

# UNIVERSITY OF GHANA RESEARCH REPORT









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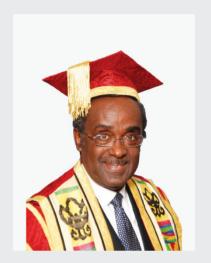


#### **Principal Officers**



Chancellor

His Excellency, Mr. Kofi Annan BSc (Kumasi) DEA (UHEI) MSc (Massachusetts)



Chairman, University Council

Justice Samuel Kofi Date-Baah LLB (Ghana) BL LLM (Yale), PhD (London)



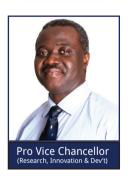
Vice-Chancellor

Professor Ernest Aryeetey BA (Ghana) MSc (Kumasi) PhD (Dortmund)

#### Other Officers



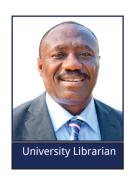
Professor Kwaku Osam BA, MPhil (Ghana) PhD (Oregon)



Professor John Gyapong MB,ChB (Kumasi) Msc, PhD (London)

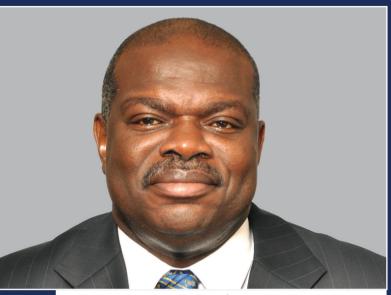


Mr. Joseph Maafo Budu BA (Ghana) Dip Ed MA (London)



Professor Ellis Badu Bsc (Kumasi), Grad. Dip (Lip Stud) (Ghana) MIFSc (Ibadan),PhD (Sheffied)

## Message from the Vice-Chancellor



Professor Ernest Aryeetey

Welcome to the maiden edition of the University of Ghana Research Report. As a University, our roles include providing excellent education for our students and also producing highly-skilled and committed persons who are aware of their responsibilities to the University and to the general community. The University of Ghana has for the past few years been working towards achieving a world class status

through the delivery of excellent teaching and research.

I have always emphasized my commitment to transforming this university into a research institution to support structural transformation in Ghana and in Africa. This means a significant increase in the amounts allocated to research and improvements in the quality of research undertaken by the faculty and students of the University. It also means increasing significantly the proportion of the student population doing graduate work. We have stepped up graduate admissions considerably, moving

from 1,267 in 2009/2010 to 3,331 in the 2012/2013 academic year. There is now emphasis on our newly restructured PhD programmes and a further modification to the MPhil programmes to conform to global demands and trends.

In line with the University's aim of attaining a world class status, the Office of Research, Innovation and Development (ORID) was established in August 2010 to advance the research activities of the University by attracting funding and by establishing the right research management tools, including an Ethics policy and an Intellectual Property policy to achieve this purpose. The establishment of ORID is also intended to enhance research output by supporting faculty members and students to reach the highest potential in their research fields.

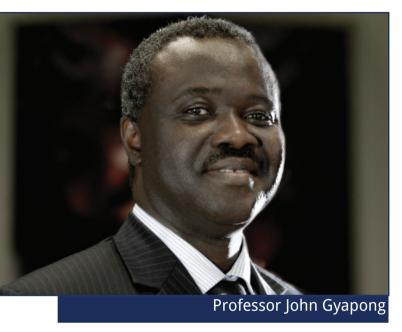
The University of Ghana has several institutes and centres for learning and research, including the Noguchi Memorial Institute for Medical Research and the Institute of Statistical, Social and Economic Research, etc. These are units where faculty members are involved in research that supports policy making for national development and also provide research output that facilitates the work of industry. The research institutes and centres often work in collaboration with other international research institutes.

I would like to use this opportunity to pay tribute to all our award-winning academics who were recognised in the past year for their outstanding research achievements.

I would, finally, also like to show appreciation to the many donors, sponsors and agencies who continue to support our work through post-graduate scholarships, equipment and research grants. We thank you and look forward to many more years of successful collaboration.

## Message from the Pro Vice-Chancellor

Research, Innovation and Development (RID)



In this publication we outline our research efforts and introduce you to several of our top researchers and highlights of the year. The Office of Research, Innovation and Development (ORID) was established in the year 2010 to foster and enhance research at UG. Our mission is to promote, coordinate and facilitate research activities in the University, and also lead the development of the University's strategic plans, including business plans and fund-raising strategies.

As the focus of every University striving for world class status is research, we believe in academic freedom, creativity and innovation, and we strive to create an environment where people have the ability to develop concepts without any restrictions and come out with creative and innovative ideas as well as cutting-edge research which advances the frontiers of knowledge and promotes national development. Research naturally complements our primary teaching function and

enables us engage with the community through our work. We aim to promote research that satisfies high ethical standards, intellectual property protection and good practices in data/material management. We have therefore focused on policy development, provision of guidelines, and human resource development for research and fundraising. We aim to facilitate the efficient communication, dissemination and utilization of findings from research.

These activities collectively support the University's goals in research, postgraduate studies and innovation by providing a comprehensible approach and an enabling environment for postgraduate students and UG researchers.

The distinction of UG's researchers is demonstrated by their membership of prestigious national and international academies and societies, their prestigious national and international awards from distinguished organisations, grants and fellowship programmes, award citations, and other forms of recognition and honours.

It is evident from the pages that follow that research is taking shape in UG. As we move forward, we are grateful for the continued commitment and enthusiasm of UG researchers and are pleased with the opportunity to serve.

I wish you a stimulating experience as you read our first of many research reports and discover how we work to cultivate a spirit of innovation and creativity among our staff and community. You are encouraged to visit our tab on the UG website or visit **orid.ug.edu.gh** for updates on research grant opportunities, fellowship opportunities, and research findings.



# Office of Research, Innovation and Development (ORID)

#### **Overview**

The Office of Research, Innovation and Development (ORID) was established by the University Council in October 2009 to promote, coordinate and facilitate research activities at the University of Ghana and lead in the development of strategic and business plans and fundraising of the university. It began operations in the 2010/2011 academic year. The main responsibilities of ORID include:

- Developing and implementing the University's research policy;
- Fund-raising for research;
- Ensuring effective distribution and efficient use of research funds in line with priority areas identified in the University's strategic plan;
- Setting standards and ensuring effective dissemination of high quality research output;
- Representing the interests of the University in contractual relationships; grant applications and

reporting;

- Administering contract research;
- · Establishing systems for ethical clearance registration;
- Patenting and commercialisation of intellectual property.

It has since absorbed the functions of the Research and Conferences Committee, Publications Board, External Funds Office, Consultancy Unit and the Research Administration Unit.



Mrs. Afua Yeboah Research Administrator

#### Research Administration

One of the key roles that is played by ORID in fulfillment of its mandate to facilitate and promote research activities at UG is research administration/ grants and contract management.

Research Administration at ORID includes among others - the administration and management of the University of Ghana Research Grants Scheme and other external funding sources by adopting internationally recognized systems, structures and procedures that ensure efficiency. Other key activities include:

- Identifying and making available information on research funding,
- Proactively assisting researchers with a variety of grant application processes,
- · Managing research data and outputs,
- · Administering assessment process, and
- Managing funding outcomes.

We also provide research support through the processing of letters of support, make available information on the UG policies related to research, manage scholarships and also organise research education seminars, workshops and conferences.

#### **UG Research Grants**

ORID manages the University's Research Grants scheme which was set up to encourage faculty members to actively engage cutting edge research activities that will enhance the UG's research profile. There are currently three types of grants that can be accessed:

- 1. Seed Grants: Such grants are targeted at faculty members at the early stage of their career to enable them to explore new ideas to apply for larger funding or bigger grants in the future and would normally not exceed GHC 5,000.
- 2. Investigator-Led Grants: These grants would normally not exceed GHC 30,000. Grants of this nature are awarded to faculty members with a clear research question they wish to address.
- 3. Multi-Disciplinary Grants: These shall not exceed GHC 100,000 and are for multi-disciplinary and inter-faculty research projects which specifically address a national developmental issue and are also capable of shaping or influencing policy in Ghana.

Since the 2008-2009 academic year, six calls for proposals have been announced. There have been one hundred and eight-six (186) grant applications in total out of which a total of eighty-seven (87) have received funding. There has been a general increase in the number of proposals submitted however, the numbers in terms of successful grants have not been stable (figure 1).

FIGURE 1: TREND OF URF CALLS FOR PROPOSALS

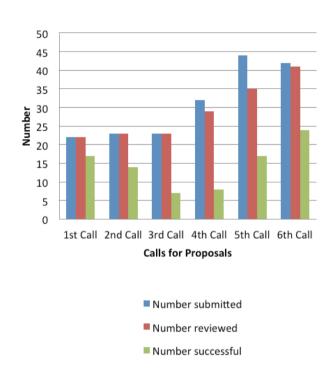
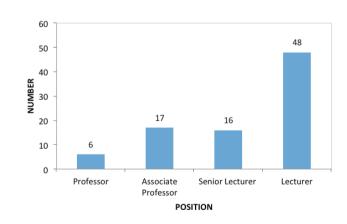


FIGURE 2: DISTRIBUTION OF AWARDS (BY POSITION)



Details of the successful applicants for the 6th call are captured on the next page:



GRANT CATEGORY	NAME	DEPARTMENT
SEED FUNDING	Mr. Francis Codjoe	Medical Laboratory Sciences, SAHS
	Ms. Grace L. Allotey-Babington	School of Pharmacy
LARGE MULTI-	Dr. Henry Nettey	School of Pharmacy
DISCIPLINARY	Prof. Samuel Agyei-Mensah	Geography and Resource Development
	Dr. Gladys Nyarko Ansah	English
	Dr. Jemima Asabea Anderson	English
	Prof. Helen Yitah	English
	Prof. Nana Aba Amfo	Linguistics
	Dr. Joshua Alfred Amuah	Music
	Dr. Mercy Akrofi-Ansah	Institute of African Studies
	Dr. Peter Atudiwe Atupare	Law
	Dr. Patrick Amoateng	School of Pharmacy
	Dr. Kwadwo Asamoah-Kusi	Immunology, NMIMR
INVESTIGATOR-LED	Dr. William Kudzi	CTCPT, UG Medical School
GRANTS	Mrs. Freda Dzifa Intiful	Dietetics, SAHS
	Dr. George Awuku Asare	Medical Laboratory Sciences
	Dr. Angela Ofori-Atta	Psychiatry, UGMS
	Dr. Kingsley Badu	Immunology, NMIMR
	Dr. Amos Laar	School of Public Health
	Dr. Esi Colecraft	Nutrition and Food Science
	Dr. Lydia Mosi	Biochemistry, Cell and Molecular Biology
	Dr. Edward Onumah	Agricultural Economics and Agribusiness
	Dr. Henry Mensah-Brown	Food Process Engineering
	Mr. Balapangu S. Srinivasan	Biomedical Engineering

Please see the ORID website at <a href="http://orid.ug.edu.gh">http://orid.ug.edu.gh</a> for details on the award winners and the grants.

### Addressing National Development Needs Through UG Funded Research



Prof. Kwame Afreh-Nuamah

Professor Kwame
Afreh-Nuamah received
a research grant of
GH¢24,500 from the UG
Research Fund in 2009
to implement the project
titled "Development of
Sustainable and Integrated
Management Strategy
against fruit safety and

environmental protection in citrus plantations in Ghana". The study which was carried out on the citrus plantation at the Forest and Horticultural Crops Research Centre (FOHREC) at Kade in the Eastern Region between 2009 and 2011 was to determine species composition, population dynamics and management of fruit flies with red ant and neem insecticides

in order to develop an integrated management of fruit flies in citrus plantations.

