS) and Grants Accounting Management System (GAMS) after which workshops were organised to train them on the use of the systems.

In addition, periodical in-house training sessions were organised for the College Research Administrators to build their capacity to better serve the researchers at their Colleges.

## **OPPORTUNITIES**

The OGR has the potential to expand with the institutionalisation of the two (2) research management systems – Research Management Information System (ReMIS) and Grants Accounting Management System (GAMS) and the development of various research policies to standardise grant applications and its management procedures. There are also prospects with the establishment of the College Research Administration Offices to bring the OGR services closest to the researcher. During the year under review, approved research projects that were captured in the ReMIS were twenty (20) and research proposals that were still in the development stage were three (3).

## **CHALLENGES**

The staffing situation continues to pose a challenge to effective support services that the office desire to offer. This gap makes it increasingly difficult for the office to effectively handle, on a timely basis, the numerous requests for assistance that it receives from researchers across the university.

## **OFFICE OF THE DEAN OF STUDENTS**

### **INTRODUCTION**

The Office of the Dean of Students has become a central clearing house where students and staff seek advice and action on issues affecting students; and almost everything concerning students is referred to the Office; hence “a one stop shop” for all students’ issues. Thus, the Office is in regular consultation with the Vice Chancellor’s Office, the Registry, the Finance Office, all Academic units, the Health Directorate, the Security Services (internal and the Police), the Protestant and Catholic Chaplaincies as well as the Halls of Residence and the recognised Private Hostels.

### **ORGANISATION**

Then Office is internally organised into several sections but also provides office spaces for a number of independent units yet with close working relationships with the Office. These are listed below:

#### **Sections**

- i. Central Office.
- ii. Students Affairs.
- iii. Students Financial Services.
- iv. MasterCard Foundation Program.
- v. International Students Affairs.
- vi. Students Leadership Affairs (SRC, LOCAL NUGS & GRASAG).
- vii. Students Housing and Residence Life.
- viii. Students Conduct and Discipline.

#### **Independent Units working closely with the Office**

- i. KNUST Counselling Centre.
- ii. Protestant & Catholic Chaplaincies and Islamic Affairs.
- iii. Ghana Immigration Service.

### **STAFFING**

The current strength of staffing at the Office of the Dean of Students including places under the Office’s financial management (non-residential facilities, Otumfuo Osei-Tutu II Hostel, Graduate Students’ Hostel and Focus FM) is as follows:

Prof. William Gariba Akanwariwak	Dean
Prof. Wilson Agyei Agyare	Vice Dean
Mrs. Christiana A. Appagyei	Assistant Registrar (General Administration)

## **Student Affairs and Students Financial Services**

Mrs. Maurin Efua Odai      Assistant Registrar (Students' Affairs and Students Financial Services)

The above senior members of staff are supported by one Chief Accounting Assistant, two Principal Administrative Assistants/Housing Officers and one Administrative Assistant

## **MasterCard Foundation Program Staff (full time)**

1 Senior Counsellor

1 Program Manager

## **CENTRAL OFFICE ACTIVITIES FOR THE YEAR UNDER REVIEW**

The Office through the technical acumen of the staff of UITS helped actualize several visionary projects of the Vice chancellor including:

- a) Biometric verification of all students at the beginning of each semester; the spinoff of which is a biometric voting process of student elections which credibility is well accepted.
- b) In the year under review, another very successful and peaceful biometric student election was held. And for the first time, a formal and well attended student leadership handing over was successfully undertaken to ensure smooth transition of SRC, LOCAL NUGS & GRASSAG leaderships.
- c) The progressively paperless communication which has kept the KNUST environs pristine and has provided an effective way for students to communicate with each other and also for the administration to communicate with students.
- d) Application for bed space at the Otumfo Osei-Tutu II Hostel has now been put on-line with the assistance of the UITS for easy management and transparency.

The Office working with the Department of Security is helping to improve campus safety by the introduction of Students Car sticker IDs which are issued only when the driver produces valid vehicle documents and a valid drivers' license. Clamps have been bought to immobilize cars without stickers, those drivers involved in reckless driving or wrongful parking.

The Office is the first point of call for external agencies and persons wishing to interphase with students. The Office has either directly received such organisations and individuals who come or are referred to the office by the Vice Chancellor and other units of the University. The Office in turn has facilitated such encounters through the Student Leadership in workshops, symposia seminars, lectures etc. The Office facilitated different academic trips for Students to attend workshops outside campus. In the year under review 11 student leaders, Director of IPO with the Dean of Students visited Ramapo in the United States as part of student leadership exchange programme.