At the close of the project in 2011, additional funding of about GH¢1,083,932 had been leveraged from eight (8) other donors.

One outcome of the project has been the establishment of the National Fruit Fly Management Committee which is charged with the responsibility of ensuring that the menace of the fruit fly problem in Ghana is contained. Among the objectives of the Committee is to coordinate all activities involved in the fruit fly to ensure harmonisation of available interventions to farmers. The Committee is also expected to play an advocacy role for the containment of the fruit fly.

#### **Conference Grants**

The University encourages all Senior Members to actively engage in professional and academic activities that would enhance the image of UG on a global basis. In this regard, the University provides support for Senior Members



Ms. Empi Baryeh Assistant Registrar, ORID

to participate in international conferences/seminars/ workshops as presenters, critics, discussants and chairs of sessions. Grants are also awarded for hosting international conferences in Ghana. To date, over 160 individual grants have been awarded to academic staff, postgraduate and postdoctoral students.

The 2012/2013 academic year has been particularly robust with a total of US\$ 74,367 disbursed to faculty members to attend or organize conferences/workshop/Seminars.

### Conference Grants Awarded from 2008/2009 to 2012/2013 Academic Years

DATE	AMOUNT IN USD	NUMBER OF AWARDEES
2008/2009	13,000	15
2009/2010	52,275	34
2010/2011	48,507	31
2011/2012	51,159	36
2012/2013	74,367	47

### **Spotlight on Some of This Year's Conference Grant Beneficiaries**

### Dr. Richmond Aryeetey Elected Vice President for the Federation of African Nutrition Societies



Dr. Richmond Aryeetey

Dr. Richmond Aryeetey (Department of Biostatistics) received US\$ 1,500 to participate in the Nutrition Congress Africa 2012 in Bloemfontein, South Africa, from 30<sup>th</sup> September – 4<sup>th</sup> October, 2012, where he was elected Vice President for the Federation of African Nutrition Societies. Dr. Aryeetey's current research includes mapping of social determinants of sub-optimal use of pregnancy and delivery interventions by women in urban Accra, food insecurity of HIV-infected adults, and piloting of eHealth applications in the context of health research capacity building. Dr Richmond Aryeetey has worked in Ghana as a researcher in maternal and child health for the last 13 years.

Dr. Mavis Dako-Gyeke: "...the knowledge and skills gained will enhance my future research and teaching..."



Dr. Mavis Dako-Gyeke

Dr. Mavis Dako-Gyeke (Department of Social Work) received US\$1,500 to participate in the 6th Global Conference on Diasporas in Oxford, UK, from 6th – 8th July, 2013, where she presented her paper titled: "Expectations and Perceptions of Pre-

Migrant Youth About Diasporic Settings", and participated in a panel presentation/discussion with colleagues from Canada and the USA. She expects to submit her paper for publication in the coming academic year. According to Dr. Dako-Gyeke, the conference gave her the opportunity to go beyond the horizons of what she usually encounters and engage with ideas and issues from different disciplines and perspectives.

#### **Faculty Development Grants**

The University of Ghana Faculty Development (UGFD) Grant was established in response to the University's drive for providing funding for faculty development, and to enforce the requirement of a PhD or other terminal degree as the basic qualification for being a lecturer in the University. Since its inception in the 2008/2009 academic year, grants in excess of GH¢678,000 have been awarded to 67 faculty members.

A total of GH¢94,008 was awarded to 7 academic staff in this academic year alone, with eligible applicants receiving up to GH¢15,000. Considering that the grant is available to all disciplines and is tenable in any reputable institution of higher education across the world, the UGFD yields high quality lecturers with diverse learning experiences to change teaching and learning outcomes at UG. The added boost of requiring grant recipients to publish at least two articles from their PhD research ensures a boost in UG's research profile.

#### **Faculty Development Grant Beneficiaries**

BENEFICIARY	DEPARTMENT	THESIS TITLE	GRANT AMOUNT	UNIVERSITY OF REGISTRARTION
Benedicta A. Lomotey	Modern Languages	Implications of Feminist Proposals for Language Reform: The case of Linguistic Sexism in Spanish	GH¢ 14,922	National University of Distance Education, Madrid, Spain
Benjamin Osei Botwe	Marine and Fisheries Sciences	Historical Trends in Chemical Pollution and Sedimentation in the Tema Harbour, Ghana	GH¢ 15,000	UNESCO-IHE Institute for Water Education, Nether- lands
Bernard Owusu Asimeng	Biomedical Engineering	Mechanical Properties and Degradation Studies of Polythene Blend Starch-Hydroxyapatite Composite for Orthopaedic applications	GH¢ 14,086	Kwame Nkrumah University of Science and Technology, Ghana
Edward Nartey	Accounting	The Theory and Empirics on Improving Vehicular Traffic Flow Management in Ghana	GH¢ 15,000	Lancaster University, UK
Nancy Myles Gyamfi	Philosophy and Classics	Community, Individuality and Democracy: Philosophical Perspectives	GH¢ 10,000	University of Utrecht, Netherlands
William Narteh Gblerkpor	Archaeology & Heritage Studies	The weapons of our Warfare are not Carnal: An Archaeological and Enthnohistorical Study Of Anti Colonial Identity in Krobo, Ghana	GH¢ 10,000	University of Texas at Austin, USA
Zainudeen M. Abdulmumin	Modern Languages	The Artistic Image of Women in Al- Mufaddaliyat: A Rhetorical Analytical Study	GH¢ 15,000	University of Usmanu Danfodiyo, Nigeria

#### **Research Support Services**

#### From the Donors to our "Door-Steps":

Providing grant management services to faculty members and encouraging our "young" researchers.

In 2010, when ORID was established, its immediate focus was to enable UG faculty members to understand its facilitation and coordination role for research. For many years, faculty members have written out grant proposals on their own, sourced for funding and had basically performed all the administrative functions related to their research projects on their own. Providing research support has been one of the priorities of ORID - the aim is to create a platform which allows UG's researchers to focus on the "science" of their research while we sort out all the other details related to the grant such as setting up reminder systems for reporting, providing advice on procurement related to research projects among many other services.

The facilitating role played by ORID ranges from sourcing for research funding opportunities to processing grant applications from opportunities that come from donors outside the University of Ghana among others. Grants which

fall within this bracket are termed External Grants by ORID.



Dr. Patrick Kobina Arthur

In early 2013, Dr. Patrick
Kobina Arthur of the
Department of Biochemistry,
Cell and Molecular Biology
approached ORID for
support to enable him to
finalise his budget etc. for
onward submission to Grand
Challenges Canada which
was considering him for a

grant. ORID provided budgetary support as well guidance and support for completing all the paperwork associated with this grant. Following the successful submission and approval of all the requisite information, Dr. Arthur was confirmed as one of the 102 winners announced in the first phase of Round 4 of the **Stars in Global Health** sponsored by Grand Challenges.

Dr. Arthur will receive an amount of US\$113,000 CAD from Grand Challenges Canada over an eighteen (18) month period for his project titled *"Proteomic analysis of the* 

molecular mechanisms of latency and drug-resistance in M. africanum I and screen for novel antimycobacterials from fungal sources".

### UG Registers with the National Institutes of Health (NIH)

ORID has officially completed the University of Ghana's registration with the National Institutes of Health (NIH). The NIH is a grant making body that normally provides funding to seek fundamental knowledge about the nature and behavior of living systems and the application of that knowledge to enhance health, lengthen life, and reduce illness and disability.ORID is responsible for maintaining the University's registration in the NIH database. With this registration, ORID is now able to submit grant applications to the NIH and any of its affiliate institutions as well as provide other research support related to NIH processes.

Unlike other grant applications, NIH requires that applicants are registered in the eRA Commons. The Univeristy of Ghana's eRA Commons Registration is managed by ORID. Faculty members interested in applying for NIH grants may contact their respective Research Development Officers at their Faculties or may send an email to ORID at orid-researchadmin@ug.edu.gh for information and support on how to get through the application process.

### Providing and Exploring Opportunities for Funding Faculty Research

At ORID, one of our proactive approaches adopted to promote a vibrant research culture at UG is to ensure that faculty and staff have access to available information on funding opportunities for research, scholarships etc. It is for this reason that the UG signed up to the Research Africa Platform in 2011 and has maintained an active registration with the platform to date.

ORID compiles and issues a quarterly electronic newsletter on funding opportunities known as the "Research Opportunities Alert!" (ROA!). The compilation is normally available in three volumes namely Research Grants (from the NIH and other donors), Prizes and Scholarships and Travel & Conference Grants. This information is circulated on the intranet and is also available on the ORID website. The compilation of the opportunities has proved quite useful to several faculty members including DR. LINDA DARKWA, Research Fellow at the Legon Centre for International Affairs and Diplomacy (LECIAD).

In 2012, Dr. Darkwa had her name added to the list of award winners for the Deborah "Misty" Gerner Professional Development Grant when the Women's Caucus for International Studies (WCIS) of the International Studies Association proudly announced her winner in their E-newsletter. The USD 2,000 grant sponsored by Lynne Rienner Publishers was used to cover her travel expenses to Liberia, Côte d'Ivoire, and Sierra Leone to collect data for her project titled "International Legal Protection of Children in Armed Conflict Situation".



Dr. Linda Darkwa

Dr. Darkwa's success is an encouragement to spur us on as she also associates her success with the support she received from accessing "Research Opportunities Alert!" (ROA!). Touching on how she is faring on her work, Dr.

Darkwa said she has travelled to Liberia to collect her data and she is currently trying to put her manuscript together. We are hopeful that a lot more successes will be recorded as we collectively work at enhancing the research profile of UG through competing in various grant schemes.

### Interested in signing-up to Research Africa? It is as easy as a 2-step registration process:

- Download and complete user Account Request Form from <a href="http://orid.ug.edu.gh/">http://orid.ug.edu.gh/</a>
- 2. Return completed form to ORID or by email via orid-researchadmin@ug.edu.gh

Your user account will be generated at ORID within 2 working days, you will receive your log-in details immediately the account is set-up and you are ready to browse the platform to access hundreds of funding opportunities for African researchers.

#### **Capacity Building Grants/Scholarships**

#### **Commonwealth Scholaships/Fellowships**

#### Learning from each other:

#### Professor Frank Nyame, Beneficiary of the 2011/2012 Commonwealth Academic Staff Fellowship

Each year, the Commonwealth Scholarships Secretariat in the UK (CSCUK) invites the University of Ghana to

nominate candidates for consideration for several types of commonwealth scholarships and fellowships which are all tenable in the United Kingdom.



Prof. Frank Nyame

For the 2011/2012 cohort of awards, Prof.

Frank K. Nyame of the Department of Earth Science spent three months on a faculty exchange programme at the University of Surrey as a Commonwealth Fellow under the Commonwealth Academic Staff Fellowship Programme of the CSCUK where he analyzed data from Ghana's mining sector as part of his research work on "Mining and Gold Markets" an area that forms part of a much wider research conducted over the years on the interface between Mining and Sustainable Development in sub-Saharan Africa.