## **MasterCard Foundation Program**

This is a 10-year programme supported by the Foundation of Canada-based credit card company MasterCard. This programme, for now, is coordinated by the Office. The Dean has oversight responsibility on behalf of the Vice Chancellor. This generous grant is to cater for the comprehensive needs of scholars selected largely from rural deprived communities attending resource deficient schools.



The Secretariat has so far developed a handbook for the Scholars to offer a clear direction in terms of leadership development, entrepreneurship, transition projections as well as welfare, conduct and discipline. For the year under review the programmes along the stated themes have been undertaken to equip the scholars for the global environment. The latest was its flagship Summer Camp event which prepares the Scholars for family, life, vacation internship, community project and impact. At the heart of the scholars Program is its essential component of transformative leadership, go-back, give-back and leading change.

Preparations have been rolled out for the successful recruitment of cohort five (5) by end of July, 2018. After thorough individual interviews, home visits will follow that ascertain the best candidates for the award of scholarship. This year, a total of 200 will form the fourth cohort bringing the total number of scholars to 500. The program so far is proud of 100 %.

### **DISABILITY SUPPORT SERVICE UNIT**

In the year under review, the significant activities with students with disability included the following:

- a. Medical examination was conducted for all students with one form of disability or the other.
- b. Applications for disability bursary for members of the students with Disability Association who did not have it yet.
- c. An election of new executives for the Association.

A key request made for a representation on the SRC Board is under consideration. Students with challenges request for accommodation at Otumfo Osei-Tutu II Hostel is always given a premium. Their financial needs have been noted by the SRC leadership for consideration on the KBN fund.

### **INTERNATIONAL STUDENTS AFFAIRS**

In the reporting year, 2017/2018, the Vice Dean of Students, who has oversight responsibility for the affairs of International Students, organised a special day of orientation for International Students in areas deemed essential for International Students' smooth transition and adjustment into the University. The orientation focused on immigration laws of Ghana, residence permit acquisition and renewal processes, visa acquisition, the laws of Ghana in relation to the International Students, cultural sensitivity and adaptation.

The International Students Association (ISA), under the supervision of the Vice Dean of Students, organised several activities including games, educational trips, Mr/Miss ISA and end of year dinner and awards nights to acknowledge and encourage international students who excelled academically. In this year, several academic tutorials were organised to address the academic challenges of students in various programmes of study and these yielded visible results in the reduction of the number of students with poor performance in their mid-semester results. It is the vision of the Vice Dean to make these academic tutorials a priority of the ISA. More importantly, is establishment of a welfare fund for International student who may face challenges. To this effect the Vice Chancellor has established a committee chaired by the Vice Dean of Students, membership of two international lecturers, a counselor and ISA President and Treasurer to see to the funds implementation.

## **STUDENTS LEADERSHIP AFFAIRS (SRC, NUGS AND GRASAG)**

The Office works with the leadership of the central student body of SRC and GRASAG as well as their wings to ensure their aspirations are effectively aligned with the philosophy of the University. The Office liaises between the SRC and the University Administration, gives direction and offers advice to the Students' Leadership whenever necessary through the SRC and Graduate Students Association of Ghana (GRASAG)-KNUST. The Accounts Unit of the Office manages and would continue to manage the SRC, NUGS and GRASAG to ensure that their programmes are properly budgeted for and that there is prudent use of monies. This is still "Vision in Progress" and each year sees small baby steps of progress. The University's Internal Audit continues to assist the Office in auditing the accounts of recognised student bodies as their external auditors.

The Dean of Students coordinated and provided logistical support for this year's SRC and GRASAG Biometric Elections that passed off peacefully.

## **STUDENTS HOUSING AND RESIDENTIAL LIFE**

The students housing unit is responsible for coordinating activities of non-residential students' accommodation issues by dialoguing with hostel owners. The unit is also responsible for the management of the three Non-residential Students Facilities. It also plays a pivotal role in the management of the Otumfo Osei-Tutu II Hostel, with the support of the SRC leadership as well as that of the Graduate Students' Hostel.

In order to keep the three Non-Residential Students' Facilities functional, major carpentry, electrical and plumbing works were carried out. The unit continued to work with private hostel owners to ensure the safety and welfare of non-residential students of the University. This was achieved through a series of meetings held with hostel operators and physical inspection of these hostels. The Office is in the process of establishing a Non-Residential students' desk to keep track of all non-residential students.