Prof. Nyame, expressed great satisfaction on how the Fellowship has contributed to his on-going research activities and, even more especially, the opportunity to network with colleagues from the Universities of Surrey, Reading and Leeds, all in UK. He again intimated that the fellowship had, indeed, helped enhance and update his knowledge and skills in his academic disciplines and responsibilities.

Institutional nominations for the Commonwealth Scholarships are normally made when the UG receives the invitation from the CSCUK. The nomination process usually runs between September and November of each academic year and nominations are requested from each Faculty Dean after which candidates are shortlisted and selected - the information is passed on to the CSCUK for consideration. Results from the CSCUK are usually received by August of the following year.



### **Building Stronger Universities In Developing Countries (BSU) Initiative**

A major boost to capacity development for UG Faculty members is the Building Stronger Universities in Developing Countries Initiative (BSU), a partnership between research and higher education institutions in developing countries and Danish universities. The project, which is funded by the Danish government, aims at strengthening research and educational capacities; dissemination knowledge management/sharing capacities; university management and governance; and infrastructural improvement.

The project is organized around four thematic platforms of which UG is involved in the following three: Environment and Climate (BSU-EC), Growth and Employment (BSU-GE) and Human Health (BSU-HH).

The project is to be rolled out in four phases, the first of

which covers a two-year period from August 2011 to July 2013, with the Human Health and Growth & Employment Platforms receiving 20 million DKK (\*GH¢ 5.9 million) each, and the Environment & Climate Platform receiving 8 million DKK (\*GH¢ 2.3 million).

### Increasing the Number of Academic Staff with PhDs

An important activity in Phase one is to boost the faculty profile of UG's academic staff through the award of 10 PhD scholarships with co-supervision between University of Ghana and Danish Universities. The table below outlines the scholarship beneficiaries:

NAME	DESIGNATION	DEPARTMENT	THESIS FOCUS AREA	
Environment and Climate Platform				
Ernest Agyemang	Assistant Lecturer	Geography and Resource Development	Virtue out of necessity? urbanization, urban growth and Okada services in Accra, Ghana	
Enock Dankyi	Assistant Lecturer	Chemistry	Sources, environmental levels and fate of pesticides and heavy metals in Cocoa-growing soils in Ghana.	
Growth and Employment P	latform			
Jemima Yakah	Assistant Lecturer	Agricultural Extension	Development of multi stakeholder models, tools and strategies for the restoration and sustainability of three agro-ecological zones of Ghana: An alternative approach for Agricultural extension in climate change adaptation	
Raphael Odoom	Teaching Assistant	Marketing and Customer Management	Adaptation of competitive strategies by agriculture SME's in Ghana	
George Acheampong	Teaching Assistant	Marketing and Customer Management	Innovation among rural small and medium scale enterprises	
Philip Kofi Adom	Graduate Assistant	Economics	Impact of rising food prices on household welfare in Ghana	
Human Health Platform				
Emilia Asuquo Udofia	Lecturer PhD candidate	Community Health, UGMS  Biological, Occupational and Environmental Health, SPH	Managing solid medical waste in the Greater Accra Region, Ghana: A district level study of waste generation, collection systems and impacts	
Helena Lamptey	Principal Research Assistant PhD Candidate	Immunology, SPH  Biological, Environmental and Occupational Health Sciences, SPH	The impact of anti-malarial drugs and naturally acquired immunity on Plasmodium falciparum asexual stage development into gametocytes in a malarial endemic area in Ghana.	
Seth Kwabena Amponsah	Assistant Lecturer	Pharmacology, UGMS	Interaction between Amikacin and Aminophylline in Ghanaian Newborns with Sepsis	
Philip Debrah	Assistant Lecturer	Microbiology, University of Ghana Medical School (UGMS)	Improving Malaria Chemotherapy by Optimiz- ing Drug Formulation and Assessing Drug Quality	

#### **Strengthening of PhD education**

Another major component of the BSU programme is the running of several capacity building courses for PhD students including the following: Advanced Analytical Techniques for Environmental Assessment: Soil Carbon, Climate Change Adaptation, Innovation and Entrepreneurship Theory, Philosophy of Science, Proposal Writing/Fundraising and Scientific Communication, Qualitative Research Methods, Quantitative Impact Evaluation of Policy Interventions, The Research Process.

Additionally, 3 Training-of-Trainer (ToT) courses for staff under BSU-EC and BSU-GE, as follows: *Research Dissemination PhD Supervisor ToT Course, Fund Raising and Research Proposal/Writing ToT Course.* 

A total of 200 students and staff were trained in the BSU workshops.



PhD Students in a BSU Workshop

#### **Strengthening of Research Activites and Research** Collaboration

Facilitating collaborative research is also an important objective for BSU. A call for proposals was announced under the platform on Growth and Employment. Eligible proposals included researchers from at least one South Partner university (Ghana and Tanzania) and at least one Danish University. Following an external review in Denmark, six (6) projects involving UG faculty members were selected for awards in November 2012, a total investment of 835,372 DKK (USD 147,072.54).

#### **Spotlight On Winning Projects**

**Professor Robert E. Hinson** of the Department of Marketing and Customer Management won a grant of 141,855 DKK (≈ USD 24,974.47) to work with Professor Klaus Grunert of Aarhus University on the project: "Corporate Responsibility of Multinational Companies in the Agri-Food Sector: Strategic Role, Implementation and Effects on Stakeholders in Developing Countries".

Professor Robert E. Hinson also won a grant of 131,880 DKK (≈ USD 23,218.31) to work with Professor John Kuada

of Aalborg University on the project: "Impact of Corporate Social Responsibility of Ghanaian Firms on Their Attractiveness as Employers".



Prof. Robert E. Hinson

Dr. Stephen Abenney-Mickson and DR. EDWARD SABI of the Department of Engineering Sciences won a grant of 175,000 DKK (≈ USD 30,809.86) to work with Professor Nicholas Kyei-



Dr. Stephen Abenney-Mickson

Baffour of Kwame Nkrumah University of Science and Technology (KNUST), Kumasi, and Dr. Mathias N. Andersen of Aarhus University on the project: "An Interdisciplinary **Research Cooperation to Develop a Prototype Solar Powered Drip Irrigation** 

and Fertigation System Adapted to Soils and Climate Conditions in Ghana".

#### Dr. Bedman Narteh of the Department of Marketing and

**Customer Management** won a grant of 99,287 DKK (≈ USD 17,480.11) to work with Professor John Kuada of Aalborg University on the project: "Inter-Firm Collaboration and **Knowledge Management** in an Emerging Context: Insights from Ghanaian-Danish Cases".



Dr. Bedman Narteh

Dr. Mohammed Aminu-Sanda of the Department of Organisation and Human Resource Management won a grant of 120,350 DKK (≈ USD 21,188.38) to work with Professor

John Kuada of Aalborg University on the project: "Impact of Leadership **Style and Culture** on Job Satisfaction/ Organisational **Commitment in Ghanaian** Retail Banks".



Dr. Mohammed Aminu-Sanda

#### Professor Paul W. K. Yankson of the

Department of Geography and Resource Development won a grant of 167,000 DKK (≈ USD 29,401.41) to work with Professor John Rand of University of Copenhagen on the project: "Oil and **Regional Development:** The Case of Western Region, Ghana".



Prof. Paul W. K. Yankson



Another major boost for research at UG is under the EUfunded Intra-ACP Academic Mobility Scheme, which supports higher education cooperation between countries in Africa, the Caribbean and the Pacific (ACP). The scheme, managed by the Education, Audiovisual and Culture Executive Agency (EACEA), aims to promote sustainable development and poverty alleviation by increasing the availability of trained and qualified high-level professional manpower in the ACP countries. In this regard, the programme provides funding for student and staff mobility among leading Higher Education Institutions across four regions of Africa, offering support for Doctoral and Master's studies, as well as for shorter research and administrative visits between consortium partners.

UG is currently participating in 3 projects.

## Trans-disciplinary Training for Resource Efficiency and Climate Change Adaptation in Africa (TRECCAfrica)



TRECCAfrica has awarded over 50 scholarships for Doctoral and Master's training between August 2011 and July 2013. In total, the project is expected to award scholarships to 80 postgraduate students in Africa and 8 staff exchanges at six leading African Universities. This will enable the next generation of academics and professionals to address an interlocking set of real challenges for Africa's future development: climate change and resource depletion. Partners include: *Stellenbosch University* (South Africa), *Mekelle University* (Ethiopia), *University Of Nairobi* (Kenya), *University Of Nigeria* (Nigeria), *University of Dar Es Salaam* (Tanzania), and the *University of Ghana* (Ghana). For more information, visit: www.treccafrica.com.

#### Africa Regional International Staff/Student Exchange (ARISE): Food Security and Sustainable Human Wellbeing project



ARISE will offer a total of 86 mobility opportunities, including: 54 Masters Level Opportunities; 22 Doctorate Level Opportunities; and 10 Staff Mobility Opportunities, with a focus on the fields of

Agriculture, Medical Sciences, Engineering and Energy out of a commitment from the consortium to develop African capacity in the area of Food Security and Sustainable Human Wellbeing. Partners include: *University Of Addis Ababa* (Ethiopia), *University Of Nairobi* (Kenya), *National University of Rwanda* (Rwanda), *International Education Association of South Africa* (South Africa), *Makerere University* (Uganda), and the *University of Ghana* (Ghana).

Technical Partner: *University Of Leuven* (Belgium). For more information, visit: www.intra-acp-arise.org/.

### Enhancing community of practice in one health for infectious diseases through postgraduate training

The project aims to award 95 post-graduate scholarships at both doctoral and master's levels, as well as 36 faculty exchange opportunities. The partnership operates within the broad framework of one health concepts, and thus seeks to further consolidate the adoption of one health principles in training and research for infectious diseases of humans and animals, with the ultimate aim of enhancing inter-sectoral partnership in infectious disease surveillance and interventions. Partners include: Sokoine University of Agriculture (Tanzania), Muhimbili University of Health and Allied Sciences (Tanzania), University of Zambia (Zambia), Eduardo Mondlane University (Mozambique) and the University of Ghana (Ghana). For more information visit: www.academic-net.ac.tz/.

### Building Capacity to meet the Climate Change Challenge (B4C) -Ghana

Climate change is a major environmental issue that is already affecting or projected to have serious adverse impacts on the local and national economies of many countries around the world. In Ghana, while the challenges of climate change mount, climate expertise and adaptation research capacity remain very limited, thus limiting the nation's ability to generate relevant knowledge to tackle climate change issues,

or even to diffuse knowledge and technology developed elsewhere for communities to be able to adopt adaptation measures.



Climate change impact manifestation

The concern for the inadequate capacity in Africa to tackle the social, economic and environmental challenges posed by climate change led the Open Society Foundation to initiate its programme, the African Climate Change Adaptation Initiative (ACCAI). This initiative is to support African institutions to develop actions that will enable African academics, governments and civil society to engage effectively in the global climate change dialogue and adopt effective adaptation measures. The University of Ghana's proposal, titled Building Capacity to meet the Climate Change Challenge (B4C) –Ghana developed by a team led by Professor Yaa Ntiamoa-Baidu, was one of the six selected out of over sixty submissions to receive grant funds of USD1,638,677.

The B4C-Ghana project is implemented by a consortium led by the University of Ghana which includes the Centre for African Wetlands (CAW) and the Ghana Wildlife Society (GWS). The ultimate goal of the project is to develop University of Ghana as a centre of excellence in global environmental change, with capabilities to contribute effectively to climate change adaptation in Ghana for sustainable development. The partnership with the two non-governmental organisations (CAW and GWS), is to ensure that knowledge generated by academic researchers can be transferred to relevant actors/communities to feed into policy and ensure adoption of climate change adaptation measures.

The project is designed in three Work Packages as follows:

i. **Training and human resource development:** The project has supported and led the development of UG's post-graduate programme which offers a one year MSc. (Management option) and a 2- year MPhil. in Climate Change and Sustainable Development (CCSD).



CCSD students in the field looking at issues of coastal erosion & sea level rise

- ii. Building climate change adaptation research capacity at UG: The field work has generated a large volume of primary data on a range of climate change issues and have also enabled the definition of priority areas for further research in climate change adaptation and a range of research topics that will form the basis for MPhil. Thesis research to support delivery of the CCSD programme.
- iii. Influencing policy through outreach and Civil Society
  Engagement: In pursuance of this goal, the project
  has held a number of workshops at both national and
  community levels that subsequently led to the formation
  of the Ghana Climate Change Adaptation Network (Ghana
  CAN). The Ghana CAN aims to bring together key actors
  in the climate change sector, including governmental,
  non-governmental, civil society organisations and well as
  academia to strengthen their capacities and is supported
  by the B4C project.

### Delivering the Next Generation of Academic Researchers

Like many universities in Africa, the University of Ghana has suffered from the multiple challenges of explosion in undergraduate numbers without corresponding increases in faculty; limited financial resources and an increasing



Prof. Yaa Ntiamoa-Baidu

public expectation for the University to do more and more with very limited resources. To address these challenges, the University of Ghana received funding from the Carnegie Corporation of New York under its Next generation of African Academics

programme to implement a series of activities that will improve research delivery and post-graduate training. The Corporation has provided the UG with a total of Four Million, One Hundred and Fifty thousand US dollars (\$ 4,150,000) for the project which is to implemented in two phases from 2010-2015 and is led by Professor Yaa Ntiamoa-Baidu.

#### **Faculty Development**

Supporting faculty training has been one of the major priorities of this project because the UG believes that a PhD. (or other terminal degree) is the starting point in terms of developing the ability of its faculty to pursue high quality research in their chosen fields. The support targets faculty who already are on PhD. programmes and need relatively small amounts of financial aid to complete their

thesis research, as well as younger faculty who do not hold PhDs. Through the project, a number of rising stars have been identified who are absolutely world class material including Dr. Prince Koree Osei who graduated in 2012 and was the first to earn a PhD in



Dr. Prince Koree Osei

Mathematics from the University of Ghana. In addition to supporting faculty who are PhD. candidates, the UG-NGAA also proactively searches for and supports young, bright and uniquely talented MPhil. students- our next generation of academics. Thirty-seven (37) MPhil candidates have received grants ranging from \$2000-\$4000 to support their thesis research in the first phase of the project and all completed their theses on time.

#### Promoting a research culture among UG faculty

One of the major problems that hamper the ability of UG faculty to publish is simply finding the time to work on

manuscripts. The project introduced "Write shops", held off-campus in a quiet setting away from campus, where participants focus on writing journal articles. Senior faculty volunteer as resource persons to provide mentoring and support on language, data analysis and interpretation. At least twenty (20) faculty members have participated in the write-shops which have proved to be very successful.



Prof. Helen Yitah interacting with a PhD student at aWrite-Shop.

The project also initiated the creation of a database of publications by UG faculty in peer reviewed journals which is accessible on the UG website (www.ug.edu.gh/faculty publications). This database has not only helped to enhance UG's profile, but also created a very positive peer pressure among UG faculty that should result in increased research output.

### Enhancing the quality of post-graduate products from University of Ghana

The project has supported the improvement of post-graduate training by providing facilities, targeted skills and knowledge enhancement training workshops for post-graduate students, and through the establishment of the UG Diaspora Linkage programme that brings professors from the Diaspora to support post-graduate teaching and supervision. As many as 555 post-graduate students in both the humanities and the sciences received knowledge and skills enhancement training during the first phase of the project, while five academic units received various equipment, including computers, printers and LCD projectors, as well as funds to refurbish and/or furnish post-graduate seminar rooms, laboratories and museums.

Perhaps the greatest impact of the UG-NGAA has been its contribution to:

- the creation of a cohort of students with a desire to remain academics;
- ii) the fostering of a strong desire among young faculty to succeed as university academics;
- iii) an increasing number of a new breed of next generation academics with a new mindset of self-reliance to engender sustainability, demonstrating renewed enthusiasm and energy to strive for internationally acclaimed standards in their academic career.

Going forward, the project will continue to keep a strong focus on faculty development and enhancement of UG faculty research output. Some of the key activities in the coming years will include supporting the establishment of the UG Writing Centre to be run by the English Department, supporting the publication of the UG Readers and harnessing efforts to ensure the development and delivery of PhD. programmes in Biomedical Engineering, Computer Engineering as well as in Material Science and Engineering.

The UG-NGAA is clearly fully behind the University's agenda to become a research University of World Class status. We are most grateful for the financial support from the Carnegie Corporation of New York that has made all the above possible.

### The Cambridge Africa Partnership for Research Excellence (CAPREX) Project



The Cambridge Africa
Partnership for Research
Excellence (CAPREx)

project is a partnership

program between the University of Cambridge UK, University of Ghana, Legon and Makerere University, Uganda with funding from Carnegie Corporation of New York.

The project will support the development of African academic research excellence through the three-way partnership aimed at promoting the recruitment and retention of the brightest academic staff at these regional hubs. The project goals are being implemented through the strengthening of faculty research capacity; strengthening of research management and administration; and the development of joint research projects.

One of the major focus areas of the project is the strengthening faculty research capacity through the provision of post-doctoral research fellowships for early and midcareer researchers at both UG and Makerere. Selected Fellows spend up to 6 months at the University of Cambridge to work with their Cambridge collaborators on a research topic which is relevant to building the research capacity of their Departments at the University of Ghana. The first cohort of the awards was made in May 2012 to eight (8) UG Faculty members from Biological Sciences and Engineering disciplines.

#### **Profiles of Award Winners**

**Dr. David Dodoo-Arhin** of the Department of Material Science and Engineering is working with Dr. Tawfique Hassan

of the Department of Engineering at Cambridge University on the project "Graphene Based Natural Dye Sensitized Solar Cells".

The project will investigate novel techniques in fabricating graphene-based counter electrode natural



Dr. David Dodoo-Arhin

DSSC with improved characteristics. Various tropical natural dyes (photosensitizers) from Ghana will be investigated and correlated with the solar cell parameters to improve on solar cell performance.

**Dr. Eureka Emefa Ahadjie Adomako** of the Department of Botany is collaborating with Mr. Steven Bentley of the



Dr. Eureka Emefa Ahadjie Adomako

National Independent Crop Research and Information Centre (NIAB) at Cambridge to conduct research on the "Characterization of wild and domesticated rice species in Ghana for subsequent investigations into drought tolerance". The project will seek to

promote the conservation of wild and domesticated rice varieties in Ghana.

Rice accessions collected during field surveys will be genetically analysed alongside geographical data to elucidate variations in population structure of Ghanaian rice vis-à-vis variations in ecology, soils and climate. The information

gathered would then be used to select wild lines and farmers' varieties as a focus for future investigations into drought tolerance.

Dr. Marian Agyiriwa Nyako of the Department of Biochemistry, Cell and Molecular Biology is working on the

project titled "Importance of carotenoid biosynthesis in asexual and sexual stage parasite development" with Dr. Oliver Billker of the Sanger Institute.

The project will combine pharmacological and genetic approaches to investigate the function of



Dr. Marian Agyiriwa Nyako

carotenoid biosynthesis in Plasmodium falciparum blood stage parasite development, and in the sexual stages that transmit the parasite to mosquitoes. The CAPREx fellowship will complement unique resources of laboratory in a malaria endemic country with access to skills and resources of a leading programme in malaria genetics at the Wellcome Trust Sanger Institute. Using field isolates from Ghana, this research will utilize drug inhibition of the carotenoid pathway to explore the cell biology of asexual and sexual stage parasites. The findings will significantly contribute to the understanding of the function of carotenoid in the malaria parasite.

Dr. Theresa Manful, Department of Biochemistry, Cell and Molecular Biology is collaborating with Dr. Mark Carrington



Dr. Theresa Manful

of the Department of

Biochemistry at the University of Cambridge to conduct research on "The epidemiology of lifetime infections with trypanosomes in individual cattle in Ghana".

The project will use

molecular fingerprinting to identify individual trypanosome genotypes and then to characterize the epidemiology of the trypanosome populations present in individual cows over their lifetimes. The outcome of this project will be a better understanding of animal trypanosomiasis and trypanosome biology, and will better inform control strategies for this disease.

Dr. Samuel Antwi-Baffour of the Department of Medical Laboratory Sciences of the School of Allied Health Sciences is working with Dr. Gavin Wright of the Sanger Institute on the

project titled "Identification of novel binding partners for GPI-linked P. falciparum merozoite surface proteins in parasite culture supernatants".



Dr. Samuel Antwi-Baffour

The aim of the project is to identify host binding partners for up to eleven

different GPI-linked P. falciparum merozoite surface proteins and also to validate any identified interactions. The approach will be to immobilize the recombinant P. falciparum merozoite surface proteins onto beads, present them to host serum/parasite culture supernatants, elute any bound proteins and identify them using mass spectrometry. Identified interactions will be validated by AVEXIS assay and surface Plasmon resonance.

**Dr. Augustine Ocloo** of the Department of Biochemistry, Cell and Molecular Biology is collaborating with Dr. Andrew Murray of the Department of Physiology, Development

and Neuroscience at the Cambridge University on the project "Mitochondria as pharmacological targets for pharmacological and toxicological evaluation of medicinal plant extracts". The study seeks to understand the effect of extracts of Ghana's



Dr Augustine Ocloo

medicinal plants on mitochondrial function in vitro. Since mitochondria are also known to be responsible for producing about 90% of cellular energy, they are involved in host of cellular processes and have been implicated in many disease conditions. Mitochondria are also known to be important in drug metabolism, either acting as primary drug targets or secondary targets for drug and could therefore be important targets for finding therapeutic treatment for many noninfectious diseases. In addition, many xenobiotics exert their toxicity through the mitochondria.

**Dr. Richard Osei-Amponsah** of the Department of Animal Science is working on the project titled "Genetic diversity,

linkage disequilibrium and genomic selection of the Ashanti dwarf pig of Ghana" with Professor Nabeel A. Affara and Dr. Carole Sargent both of the Department of Pathology at the University of Cambridge.



Dr. Richard Osei-Amponsah

The study is expected to show that application of genomic selection tools will enable genetic characterization and the establishment of a sustainable breeding programme for the Ashanti Dwarf Pig (ADP). It is also expected that the project will establish a breeding programme for the ADP based on the genomic selection scheme developed and also help to build human and institutional capacity in the management and characterization of swine genetic resources among others.

## **Dr. Patrick Kobina Arthur** of the Department of Biochemistry, Cell and Molecular Biology is working on the project titled, "Structural

Characterization of antimycobacterial compounds isolated from wood decaying fungi in Ghana" with Dr. Finian Leeper of the Department of Chemistry at the University of Cambridge.