The Office of the Dean of Students liaised with hostels in and around campus to foster a common standard of operation in dealing with students. The Office, through its Housing Unit, in conjunction with the Ghana Tourism Authority, Ghana National Fire Service, Ghana Police Service, the Security Services Unit of KNUST and the Students Representative Council, undertook a three day inspection exercise on hostel facilities within and without KNUST from Monday 26th February to Wednesday 28th February, 2018. The goal was to ensure students safety and maintain some general and acceptable accommodation standards. This was also to ascertain information which would be relevant to recommending a list of approved hostels to guide students in their choice of finding suitable facilities. The recommended list has since been uploaded on the University website.

The team organised the visitations under the following standardised requirements:

- Location (proximity and accessibility).
- Certification from Ghana Tourism Authority which covers Fire Certificate, Police and Environmental Health Reports.
- Designed Capacity (number of rooms).
- Boarding and learning facilities provided at the hostel (bed and mattress for each student, wardrobes in the bedrooms, study tables and chairs in the bedrooms, ceiling fans in the bedrooms, en-suite bathrooms and water closets).

- Catering and recreational facilities provided at the hostel (common TV area, private kitchenettes and common kitchens).
- Rental Charges per student for 2017/2018 Academic Year.
- Management of the Hostel (Number of managers, porters and security men).
- Maintenance Schedule (per semester or annually).
- License Agreement.

Out of 102 the hostel inspected, 82 of them met the standards and were subsequently approved by the Dean of Students recommended to students.

### **Recommendations to Management of the Hostels**

After visiting all the hostels, the Dean of Students officially wrote to all the hostel managers to inform them of the observations and recommendations made. The observations could generally be summarized as follows:

- i. Provide to the Dean of Students office a list of students staying their hostel by completing the required forms provided by the Office
- ii. Management of the hostel should improve security at the hostel by recruiting at least two security guards
- iii. Log book must be opened for students to voluntarily log in and out for their local movement to Kumasi and its environs. Any student travelling outside Kumasi would need to write for approval from the Dean of Students through his/her Head of Department.

### **STUDENTS CONDUCT AND DISCIPLINE**

The Office came out with a new Students' Guide and Code of Conduct. Students who breached the University's Regulations are investigated and the appropriate measures are taken against them. Unfortunately, despite the relevant orientation and counselling, some students remained susceptible to a number of offences that did not augur well for communal co-existence. The Office played key roles in helping to arbitrate and resolve a host of issues of students through the formation of Committees of Enquiry/Disciplinary with the mandate from the Vice Chancellor.

Under the direction of the VC, the Office of the Dean of Students constituted a number of Committees to investigate issues of misconduct of Students reported in the Office of the Dean of Students and the KNUST Security Office. The Committees have since submitted reports on cases investigated and sanctions have been meted out to those who were found culpable of violation of the regulations of the University. During the year under review, the Committee investigated various cases of manhandling, blackmail of female students by their male counterparts, assault, theft, defrauding under false pretence and fighting, just to mention a few. The Committees have already submitted some reports in the year to the Vice-Chancellor with some still pending.

### **STUDENT AFFAIRS/STUDENTS FINANCIAL SERVICES**

The office is the unit for students' records and welfare and also mandated to explore, solicit and offer financial assistance to students from less endowed schools, as well as needy but brilliant students studying in the University.

## ACTIVITIES OF THE OFFICE

### 1. Students Affairs Activities

The Office worked together with the Deputy Register, Academic in the planning and executing of Orientation and Matriculation for post graduate and undergraduate fresh students.

The Office also liaised with the Ghana Immigration Office to facilitate the processing of residence permits for International Students to regularise their stay in the country.

The Office again issued introductory and attestation letters to about two thousand students seeking to travel outside the country during the second semester break and also for those seeking internship opportunities both inside and outside of the country.

During the year under review, a total of 16 students passed away. The Office under the leadership of the Dean of Students liaised with the families of the deceased student for the necessary arrangements to be made for burial and funeral rites.

### 2. Student Financial Services Activities “KetewaBiaraNsua” (KBN) Bursary

The office with the support of representatives from the Colleges, the Counseling Centre and the Student Representative Council (SRC) successfully selected 1,228 students who will benefit from the “Ketewa Biara Nsua” (KBN) Bursary for the 2018/19 academic year. A total number of 1,021 students who were selected through interviews conducted by the office benefitted from the KBN Bursary during the year under review.

#### Knust Bursary

The University from its IGF disbursed an amount of One Hundred and sixty eight thousand five hundred Ghana Cedis (GH¢168,500) to 332 needy students. Five students with special need were given One Thousand Ghana Cedis (GH¢1000.00) each while the others were given Five Hundred Ghana Cedis (GH¢500.00) each.