Dr. Patrick Kobina Arthur

The study will search for new sources for new lead antimycobacterial compounds as a means of addressing the global problem presented by the rise in multi-drug resistant tuberculosis and other mycobacteria infections such as Buruli Ulcer. The project is designed to set up collaboration to conduct structural studies of isolated antimycobacterial compounds from wood decaying fungi found in Ghana which are a good source of isolation of antimycobacterial compounds.

#### **Intellectual Property**

#### **Promoting Innovation at the University**

The University of Ghana is instituting measures aimed at promoting innovation and the use of intellectual property systems by staff and students of the University. In line with this, the University under the auspices of the



Mrs. Diana Owusu Antwi Research Development Officer, IP

Office of Research, Innovation and Developing is developing an Intellectual Property Policy for the University. The Policy will provide the needed security and incentives to inspire the discovery of new knowledge and the development of innovative technologies at the University.

#### **Enhancing Technology Transfer**

The University is engaging industry to facilitate the conduct of demand driven research aimed at addressing the technological needs of economic sectors of the country. In line with this, the University is collaborating with the Ministry of Environment, Science, Technology and Innovation to promote the development of innovative technologies by the university and the transfer and diffusion of these technologies to industry.

#### **Intellectual Property Awareness Creation**

The University organized a seminar on the theme "Intellectual Property - Harnessing the Next Generation of Innovators at the University of Ghana."

Prof. John Gyapong, the Pro Vice Chancellor (Research, Innovation and Development), in his welcome address, emphasized the need to harness the innovative capabilities of our scientists so as to achieve a knowledge based economy status. The Vice-Chancellor Prof. Ernest Aryeetey also stressed on harnessing the ingenuity and creativity of researchers and scientists in order to offer innovative solutions to the myriad of challenges being faced by Ghana and the world at large.

Other speakers included Mrs. Diana Adobea Owusu Antwi, a Research Development Officer at ORID. She laid emphasis on the Intellectual Property Policy that is being developed for the University. The Director of the Legal Affairs Division of the Ministry of Trade and Industry; Mr. Kwame Fosu also highlighted on measures being taken to promote the use of Intellectual Property systems in Ghana. Miss Freda Esiman Oclo delivered Mrs.

Sarah Anku's presentation on behalf of the Registrar General's Department (RGD). She brought to the fore, the role of the RGD in promoting the use of Intellectual Property systems in Ghana.

Two scientists of the University highlighted some innovations for which the opportunities for protection had been missed. They attributed this to the lack of an intellectual property system at the University and lauded ORID on the measures being put in place to promote the use of Intellectual property systems at the University. Prof. Esther Sakyi-Dawson of the Department of Nutrition and Food Science, showcased some innovative food processing technologies at her department whilst the Director of the Institute of Agricultural Research Prof. Macarius Yangyuoru also showcased some innovative technologies developed by the College of Agricultural and Consumer Sciences.

### **University of Ghana joins WIPO University Initiative Programme**

The University of Ghana has been accepted as a Partner Institution under the World Intellectual Property Organisation (WIPO) University Initiative Programme. This initiative will provide assistance to the University in the following areas; the development of technology management infrastructure; human capital skilled in intellectual property, technology management and knowledge dissemination, amongst others. These support systems will facilitate the effective use of intellectual property systems by scientists and students of the University. This is expected to help place the University of Ghana at the fore front of innovation for the benefit of Ghana at the world at large.

## Towards a UG-wide Ethical clearance System

Another exciting development at the University of Ghana this academic year is the drafting of a policy on the ethical conduct of research by the Office of Research, Innovation and Development (ORID) which aims at establishing a University-wide system for ethical clearance involving both human and non-human research subjects.

The University previously engaged the Noguchi Memorial Institute for Medical Research – Institutional Review Board (NMIMR-IRB) and the Noguchi Memorial Institute for Medical Research – Institutional Animal Care and Use Committee



Ms. Helen Baidoo IRB Administrator, NMIMR

(NMIMR – IACUC) for all human and animal research protocols respectively. However to ensure proper oversight and regulation of research, UG currently maintains three separate independent ethics committees. The new addition to the above list is the Ethics Committee for the Humanities (ECH).

Whilst the NMIMR-IRB is responsible for all medical and health related protocols, the Ethics Committee for the Humanities (ECH) is responsible for all research protocols



Mrs. Docas Opai-Tetteh ECH Administrator, ISSER

within the humanities subject areas. This new ethics committee is housed in the Institute for Statistical, Social and Economic Research (ISSER).



#### **Promoting Research Uptake at UG**

Driven by the desire to become a world-class institution both in research and teaching, the University of Ghana accepted an invitation from the Association of Commonwealth



Mr. John Anoku Research Developing Officer in Charge of Ethics & Research Uptake

Universities to submit an expression of interest for a project on Development Research Uptake in sub-Saharan Africa (DRUSSA). In February 2012 the University of Ghana was selected to be a member of the 24 Universities who will participate in the programme for the

next five years. DRUSSA is designed to support and facilitate institutional change within the participating universities and research institutes so as to build and strengthen their internal capacity and expertise in research uptake in order to impact policy.

In line with DRUSSA activities, a sensitization seminar was organized by ORID on Research Uptake which provided a forum for discussion on how research at the University of Ghana can make an impact on policy for national development. Four Research projects which have impacted policy were presented to participants. This has created the platform for more sensitization on Research Uptake at the University of Ghana.

It is exciting to know such research has impacted policy and the forum has provided the opportunity to showcase more research and inspire more researchers to gear their works towards impacting policy.

Prior to organizing the seminar, the University of Ghana hosted the West African flagship of universities across its region on a short training course on Research Uptake and Utilization and Science Communication organized by CREST. The training was attended by more than 30 delegates from 5 institutions including Kwame Nkrumah University Science and Technology (KNUST)- Ghana, Obafemi Awolowo University, University of Ibadan and University of Calabar, all in Nigeria. As part of the programme, each University has a "Group of 24 members" who champion DRUSSA activities in their institutions.

#### **ORID External Funds Units**

The finance section of the Office of Research, Innovation

and Development (ORID) facilitates application for grants and ensures fiscal management of grants and contracts awarded to the University. The research agreement and the financial budget must be in line with the University's policy on indirect costs. Many grant-



Mr. Colins Amofa Projects Accountant

awarding

bodies and contracting organizations stipulate conditions under which their funding is given. Even though it is the responsibility of the named supervisor or grant holder to ensure that conditions of funding are met, ORID ensures proper financial management required by the donor and timely submission of report. ORID will continue to work with researchers to ensure a seamless process to ensure timely release of funds and appropriate financial reporting.



Participants at a Research Uptake Seminar

#### Grants contracted/renewed in 2012/2013 Academic year

PROJECT TITLE (FUNDING AGENCY)	LEAD RESEARCHER	TOTAL BUDGET
Nutrition for Health and Socioeconomic Devpt.in sub-Saharan African (IDRC)	Prof. Anna Lartey	CAD 720,600
Disaster Mitigation for Sustainable Livelihoods Programme (USAID)	Prof. J. Songsore	CHF 75,455
World Metro.& Start (WMO)	Prof. Chris Gordon	EUR 324,400
International Lipid - based Nutrient Supplement Studies (BMGF)	Prof. Anna Lartey	USD 2,861,092
Ghana Biodiversity Informatics (JRS Biodiversity Foundation)	Dr. Alex Asase	USD 198,400
Joint Complementary Food Project (Ajinmoto-Japan)	Prof. Tano Debrah	USD 282,615
Beckwith International Leadership Development (British Council)	Dr. E. Owusu - Ansah	GBP 126,760
Migrating out of Poverty (University of Sussex)	Prof M. Awumbila	GBP 77,094
Building Capacity to meet Climate Change Challenge (open Society Institute)	Prof. Yaa Ntiamoa-Baidu	USD 1,638,677
Enhancing UG Capacity to deliver post-graduate research and training Phase II (Carnegie Corporation)	Prof. Yaa Ntiamoa-Baidu	USD 2,350,000
Building Stronger Universities - Growth and Employment (DANIDA)	Prof. Robert Hinson	DKK 2,509,542
Building Stronger Universities - Environment and Climate (DANIDA)	Prof. P Y. Yankson	DKK 2,000,000
Earth Science Capacity Building (Ghana Government)	Prof. Daniel Asiedu	GHS 500,000
Proteomic Analysis of the Molecular Mechanism of Latency (Grand Challenges Canada)	Dr. Patrick Kobina Arthur	CAD 113,000
DNA Bar Coding and Conservation of Trees Species (JSR Biodiversity Foundation)	Prof. Gabriel Ameka	USD 199,520
The Partnership for African Social & Governance Research (PASGR)	Dr. Akosua Darkwah	USD 59,235
China Goes Global - Study of Chinese Hydropower Dams (SOAS)	Prof. P. Y. Yankson	GBP 39,432
Urban African Project (EU)	Prof. P. Y. Yankson	EUR 148,400
The Partnership for African Social & Governance Research (PASGR)	Prof. E. Bortei-Doku Aryeetey	USD 59,235
Cambridge African Partnership for Research Excellence (Carnegie Corporation)	Prof. Yaa Ntiamoa-Baidu	USD 396,019
Building Capacity for sustainable livelihoods and health (McGill University)	Dr. Esi Colecraft	USD 1,657,252



 $Administrative \ \& \ Research \ Support \ Team$ 



National Service Personnel



#### **Inaugural Lectures**

As part of University of Ghana's role to inform and educate the public on the achievements, breakthroughs and innovations of its faculty members, the 2012/2013 academic year witnessed inaugural lectures on various issues presented by distinguished faculty members in their areas of expertise.

## Black flies, Mosquitoes, and Sand flies: What have Entomologists ever done for NTDs and Malaria Control?

In the lecture, Professor
Boakye mentioned that
most of the Neglected
Tropical Diseases and
Malaria are vector-borne
and involve insects
- e.g. black flies for
onchocerciasis, mosquitoes
for malaria and LF and sand
flies for leishmaniasis. These



Professor Daniel Adjei Boakye

vector-borne diseases cause untold hardships to millions across the world.

Professor Boakye's research areas are in diagnostics and bio-diversity issues in insect vectors and parasites, Control of vector-borne diseases and Neglected Tropical Diseases (lymphatic filariasis, onchocerciasis, cutaneous leishmaniasis, malaria and schistosomiasis, soil transmitted helminthiasis and buruli ulcer) and the role of parasitic infections in the modulation of the immune response towards allergic disorders.

#### Impacting Food Security in Sub-Saharan Africa: Developing New Crop Varieties for a Hungry and Changing West Africa

In his lecture, Professor Danquah said food insecurity is a major challenge across generations, and currently, nearly 900 million people are hungry globally, with about 17% of West Africa's 280 million people facing food insecurity.



Professor Eric Yirenkyi Danquah

Predicting that this situation was likely to worsen due to the convergence of factors such as high population growth rates, deteriorating soils, water scarcity and climate change, Professor Danquah saw an urgent need to increase the productivity per unit area of the staple crops of West Africa.

His main research areas are genetic diversity in crop plants and associated pests, biotechnologies in crop improvement, and farmers' knowledge in plant breeding.

### The Driver and the Mate: Gender Politics in Africa and Social Transformation

In her lecture, Professor Adomako Ampofo described gender relations in Africa as akin to the relationship between the



Professor Akosua Adomako Ampofo

driver and the "mate" of the popular road transport vehicle in Africa, called the "tro-tro" in Ghana. She noted that even though it appears the driver controls affairs, in reality the mate could "subvert" the driver or the passengers. She thus described the politics of gender in Africa as

"interesting, complex, but also troubling".