#### Student Associations

The Office collaborated with some Student Associations to select beneficiaries for their bursaries as follows:

College of Art and Built Environment (CABESA Bursary)	141 Students
College of Engineering (GESA Bursary)	83 Students
College of Science (SCISA Bursary)	165 Students

## DONORS AND SUPPORT TO STUDENTS

The Table below shows donors and the support to students for the year under review:

SN	NAME OF DONOR	NO. OF STUDENTS (Fresh & Continuing)	TOTAL AMT. (GH¢)
1	FondazioneEdu	36	193,663.67 (€ 37,169.39)
2	Educational Pathway Int.	42	237,237.97 (\$ 54,180.00)
3	Standard Chartered Bank	7	29,000.00
4	Total Petroleum Gh. Ltd	11	44,275.00
5	Lebanese Community	12	24,000.00
6	Timothy Ansah Memorial Found	3	1,500.00
7	Test for Ghana	35	52,590.00

8	S.T. Nankani	10	6,000.00
8	Unibank Ghana Ltd.	321	200,000.00
9	Kingdom Books Bursary	50	15,000.00
10	Barclays Bank	20	150,460.50
11	GNPC Scholarship	314	2,889,000.00
	<b>TOTAL</b>	<b>861</b>	<b>3,842,727.14</b>

## OTHER BURSARIES AND SCHOLARSHIPS

The Table shows other donors and support to students for the year under review:

SN	NAME OF DONOR	NO. OF STUDENTS	TOTAL AMOUNT (GH¢)
1	MPs & District Assembly Common Fund	11	8,500.00
2	GET Fund	53	185,798.98
3	ARB Apex Bank Ltd.	1	1,000.00
4	Lower Pra	1	1,000.00
5	Government Scholarship Secretariat	3	19,798.98
6	Newmont Akyem Development Foundation	1	1,500.00
7	Christ Apostolic Church Scholarship	2	5,000.00
8	Gold Field Ghana Foundation	5	9,000.00
9	Ghana Engineers Architects Association of America	5	7,189.47 (\$1,700.00)
	<b>TOTAL</b>	<b>82</b>	<b>231,157.96</b>

### Students Loan

Brighter Investment is an organisation that supports students in the form of loans. The support includes full payment of tuition fees, hostel fees and monthly stipends. During the year under review, Brighter Investment supported 35 Students.

### Internal Work Study

Students are posted to the various Halls and other units on campus to work and earn some wages while studying. During the year under review, fifty students were posted to work at various facilities.

### External Work Study

The office applied to 23 Banks to solicit for internship placement for students to work and earn wages during the long vacation holidays. Eleven banks responded favorably. A total of 49 students were posted to various banks for internship.

The year, under review, has been productive. All staff of the Office of the Dean of Students have put in their maximum effort to excel in their work with students. The scope of work at the office

of the Dean of Students continues to increase with increasing student intake. We look forward to another productive year of continued service to students, staff and their dependents.

## **SCHOOL OF GRADUATE STUDIES**

### **ACTIVITIES**

The School of Graduate Studies which acts as a co-coordinator to all the Departments that run graduate programmes in the University, performs among other duties, the following:

- Co-ordinates and liaises with the Central Administration, Colleges, Faculties, Institutes and Departments on general graduate issues.
- Advertises, administers and processes applications for prospective applicants.
- Assists various Departments in the organisation of interviews for applicants seeking admission into various programmes, issuing of admissions letters and registration of students.
- Organises seminars for students and members of staff on graduate issues.
- Receives and approves thesis synopsis, examination results, proposals for new programmes and withdrawal of non-performing and presents graduating students at congregation.
- Assists in the screening and appointment of External and Internal Examiners for Departments.
- Organises and conducts oral examinations for final year graduate students to defend their theses.

### **ADMINISTRATION**

The following are the senior administrative staff of the School:

Prof. Nicholas Kyei-Baffour	Dean
Prof. Kwabena Ofori-Kwakye	Vice-Dean
Mr. Matthew Kwabena Okrah	School Secretary
Mr. Charles Owusu-Antwi	Assistant School Secretary

The School has prepared the following documents which have been circulated online to both staff and graduate students. The hard copies are ready for distribution to staff (Senior Members) and graduate students in August 2018. These documents will improve graduate studies and supervision tremendously in the University.

1. Graduate Students' Handbook;
2. Guide for Higher Degree Research Supervision;
3. Guide for Preparation and Evaluation of Higher Degree Research Thesis; and
4. Policy on Publication.

In addition, preparation of transcripts has been automated to speed up delivery time. A programme has been developed to track submission and assessment of theses. This is at its final trial. The aim is to be able to determine theses assessment which have been unduly delayed for the necessary action could be taken. All these interventions are to make graduate studies very attractive to students.

## **INTERNATIONAL AFFILIATIONS**

The establishment of links with institutions for postgraduate studies elsewhere to encourage the mounting of joint programmes of research and study through the exchange of students, staff use of facilities for our mutual benefit is most welcome. A few of such links are already in place. Among them are, the Master of Science Programme (MSc.) in Development Planning and Management which is run jointly by the University of Dortmund, Germany, and the Master of Science programme in Geo-information Services and Natural Resources Management also jointly run by the I. C. T. of Netherlands and the University through the Faculty of Renewable Natural Resources and the Department of Geomatic Engineering under the auspices of the World Bank; then also the Master of Science and Doctor of Philosophy in Water Supply and Environmental Engineering in collaboration with UNESCO and IHE Delft., the Master of Science and Doctor of Philosophy in Agriculture under the sponsorship of AGRA and Building Stronger Universities (BSU), a consortium of Danish Universities.

## **CURRENT GRADUATE PROGRAMMES**

The School awards the degrees in various fields of disciplines among which are

- Postgraduate Certificate;
- Postgraduate Diploma;
- Master of Science;
- Master of Arts;
- Master of Fine Art;
- Master of Communication Design;
- Master of Pharmacy;
- Master of Public Health;
- Master of Business Administration;
- Commonwealth Executive Master of Business Administration;
- Commonwealth Executive Master of Public Administration;
- Master of Public Administration;
- Master in Intellectual Property;
- Master of Architecture;
- Master of Philosophy; and
- Doctor of Philosophy.

## **INTRODUCTION OF NEW PROGRAMMES**

The year under review saw the introduction of some new programmes by various departments and the Institute of Distance Learning through the School of Graduate Studies. Some of them have been approved by the Academic Board while others are before the Planning and Resources Committee for consideration. Some of these are:

1. MPhil/PhD Vision Science
2. MPhil Power Systems Engineering
3. International Masters in Global Health Mental Policy, Services and Development
4. MIP Master of Intellectual Property
5. MSc/MPhil/PhD Agricultural Extension and Development Communication

6. MPhil/PhD Project Management
7. MPhil/PhD Biotechnology
8. PhD/PDr In
  - a. Management and Consulting Practice
  - b. Business and Professional Practice
  - c. Finance and Accounting Studies
  - d. Entrepreneurship and Innovations
  - e. Social Work, Psychology and Counseling
  - f. Educational Innovations and Leadership Science
  - g. Diplomacy and Bilateral Transactions

\*Further details on the new programmes can be obtained from the School of Graduate Studies

## **CONCLUSION**

The School of Graduate Studies encourages all Departments to mount demand driven graduate programmes to improve the ratio of graduate to undergraduate student population. The School is grateful to all, especially the Vice-Chancellor and his management team for their invaluable support.

## **SPORTS DIRECTORATE**

### **INTRODUCTION**

The Sports Directorate helps provide improved environment and atmosphere for teaching, research and technical training for individuals and teams.

### **ACTIVITIES**

#### **FRESHERS' GAMES/INTER HALL GAMES**

The sporting activities for the academic year began with Fresher's games, which is exclusively for freshmen and the re-introduction of the Inter-Hall Sporting activities. The Inter Hall games comprised all sporting activities and were patronised by both freshers and continuing students. All the sporting activities engaged in were to help the Sports Directorate to unearth new talents for the various sporting disciplines.

An Inter Hall Cross Country race sponsored by Latex Foam Ghana Limited was successfully organised by the Directorate. Souvenirs in the form of T-shirts, students' mattresses, pillows and cash were awarded to deserving winners.

### **GUSA GAMES**

#### **GUSA CROSS COUNTRY**

This academic year's event was held at University of Mines and Technology, Tarkwa where KNUST Cross Country team placed 5<sup>th</sup> in both Men and Women division.

KNUST also participated in the 2018 GUSA competition hosted by University for Development Studies (UDS) Tamale. This is a biennial games organised for all the public universities in Ghana. The various disciplines participated in this year were Athletics, Badminton, Handball, Hockey,



Netball, Football, Basketball, Table Tennis, Tennis, Goal ball and Volleyball. The University was well represented and eventually won four (4) Gold, five (5) Silver and three (3) Bronze medals.

### **INFRASTRUCTURE/ EQUIPMENT DEVELOPMENT**

The year under review has seen massive face-lifting of most of the Directorate's sporting facilities.