Prof. Adomako Ampofo's area of interest is in Higher Education; Gender, Power, and Socialisation; Women in Popular Music; Sexualities; Constructions of Masculinities; and Race, Ethnicity and Identity Politics.

## Aggrey-Frazer Guggisberg Lectures

#### "Recovery" to Development

The 2013 Aggrey-Fraser-Guggisberg Memorial Lectures under the theme "Beyond

Recovery" took off at the Great Hall of the University of Ghana with an impressive ceremony which attracted large sections of the University community and the general public.

The Guest Speaker for



Professor Thandika Mkandawire

this year's lectures, Professor Thandika Mkandawire, the first Chair in African Development at the London School of Economics trailed Africa's beleagured attempts at growth and development since the independence era, the attempts at recovery and the road to sustained development.

He said that inconsistencies in prescribing a panacea to Africa's woes mostly by external forces, which saw the continent wander through various reforms such as pricing, governance, structural adjustments as well as a lack of investment in the 90's among others have been responsible for the continent's underdevelopment.

He noted however, that the wind of political change has swept across the continent with the end to military rule and the advent of democracy, increases in export values, investments in technology and telecommunications, linkages to more dynamic economies such as the Americas and Asia and the emergence of new aid partners such as China and India are propelling a slow but sturdy road to recovery

#### **Inter-faculty Lectures**

At the University of Ghana, the delivery of interfaculty lectures rotates from faculty to faculty annually. This year's interfaculty lectures were hosted by the Faculty of Arts. In all, nine faculty members made presentations. Below are the names of presenters as well as the title and a brief summary of each lecture. The lectures were chaired by the Dean of the Faculty of Arts, Rev. Prof. Cephas Omenyo.

### 'Returning to our spiritual roots': African Hindus in Ghana negotiating religious space and identity

In this paper, Rev. Dr. Atiemo examines the phenomenon of the 'African Hindu' within the context of current discussions about the so-called 'neo-Hinduism' and 'transnational

Hinduism.' He also discusses how African Hindus resort to a reinterpretation of the history of their traditional religion and culture in their attempt to find religious space in the almost choked religious environment of Ghana, and also how they attempt to negotiate their



Rev. Dr. Abamfo Atiemo,

new religious identity in relation to their identity as Africans (Ghanaians). He concludes with a prognosis of the form that

Hinduism is likely to assume on Ghanaian soil in the near future as its African converts attempt to live their faith in the context of their local culture.

### Colonialism in boxes: Reconfiguring Identity in El párroco de Niefang by Joaquín Mbomio Bacheng

This lecture examines the narrative strategies in the novel El párroco de Niefang (1996) by the Guinean writer Joaquín

Mbomio Bacheng. It specifically looks at the way that such strategies are used in an attempt to reject the identities shaped through the cultural legacy of Spanish colonialism and its political, religious, cultural, economic and linguistic influences on the



Dr. Clelia O. Rodríguez

various ethnic groups that live in this territory. Rodríguez identifies how cultural inscriptions are reconfigured and re-cartographed by the narrator through the use of memory and finds that the author proclaims the urgent necessity to correct what has been assumed about this nation. The creation of this narrative-map allows the reader access to a country that has been religiously assimilated to Spain, but where these same notions are rejected through the construction of a certain African identity. Throughout the novel one notices geographical references that are subsequently altered by the narrator through his intimate knowledge as uninscribed Guinean history. It is demonstrated that with each notification and modification, the narrator configures new spaces that produce new knowledge. The narrative thus provides another way to read Guinean history and the experiences of its people.

### JB Danquah and Kwame Nkrumah's Conceptual Congruencies and Divergences

In Ghana it is axiomatic that the lives and thought of JB

Danquah and Kwame
Nkrumah have influenced
the historical political
narrative of the country and
the contemporary cleavage
of its political-ideological
space into two broad fields
- the Nkrumaist/socialist
and the Danquah-Busia
traditions that espouse



Dr. Martin Odei Ajei

liberal economic and political viewpoints, respectively. Debates between these two sides in the public sphere habitually suggest deep, almost diametrically opposed, conceptual divisions which are held as deriving ultimately from the ideas of Danquah and Nkrumah. This paper contests the assumed diametrically opposed conceptual divisions between the two traditions by emphasizing the substantial philosophical positions that they shared and suggesting that what separates them is essentially divergent political interpretations of these basic philosophical positions, occasioned by the demands of political strategy rather than by fundamental conceptual differences.

## Talking Hands, Listening Eyes: Explaining the Nature, Structure and Status of Ghanaian Sign Language

As the mother tongue of one of the most marginalized people in society everywhere in the world, Sign languages are not only misunderstood, but they are also sometimes despised as a result of our misunderstanding of their



Dr. George Akanlig-Pare

nature. Sign languages are often misconstrued to be a series of ad-hoc gestures, unsystematically put together by the deaf community to meet their communicative needs. In this paper, Akanlig-Pare describes the nature and structure of Ghanaian Sign

language to show that, like every spoken language used by the Hearing, it is a fully fledged natural language that is used to fulfill the communicative and social needs of the Deaf community in Ghana. As a fully fledged natural language therefore, Ghanaian Sign language manifests all the features of human language, and as such it can be taught, learned and developed to a level that it can be used to talk about just any human endeavor.

### The Interface between Modern Languages and Globalization – The Russian Language Question

Globalization in Russia is directly linked with the development and spread of the Russian language. The concept cannot be linked to just contemporary Russian literary language, or even to a particular era, though the globalization process has sped up in the last two decades. The paper assesses globalization trends in the Russian society and its relation with the Russian language and



Dr. Albert Antwi-Boasiako

maintains that globalization has had a palpable impact on the development of the Russian society and the Russian language. Using the case of Russian, the paper attempts to establish the impact of globalization on the use and development of modern languages. It

maintains that since globalization makes it easier for people to communicate locally and internationally, there is the need to revitalize not only modern languages but other prominent languages for society's use.

#### Ghana's Contribution to the Promotion of Swahili: Challenges and Prospects for African Unity

This lecture discusses Ghana's contribution to the promotion of Kiswahili in broadcasting and teaching and learning.

Ghana has been associated with the Swahili Language for

over fifty years from the days of Nkrumah. Against this background, the paper attempts to give a survey of the history of the Swahili Language in Ghana from the days of Nkrumah, who is said to have been a keen supporter of the advocacy for the adoption of Kiswahili



Dr. Josephine Dzahene-Quarshie

as a Pan-African language. This is done by appraising its history in the various institutions that have been associated with it in the past and present. The lecture also focuses on the challenges that have led to a decline in enthusiasm for the consolidation of Swahili in Ghana. Particularly, the paper highlights the challenges confronting the teaching and learning of Kiswahili in Ghana and the ways in which its promotion in Ghana can contribute to Pan-Africanism and the realization of a united Africa in terms of a common language. In conclusion, it calls for an increased effort and enthusiasm from the East African Community to promote Kiswahili in the rest of Africa.

#### Theatre, Eco-Education and National Development

Rev. Dr. Asiama observes that when what nature offers is presented on stage to an audience, by enhancing the actions through the use of external or body extensions and spectacle, and by mirroring and imitating life, theatre and drama

unfold simultaneously. He asserts that Nature is the source of life and it offers ingredients for the creation of theatre, and that through Eco-education, learners acquire knowledge and skills by observing what is in nature. He is also of the view that the ecology of

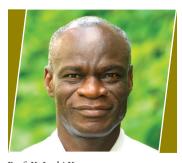


Rev. Dr. Elias Asiama

a given place may provide all that individuals, communities and nations might need for their self-development or for the development of the nation at large. He demonstrated the link between the environment, creativity, and inventiveness that makes teaching and learning effective. He argues that, the informal education methodologies are rooted in the culture and traditional practices of a people, which should not be underrated. Some of these are the music, dance, and rituals of a people. Asiama explores these propositions among the Buem people of the Northern part of the Volta-Region, Ghana and concludes that close observation and examination of their indigenous practices reveal the importance and place of culture in their development. His findings suggest that their direct touch with nature has had a direct bearing on their worldview.

## Knowledge Production in the "Post" Era: Africanist Debates and Positions in the Humanities and Social Sciences

This lecture reviews the historic developments on the field of knowledge that inaugurate the "post" consensus. It presents and assesses the arguments by which the "post" consensus has knocked down its traditionalist counterpart and asserted the supremacy of the alternative terms it offers. The lecture examines the Africanist response, in contentious debate, to



Prof. K. Larbi Korang

the institution of the "post" consensus. This debate turns around the question: Is the Africanist posture visà-vis the "post" consensus to be one of outright rejection or of accommodation and negotiation? Finally, the lecture provides Larbi Korang's own position with

regard to the question of whether knowledge of and for Africa is ill-served or well-served by its conduct in the terms offered by the "post" consensus.

#### "I am a Pastor ... Not a Politician": Language, Politics and Religion in Ghana's 2012 Elections Campaign

The lecture examines the linguistic presentation of religious leaders when they feel the need to comment on socio-economic and political matters. In particular, it examines the uncomfortable discourse that ensued among some



Prof. Nana Aba Appiah Amfo

religious (Christian) leaders in the heat leading up to the 2012 elections; some of such discourses sometimes evolved from issue-based to personality-based discussions. The lecture explores the discourse and linguistic strategies employed by

both religious leaders and politicians in such exchanges. It reviews previous research which proposes that interactants in political discourses abstain from candor and openness and rather indulge in indirectness strategies such as evasion, circumlocution, innuendos and metaphors.

Overall, techniques such as persuasion, rational arguments, entreaties, inneundos and circumlocution are employed by both parties. In particular, the lecture provides a textual analysis of some statements issued by religious leaders and politicians during the 2012 elections campaign. It examines how issues of cohesion, politeness, ethos and wording are managed in the religious leaders' attempts to convince the electorate about their views on specific issues at stake. It concludes that it is the context of communication, more than the genre, that determines the choice of linguistic strategy.

#### **Occassional Lectures**

The Vice-Chancellor's occasional lecture series was instituted to provide an opportunity to the academic community to interact with professionals who are accomplished in their fields of endeayour.

#### "Continuing and New Challenges in Global Heath".

Professor Peter Piot, Director of the London School of Hygiene and Tropical Medicine, delivered a lecture organised by the Noguchi Memorial Institute for Medical Research's (NMIMR), under the Vice-Chancellor's occasional lecture series. He spoke on the topic, "Continuing and New Challenges in Global Heath". Prof. Piot, the second recipient

of the Hideyo Noguchi
Africa Prize for Medical
Research, gave a thorough
insight on the global
health changes that have
taken place over the last
decades as cities develop.
He observed that although
other parts of the world are
experiencing high growth



Prof. Peter Piot

rate and development, Sub-Saharan Africa continues to face considerable challenges in terms of infectious diseases, maternal and child health and under nutrition. These he attributed to climate change caused by increased Carbon

Dioxide in the atmosphere, rapidly rising environmental degradation, health precipitation, heat waves, and floods, among others.

### "Land Degradation in Africa - A Threat to Food Security in The Region".

The Executive Director of the West African Science Service Centre on Climate Change and Adapted Land use (WASCAL), Prof Paul L. G. Vlek delivered a lecture on the topic, "Land Degradation in Africa - A Threat to Food Security in The

Region". He observed said that in order to improve food security, countries must deal with developmental issues without denying other continents the opportunity to develop. He therefore called on all policy makers to implement policies that



Prof Paul L. G. Vlek

deal with poverty and the equitable distribution of wealth of the nation. Drawing on the extent to which land degradation can be related to climate change and population, Prof Vlek observed that over population and continuous land use leads to high nutrient losses which causes land degradation. He however highlighted that the practice of recycling and fertilization will replenish the land and ensure food security.