The following facilities have been renovated:

- The Directorate's Offices at the Old Laundry-. The offices have been equipped with new office equipment to enhance work effectiveness.
- The Hale and Hearty Centre
- Paa Joe Stadium.
- Drainage has been constructed on Maa Joe which has reduced flooding on the field.
- Flood light have been fitted at the Paa Joe Stadium to enhance students evening sporting activities.
- There has been total replacement of all sporting equipment for the Sports Directorate

Approval has also been given for the construction of a new football field at the Paa Joe stadium. Approval has also been given for the construction of a Five Thousand seating capacity Sports Hall for the University.

### **STAFF SPORTS DEVELOPMENT**

The Sports Directorate does not only concentrate on students sporting activities but includes and encourages staff participation in its sports programs. The Directorate introduced a weekly office to office aerobics fitness exercises to the university community. This has to be rebranded to meet the requirement of the entire staff. The Directorate has also initiated a Staff Football League which is ongoing. The various Departments, Units and Colleges will battle it out for the prestigious trophy of this year's Staff Football League.

This has brought excitement and liveliness among sports fans on campus.

### **SWIMMING**

The maiden edition of the Inter hall swimming competition also took place successfully. Many swimming talents were unearthed and the Directorate is looking forward to training and grooming the selected athletes to compete for the university in upcoming competitions.

### **THE KNUST CHESS TEAM**

The Sports Directorate revamped the KNUST Chess Team by purchasing new sets of chess boards and clocks for their use. Series of events were organised by the team to draw more students to the game of chess. The team participated in the National competition and came fourth (4<sup>th</sup>). However among institutions that competed, the university's team was first.

### **DEBATE**

The Debate Club was involved in so many local and national programmes this year. The team partook in the NCCE organised inter-university quiz/debate competition dubbed "The University Civic Challenge" as part of Ghana's 60<sup>th</sup> independence anniversary celebration. On 14<sup>th</sup> October 2017, KNUST competed against Sunyani Technical University and the Catholic University College, Ghana where KNUST emerged the winners.

## RECRUITMENT EXERCISE

The Directorate embarked on a massive educational outreach to recruit sportsmen in most of the regions in the country. Justifying exercises were done for talented sportsmen/women athletes to be recruited into the university provided they meet the entry requirement.

## VICE CHANCELLOR'S AWARDS AND DINNER FOR SPORTSMEN AND WOMEN

As a form of motivation for the sportsmen and women, the annual Vice Chancellor's Awards and Dinner was organised to honour distinguished and outstanding sportsmen and women who through sports lifted the flag of KNUST.

# UNIVERSITY LIBRARY

## INTRODUCTION

The Library System, comprising the Prempeh II Library and six College Libraries, collaborate with Faculty to provide relevant information resources to support teaching, learning, research and entrepreneurial training. During the year under review, the Library System with staff strength of 20 Senior Members, 58 Senior Staff, 33 Junior Staff and ten Cleaners made distinctive contributions to the academic community. These include developing and managing collections, facilitating access to, and instructing in the use of learning resources. Activities that culminated in these services and other support efforts have been summarised in this report. The main challenges that impeded effective service delivery have also been highlighted.

## ACTIVITIES IN THE YEAR

### Collection Development and Management

A total of 4,715 volumes of books were added to the stock. These are made up of 351 volumes at the Prempeh II Library, 1,812 volumes at the College Libraries and 2,552 volumes at the Basic Schools' Libraries.

The weeding exercise which started in the previous academic year has been successfully completed in the Prempeh II Library but is on-going in the College Libraries.

The respective holdings of the individual libraries in the Library System are indicated below.

Pempeh II Library	134,963
Basic Schools' Libraries	6,052
College of Agriculture and Natural Resources	13,074
College of Art and Built Environment	14,238
College of Humanities and Social and Social Sciences	10,646
College of Engineering	9,208
College of Health Sciences	11,625
College of Science	10,815

Thus the stock of the entire Library System stands at **210,621** volumes.

### Donations

- The Prempeh II Library received 280 volumes and four boxes (71 volumes) of assorted books respectively from the Adventist Development Relief Agency (ADRA) and AGRALIFE Foundation as donation.

- The College of Science received 103 volumes of assorted books as donation from Professor Kwabena Nsiah of the Department of Biochemistry and Biotechnology; 61 assorted books and 37 journals from some former students of the Department of Food Science and Technology.
- Ninety-one (91) new titles facilitated by Dr. Eric Apau Asante, a lecturer at the Faculty of Art, were received as donations from ACASA in the United States by the College of Art and Built Environment Library.
- The College of Agriculture and Natural Resources Library received a total of 467 volumes; 239 donated titles for the College Library and 228 for the Faculty of Renewable Natural Resources Library. These came from FAO, CTA-KIT, MOFA and Dr. Nyadanu, a lecturer at the Crop Science Department.
- The Political Science Students' Association donated 53 volumes of assorted books to the Faculty of Social Sciences.
- Prof. Imoro Braimah made a donation of a set of Encyclopedia Britannica to the College of Humanities and Social Sciences Library.
- Prof. Oteng Kufuor, an adjunct Professor from the United Kingdom, donated 300 Law books to the Faculty of Law Library.
- The Faculty of Law also received two books as donation from Lawyer Maxwell Opoku-Agyeman of the University of Ghana's Faculty of Law.
- Two hundred and forty-one (241) assorted books and two (2) journals were received as donation from the Faculty members of the Department of Information Systems and Decision Sciences.

It is important to note that most of the above-listed donations are yet to be processed and added to the stock.

### **Journal Subscription and Usage**

In collaboration with the Consortium of Academic and Research Libraries in Ghana (CARLIGH) and supported by the International Network for the Availability of Scientific Publications (INASP), the Library facilitated access to over 40,000 electronic journals from about 50 academic databases comprising more than 100 million full text documents, bibliographic information, abstracts and book reviews.

### **Off-Campus Access**

A total of 16,836 unique logins with an average daily logins of 1,870 were recorded for the off-campus access to e-resources. Statistics accessed from the EZproxy and the transaction log of publishers indicate a slight improvement over the previous academic year. In addition, a total of one hundred and fifty (150) queries were handled by the Department of Academic Engagement and Support.

### **Research and Learning Commons**

The Research Commons, a space for Faculty and postgraduate students to share knowledge and engage with their peers, recorded 8,875 visitors, with an average daily visit of about 60. The Learning Commons, a similar space for undergraduate students, recorded 7,943 visits during the year under review with a daily average visit of 100.

## Institutional Repository

A total of 395 documents were added to the repository in the year under review.

The documents in the repository are categorised as follows:

Theses	8,224
Conference Proceedings	319
Journal of Science and Technology (JUST)	371
Research Articles	1,493
Speeches	338
KCCR	70
<b>Total</b>	<b>10,815</b>

Records from Google Analytics indicate that during the period under review, the KNUSTSpace (Institutional Repository) recorded 28,181 views with a daily average of 270 views.

## Turnitin

Turnitin, a plagiarism detection software, had a total of 1,055 active account holders with 13,511 submissions. A total of 16,106 originality reports were generated.

## Training

One hundred and one (101) Faculty members and eight hundred and sixty-eight (868) students, comprising one hundred and fifty (150) graduate students and 718 undergraduate students were trained in the use of e-resources, reference management tools and how to be visible online. A total of two hundred and eighteen (218) students participated in a series of workshop held at the Prempeh II Training Room in October 2017 under the theme “Preparing for the University”, a maiden study skills workshop organised by the Library. A second workshop on “Preparing for exams” was held in collaboration with the Counselling Centre at the College of Science on the 12th April, 2018.

## Systems and Support

The under-listed activities were carried out by the Systems and Support Unit of the Library:

1. **Computers** – A contract has been awarded for the procurement of 30 computers as part of the first phase of providing 100 computers for general e-resource access.
2. **Turnitin** – Upgrade of Turnitin license to provide access to 10,000 staff/students instead 1,000 previously.
3. **External Authentication Service** – A software system to allow third-party integration for authentication services has been deployed. This system will allow patrons of the library to use their existing university login credentials on external software services that the library subscribes to.
4. **Managed Printing** – The Library successfully completed the deployment for heavy duty multifunctional printers for the implementation of a managed printing service for patrons. The managed printing services will reduce the number of individual printers at the library and provide unattended, self-service printing at only designated station. This is to reduce the total cost of ownership of printing/photocopy resources for staff and students.

5. **Emergency Lights** – Power backup system to support emergency lighting has been successfully deployed. It provides 1-hour of emergency lighting to evacuate the library at night, when the generators fail.
6. **Signage** – Digital Signage screens have also been deployed throughout the library. They were used during the library's 24-hour operation.
7. **Public Address** – A public address system has been deployed at the library. It provides automated and manual audio announcements.