#### Prof. Dzodzi Tsikata Elected Vice-President of CODESRIA



Prof. Dzodzi Tsikata

Professor Dzodzi Tsikata,
Associate Professor, ISSER
and Director of the Centre
for Gender Studies and
Advocacy (CEGENSA), was
elected Vice-President of the
Council for the Development
of Social Science Research
in Africa (CODESRIA) for a
three year term (2012-2014)

by the 13th General Assembly of CODESRIA held in Morocco on 5-9 December 2011

CODESRIA, recognised as the pioneer African social research organisation and the apex non-governmental centre of social knowledge production on the continent, was established in 1973 as an independent pan-African research organisation primarily focusing on social science research in Africa. CODESRIA's mission was the emergence of a pan-African community of researchers, the protection of their intellectual freedom and autonomy in performing their duties and the elimination of barriers regarding language, discipline, region, gender and generation. Its objectives are to promote and facilitate research and knowledge production in Africa using a holistic, multi-disciplinary approach.

**Dr James Futse** Wins Research Grant From The Welcome Trust Dr. James Futse of the Department of Animal Science at the University of Ghana's College of Agriculture and



Dr James Futse

Consumer Sciences has been awarded a US\$1,206,327 research grant by The Welcome Trust to undertake a study in Anaplasmosis Vaccine Development. Dr. Futse has done extensive research on ticks and infectious diseases. This placed him in good stead

to win this worldwide and prestigious competitive research grant.

Anaplasmosis is the most prevalent tick transmitted disease of cattle in Ghana, accounting for about 40% of cattle mortality from vector borne diseases. Current knowledge of the immunogens that form the basis of vaccine efficacy is based on strains isolated only in North America. Whether these immunogens are representative of strains in other parts of the world, specifically in West Africa, is unknown and

represents a significant gap in knowledge. Consequently, the question of whether a single-global vaccine will provide protection against strains in West Africa or whether regional vaccines will be required remains unanswered. In a set of linked experiments, Dr. Futse will determine if the endemic strains in Ghana differ from the North American strains. He will also test in containment trials whether the relevant vaccine induces protection against the endemic Ghana strains, and test efficacy and impact in an endemic zone field trial.

### Professor John Gyapong delivers Commemorative Fund

Professor John Gyapong, Pro Vice Chancellor for Research Innovation and Development has delivered the Commemorative Lecture of the 61st American Society of Tropical Medicine and Hygiene (ASTMH) in Atlanta, Georgia, USA. The Commemorative Fund Lecture is delivered by an outstanding leader in the area of Tropical Medicine and Public Health at the annual ASTMH meeting which is a gathering of about four thousand public health specialists from across the world. Professor Gyapong was selected by the panel of experts according to the President of the ASTMH Professor James Kazura: "Because of his outstanding leadership in the control of Neglected Tropical Diseases and multiple additional aspects of human health throughout Africa and the world".

In advertising the event, the ASTMH said: "Continuing the tradition of providing conference attendees with a world-class faculty at the premier annual meeting for tropical medicine, hygiene and global health, a public health physician and epidemiologist John Gyapong, will deliver the Commemorative Fund Lecture at the ASTMH Annual Meeting in Atlanta. He was later presented with a memento of the American Society of Tropical Medicine and Hygiene for his outstanding work.



#### Prof. Steiner-Aseidu Receives AU Nkrumah Scientific Award



"Prof. Matilda Steiner-Asiedu, Head of Department of the Nutrition and Food Science, has been named the Western Region Laureate for Life and Earth Sciences Sector under the African Union Nkrumah Scientific Awards, Laureates for the Regional Awards 2012 Edition.

Prof, Steiner-Asiedu collaborates with sister universities in research to improve nutrition and health, especially among children and women since they are the most vulnerable in society. She is able to bridge the gap between cultural barriers to ensure successful planning and implementation of the field activities in Ghana. She continues to work collaboratively with professors from other universities, such as the University of Georgia, Brown University, and the University of North Carolina at Chapel Hill, all in the United States of America.

The African Union Commission launched the prestigious African Union Kwame Nkrumah Scientific Awards Programme on 9th September 2008. The objective of the programme is to give out awards to top African scientists for their scientific achievements and valuable discoveries and findings. The programme is implemented at the national level for young researchers, at the regional level for women scientists and at the continental level for all scientists. The continental level is the highest level of the programme. Prizes are awarded to top African scientists in each of the following two sectors: (a) Life and Earth Sciences; and (b) Basic Science, Technology and Innovation. Each successful laureate walks away with a Cash Prize of USD20,000, a Medal and a Certificate.

#### Prof. William Ampofo Wins College of Health Sciences Best Researcher's Award

Prof. William Kwabena Ampofo, Associate Professor and Head of Virology Department, Noguchi Memorial Institute

for Medical Research,
College of Health Sciences,
University of Ghana,
Legon, received the best
researcher award for the
health sciences, 2013. The
award was given him by the
College of Health Sciences
in recognition of his
contribution to promoting



Prof. William Ampofo

the CHS as a place of learning, research and excellence in the University of Ghana.

Prof. Ampofo's hard work, discipline, dedication to duty and devotion to the vision and objectives of his Department and Institute resulted in his being nominated to participate in various academic and extension activities, culminating in the award of a US Department of Defence Global Emerging Infections Surveillance and Response program Medal of Achievement in 2009 and also a Commonwealth Scholarship Commission Fellow at the World Health Organization Collaborating Center for Influenza, National Institute for Medical Research, U.K.

His specific achievements include the first isolation of wild type poliovirus in Ghana, the confirmation of the first cases in 2007 of a highly pathogenic avian influenza H5N1 virus in Ghanaian poultry, the establishment of the National Influenza Center in Ghana (2007) and the supervision of the laboratory detection of the first ever cases of Lassa Fever virus infection in rodents and humans in Ghana. He has also contributed to teaching and research on HIV, Hepatitis, Influenza and Poliomyelitis, among others.

### **Dr James Brandful of NMIMR Wins Vice Chancellor's Award**

The Vice Chancellor's
Academic Prize for the
Outstanding Doctoral
Dissertation in Science
for 2012 was awarded to
Dr James A.M Brandful
on May 4th, 2012. The
award was for his doctoral
thesis in Medical Micro



Dr James Brandful

-biology, titled 'Genotypic and Phenotypic Characterization of HIV Type 1 in Parts of Ghana'. The study examined 40 samples collected in 2002/3 from HIV-1 AIDS disease and asymptomatic patients prior to antiretroviral therapy (ART). The focus was on under-investigated areas of Ghana, specifically in the middle and northern belts. Genetic diversity and the potential for emergence of resistance to antiretroviral drugs in this group and the implications for ART were examined.

#### **Prof. Dorothy Yeboah- Manu**

Prof. Dorothy Yeboah-Manu was awarded an Intermediate Fellowship in Public Health and Tropical Medicine by the Wellcome Trust following a highly competitive application process. The Wellcome Trust is a global charitable foundation dedicated to achieving extraordinary improvements in human and animal health. The award is to enable Dr. Yeboah-

Manu conduct research entitled 'Understanding the genetic diversity between Mycobacterium Africanum and Mycobacterium Tuberculosis'. The five-year fellowship began in January 2012.



Prof. Dorothy Yeboah- Manu

#### **DR Kwadwo Asamoah Kusi**

Dr Kwadwo Asamoah Kusi of the Immunology Department is the proud recipient of the science achievement gold award at the 1st National Youth Achievers Awards



Dr. Kwadwo Asamoah Kusi

(NYAA), held at the Accra International Conference Centre on 25th October 2012. The awards scheme for youth between the ages 15 and 35 years was instituted under the auspices of His Excellency John Dramani Mahama, President of the Republic

of Ghana for youth considered to have made a significant contribution to their field of endeavour. The programme was organized by Charter House Productions with sponsorship from RLG Communications Ghana Ltd.

#### **DR Anthony Ablordey**

Dr. Anthony S. Ablordey of the Bacteriology Department participated in the 61st Meeting of Nobel Laureates in Lindau, Germany. The Lindau Laureate Nobel Meeting, held annually, provides a



Dr. Anthony Ablordey

globally recognised forum for knowledge exchange between Nobel Laureates and young researchers who have passed a multi-stage international selection procedure. The meetings also help to establish international networks of scientific excellence sustained by an expanding alumni network. Since its inception in 1951, the Lindau Laureate Nobel Meeting offers the platform for intimate rounds of interdisciplinary discussions amongst the Laureates and the young researchers. During the meeting, lectures and seminars are presented by 24 of the Laureates with young researchers from 81 countries in attendance, thereby making possible encounters among the scientific elites of today and tomorrow whilst encouraging the young researchers and inspiring them in their own research.

### Dr. (Maj. Rtd.) George Awuku Asare Proves The Ability Of Croton Membranaceus To Treat Prostate Diseases

Dr. George Awuku Asare's research focus is in tumourigenesis, carcinogenesis and oxidative stress, but



Dr. (Maj. Rtd.) George Awuku Asare

largely in Phytotoxicity and Phytotherapy. Under his leadership, the Prostate Research Team and co-investigators from NMIMR and the Center for Scientific Research into Plant Medicine (CSRIPM), through UGRF-ORID, took it upon itself to isolate

10 Ghanaian medicinal plants that could treat fibroid and prostate diseases. The group began its work in 2009 with three medicinal plants, namely Phyllanthus niruri, Moringa olifera and Croton membranaceus. Vigorous screening of these plants for toxicity at the acute and sub-chronic levels was undertaken. Croton membranaceous was focused on. Evidence has been provided for the first time with histological proof of the ability of C. membranaceus to treat prostate diseases.

The researcher, in collaboration with other research

institutions, has begun building the first "Serum Bank" from volunteers who have opted for the use of C. membranaceus in the treatment of their prostate conditions in a major hospital in Accra. Evidence of the treatment potential of C. membranaceus for benign prostate hyperplasia (BPH) has so far been provided for at least five social groups and this has drawn participants from Accra and Togo into this large observational study that seeks to establish total efficacy and the underlying mechanism(s) as well as possible side effects.

## **University of Ghana Medical School Leads Development of Global Toolkit for Drug Safety Monitoring**



Prof Alex Dodoo

The University of Ghana Medical School's WHO Collaborating Centre for Advocacy and Training in Pharmacovigilance has developed a toolkit for drug safety monitoring to be used worldwide. Prof Alex Dodoo, Director of the WHO Collaborating

Centre in Ghana, said "The production of the toolkit in Ghana demonstrates that emerging countries can develop and share world standard knowledge and resources among themselves if they are given an enabling environment and appropriate support".

The release from the World Health Organisation (WHO) states that the Pharmacovigilance Toolkit brings under one umbrella all WHO PV publications and (with permission) resources and information from other organisations on pharmacovigilance (that is, monitoring or surveillance of the safety of drugs in use in medical practice). The toolkit consists of a package of tools and a description of the supporting processes that are needed for the effective conduct of pharmacovigilance.