### Ongoing Activities

1. **CCTV** – The Systems and Support Unit has advanced the process for CCTV deployment in the library. Currently, the contract has been awarded, pending delivery and installation.
2. **Library Automation** – Approval has been granted by the PPA to acquire electronic book detection gates (anti-theft), self-service equipment (to issue books), electronics tags and accessories. These will automate the lending/borrowing process and also provide anti-theft security at the entrances/exit.
3. **Software Migration** – The Unit has completed migration of data from the current proprietary library management system, *Alexandria ILS*, to the new open-source system, *KOHA*. The migrated data has to be finally reviewed and training provided for staff before a final switch over.
4. **EBooks** – A trial deployment of an eBook delivery platform, Baobab, is ongoing.
5. **Networking Upgrade** – The Unit awaits the procurement of new network equipment to upgrade the existing.
6. **Infrastructure Makeover** – The Unit is currently in the process of reorganising the electrical and network interconnect (cabling) infrastructure in the library. This is part of a decision to provide a permanent, future-proof, safe, secure and aesthetically pleasing organisation of all electrical and network cabling in and around the library.
7. **Group study space** – A newly-created study space is undergoing refurbishment. This will improve collaborative learning among students and other users.
8. **Bookable rooms** – Work is progressing steadily on bookable rooms to be fitted with state-of-the-art learning aids on three floors of the Prempeh II Library.
9. **Air-conditioners** – A contract has been awarded to ...to install twenty-five (25) standing air-conditioners. This will ensure that temperature is regulated for the preservation of books and other library resources.
10. **E-library project** – A 30-seater e-library project is ongoing and expected to be completed next academic year at the College of Science.
11. **A new electronic library project** at the Faculty of Art is about 90% complete.

### New developments

In the year under review, new developments took place in the Library among which were:

- The Prempeh II Library piloted a 24-hour library service which was supervised by the Department of Student Support Services between the 4th and 15th December, 2017. Available statistics indicate that 18,737 students and other researchers patronised the service between the hours of 11pm and 5 am, an average of 2,342 patrons each night excluding Sundays and 2 days on which curfew was imposed due to the Asantehemaa's funeral rites.

- From May 2 to May 15, 2018, a subsequent exercise revealed that 33,849 students and other researchers patronised the service between the hours of 11pm and 5am, including Sundays. This translates into an average of 2,418 patrons each night which is a moderate improvement on the previous exercise.
- Nine thousand (9,000) Ghana Cedis worth of new books on mostly Research Methods were procured to support the newly introduced PhD programmes in the College of Humanities and Social Sciences.
- A total of 2,552 volumes of assorted children's books were purchased for the KNUST Basic School libraries.

### **Income Generation**

A sum of fourteen thousand, three hundred and seventy Ghana cedis and forty pesewas (GH¢ 14,370.40) was realised from reprographic services and overdue fines. The breakdown (in Ghana cedis) is as follows:

Photocopying	10,847.70
Printing	1,825.50
Overdue fines	1,697.20
<b>Total</b>	<b>14,370.40</b>

### **PUBLICATIONS IN THE YEAR UNDER REVIEW**

Two (2) articles were published in conference proceedings and six (6) other articles were published in refereed journals.

### **SERVICE TO THE COMMUNITY**

Dr. Samuel Kotei Nikoi served as the Chairman of the Governing Council of the Consortium of Academic and Research Libraries in Ghana (CARLIGH).

Dr. Samuel Kotei Nikoi served as the Chairman of the Committee of University Librarians and their Deputies (CULD). Under the auspices of CULD, in the period under review, a workshop on procurement was held. The communique resulting from the workshop was submitted to the Vice Chancellors Ghana (VCG).

Mr. Kwaku Agyen-Gyasi continued to serve as the Chairman of the PTA of SOS Hermann Gmeiner School at Asokore-Manpong, Kumasi.

### **CHALLENGES**

Notable among the challenges that impeded the smooth delivery of services was long delay in the procurement of textbooks. The slow and cumbersome nature of procurement processes, posed a threat to collection development and management. This has led to a situation where no books have been procured for the past two years, with the library relying mainly on donation. Again, College Libraries such as Agriculture & Natural Resources and Humanities & Social Sciences encountered challenges with space to serve their patrons. In addition to this is the poor state of library furniture, especially at the Prempeh II Library. Internet connectivity in library facilities was also slow. These largely affected an otherwise excellent academic year.

## **CONCLUSION**

The KNUST Library played its academic support role by providing relevant and quality information resources, as well as teaching in the use of the resources. It is suggested that henceforth, space for a library be given serious consideration when an academic facility is being designed and constructed. A dedicated bandwidth will also put the Prempeh II Library in a good stead to perform its academic support role more effectively.