The main aim of the toolkit, the statement added, is to ensure that pharmacovigilance practitioners in low- and middle-income countries get access to the best information on the processes and activities involved in pharmacovigilance from a trusted source. All the material in the 'PV Toolkit' was endorsed by the WHO Advisory Committee on the Safety of Medicinal Products after the original text had been written by selected experts and then edited by an internal team at the Uppsala Monitoring Centre, Sweden and the Uppsala Monitoring Centre-Africa (Ghana).

Funding for the toolkit development was provided by the World Health Organisation. The Toolkit can be accessed online at www.pvtoolkit.org and is also available on USB drives in web-like format for use in areas where there is no internet connectivity. The current version of the Toolkit is in English, but it will be translated into other languages depending on the availability of funds and/or volunteers.

### Four Scholars Win American Council Of Learned Societies Awards

During the year under review, four awards were received under the ACLS AHP. Two of the awards were postdoctoral fellowships intended for early career development, while the remaining two were dissertation completion fellowships which allowed the awardees to complete their PhD theses for submission. The post-doctoral awardees were Dr. Vera Arhin (Language Centre) and Dr. Hudu Fushieni (Linguistics Department). The dissertation completion awards went to Mr. Reginald Duah and Mrs. Francisca Adjei, both of the Linguistics Department. Below are summaries of their individual projects.

### Oral Akan Discourse and its Influence on the Construction of Academic Disciplinary Genres



Dr. Vera Arhin

This project by Dr Arhin examines academic essays of some Ghanaian undergraduate students to determine the extent to which the rhetorical structure and norms of the oral Akan discourse community affect language use in academic contexts.

Through an analysis of the structure of oral Akan discourse, interviews, and 200 samples of undergraduate essays from a range of disciplines in the humanities and the sciences, the study reveals that some oral and cultural rhetorical practices of the subjects' antecedent genres, such as question and answer strategies of conversation, story-telling elements and argument structure based on the collectivist nature of an oral culture, influence their L2 text construction process.

### Theoretical Issues in Dagbani Phonology-Morphology Interface: A Cross Dialectal Investigation

The project by Dr Hudu investigates theoretical issues at the phonology-morphology interface, focusing on Dagbani. Processes investigated include vowel harmony, lenition, affixation, reduplication and grammaticalisation. Theoretical issues related to markedness and tongue-root features are



Dr. Fusheini Hudu

also examined. The theory of positional faithfulness within Optimality Theory was used in the analyses. Data were elicited from native speakers to complement existing data, and journal articles were drafted during a threemonth residency at Rhodes University, South Africa. The

research discovers that in addition to tongue-root harmony Dagbani has backness and rounding harmony patterns. It has raised important questions on the theory of phonological markedness and yielded comprehensive data on Dagbani reduplication.

### Learning to express motion events in Ewe -Mrs. Francisca Adjei

This study was inspired by the findings of two linguists, Talmy and Slobin. Talmy proposed that languages fall into two main types, on the basis of where the Path of motion is represented in a sentence expressing a motion event. Slobin's recent research on linguistic relativity (thinking-forspeaking hypothesis) indicated that language particulars shape our representation of motion. The findings of this study, among others, indicate that although Ewe-speaking children's motion expressions do not correlate to those of adults, their rhetorical styles have already shown the overall prototype of the typological characteristics of Ewe at age 3, showing some support for universal as well as language-specific factors in language development.

### **Force-Dynamics and Causation in Akan**

This study by Reginald Duah investigates the expression of Force-Dynamics in Akan (Talmy 2000). Two main types of causatives are identified, namely non-periphrastic causatives (lexical causatives and cause-effect serial verb

constructions[SVCs]) and periphrastic causatives (analytic causatives). The study examines the syntactic properties of causatives and shows that while lexical causatives and cause-effect SVCs involve a monoclausal structure, the analytic causative displays



Reginald A. Duah

a more complex structure. Five event types of causation are identified, namely MANIPULATION, CREATE, TRIGGER, PROMPT and ALLOW, and their properties analysed through Talmy's Force-Dynamics framework.

### **Indian Council for Cultural Relations Fellowship**

Between June and August, 2012 Rev. Dr. Abamfo Ofori Atiemo went into residence at the Indian Institute of Advanced Study (IIAS) in Shimla on an Indian Cultural Council for Cultural Relations (ICCR) fellowship. The fellowship was in connection with



Rev. Dr. Abamfo Ofori Atiemo

research on African Hindus in Ghana. The fellowship enabled him to study first-hand aspects of Hinduism in its original Indian setting and gave him the opportunity to interact with top-notch Hindu scholars, including Professor Tiwari of the Banaras Hindu University (BHU). He also participated in the highly stimulating weekly seminars of the IIAS, at which he presented aspects of his research and a reaction paper to a presentation by Dr Veena Sharma. An article resulting from the research has been accepted for publication in a special issue of the Journal of East-West Thought, the official journal of the International Association for East-West Studies (IAES), California, USA.

### **Professor Kari Dako wins British Academy Award**

Professor Kari Dako of the Department of English won a British Academy Award in the amount of 30,000 pounds, in collaboration with Dr. Jo Shoba of Edgehill University in the U.K. The outcomes of the award include a book, three PhDs, a series of workshops to strengthen Research Methods training

for graduate students of English in two tertiary institutions in Ghana: University of Ghana and University of Education, Winneba. Under the grant, a British Academy UK-Africa Academic Partnership Conference was convened by Prof. Dako at the



Prof. Kari Darko

University of Ghana from 29th – 30th November, 2012, at which beneficiary PhD. students and other young researchers presented their work.

### Dr. Jemima Anderson Receives African Studies Association Presidential Fellowship Award

Dr. Jemima Anderson of the Department of English received the African Studies Association Presidential Fellowship Award in 2012. Dr. Anderson was one of three recipients of this award. The award, which was instituted in 2010, provides African scholars the opportunity to be based at Rutgers University and other US universities as visiting scholars. During her visit, Dr. Anderson delivered a public lecture at

James Madison University, West Virginia on the media portrayal of Africa's two female presidents: Ellen Sirleaf Johnson, Africa's first female president and Joyce Banda, Africa's second female president. Her presentation provided support for research



Dr. Jemima Anderson

findings that show that there are still biases that exist in the media representation of women.

### **Rose Mary Amenga-Etego wins two Awards**

Dr. Rose Mary Amenga-Etego of the Department for the Study of Religions won two prestigious research awards in



the 2012/2013 academic year: the 2012 CODESRIA Gender Institute on African Sexualities Laureate Award and the International Association for the History of Religions (IAHR) Africa Trust Fund Award.

Dr. Rose Mary Amenga-Etego

### Laureate of 2012 CODESRIA Gender Institute on African Sexualities

The laureate awards were to enable researchers from different parts of the continent delve into diverse studies on African Sexualities; an area that is increasingly becoming a topical issue in contemporary Africa. The award enabled Dr. Amenga-Etego to produce a book chapter entitled "Songs of Desire, Songs of Surveillance: Indigenous Music and Sexuality". The book, African Sexualities, is being edited by Sylvia Tamale and it will be published under the CODESRIA Gender Series.

### International Association for the History of Religions (IAHR) Africa Trust Fund Award

Dr. Amenga-Etego applied for and won this award in the amount of \$1,000 for her proposal to update her MPhil. dissertation on "Women in the Catholic Church in Ghana" (1998) to be published as a book.

### Prof. Helen Lauer Wins University of Ghana Research Grant.

Prof Helen Lauer of the Department of Philosophy and Classics received a University of Ghana Research Grant from ORID for the project: 'Canonical text resource-building through Ways of Analysis: methodological encounters with contemporary African philosophy. The project, which covers

two years from 2012-14, embraces two goals: (1) Importing recent titles for the research required to compose a basic primer in contemporary philosophical methods and results relevant to African philosophers. This has been contracted by Cambridge Scholars Publishing and



Prof. Helen Lauer

is scheduled for completion in June 2014. (2): Upgrading classics and philosophy reading rooms through mass electronic cataloguing of all holdings including these new acquisitions.

### Prof. Albert Amoah Wins Research Grants From Welcome Trust

Prof. Albert Amoah of the Department of Medicine and Therapeutics has won a 60 month award of USSD\$ 3,952,239 under a Human Health Heredity and Health in Africa (H3A) grant. Under the grant, Prof. Amoah will be researching on "Burden, Spectrum and Eatiology of type 2 diabetes in Sub-Saharan Africa". The research will be carried out in 12 African countries including Ghana.

Prof. Albert Amoah is the Founder of the Diabetes Clinic/ National Diabetes Management and Research Centre. Professor Amoah's career in Medicine spans three decades and encompasses expertise in several areas, including Diabetes, Hypertension and Cardiovascular Disease.



## Institute of Statistical, Socical and Economic Research (ISSER)

**ISSER** has been involved in numerous international research partnerships with

local, African, European and American research partners. ISSER has been in the forefront of conducting high quality policy-relevant and development-oriented research for planning monitoring and evaluation over the years.



**Prof.** Clement Ahiadeke Director, ISSER

A key strength of ISSER is the annual preparation,

publication and dissemination of the State of the Ghanaian Economy Report (SGER). This flagship document from ISSER is currently the best known independent assessment of the performance of the Ghanaian economy in terms of fiscal policies, monetary and financial developments, international trade and payments, performance of the agricultural, industrial and service sectors. Another novel publication by ISSER during the academic year was the Ghana Social Development Outlook for 2012. Other key publications of the Institute include Technical Reports, Discussion and Seminar Papers, Special Reports and Policy Briefs dealing with critical development issues in Ghana, and enhancing advocacy.

### Highlights of Some Major Research Activities for 2012/2013 Academic Year

### **Project Launch**

Some of the major research activities for the year include the following:

- Gender and Enterprise Development in Africa: A Cross-Country Comparative Study
- 2. Re-Launch of the Economy of Ghana Network II (EGN)

ISSER with the support of Canada's International Development Research Centre (IDRC) launched the Gender and Enterprise Development in Africa (GENDA Project). The GENDA Project is a cross-country collaborative research between Ghana, Kenya and Mozambique. The purpose of the GENDA project is to expand the boundaries of knowledge on enterprise development and entrepreneurship in Africa

by examining the dynamics of female and male owned

businesses and the factors that shape their characteristics and growth trajectories. Africa has seen a rising number of businesses founded by female entrepreneurs, but very little research has been done on this group. The project is being coordinated by Dr. Charles Ackah.



Dr. Charles Ackah

### The Economy of Ghana Network II

The Economy of Ghana Network II (EGN) was re-launched in 2013. The EGN is an internet based network that serves as a platform that allows all interested persons in the socioeconomic transformation of Ghana to share ideas and research findings on what they believe are some of the best policy options available to Ghanaian policy-makers. Due to the good performance of the first phase, the second phase was introduced to restructure and improve the network. The second phase is being hosted by the Institute and is funded by the African Capacity Building Foundation (ACBF). EGN is governed by a seven member governing council known as the Programme Steering Committee (PSC) made up of people operating in different parts of the economy.

### **Book Launch**

ISSER launched 3 books during the academic year. The books are the maiden edition of the Ghana Social Development



Three books Launched

Outlook 2012, Globalisation, Trade and Poverty in Ghana and the 21st Edition of the State of the Ghanaian Economy in 2011.

This maiden edition of *Ghana Social Development Outlook* **2012** examines the state of social development in Ghana,



with particular emphasis on policy trajectories and outcomes. It is inspired by past efforts at the Institute of Statistical, Social and Economic Research (ISSER) to document and analyse social policies and outcomes, notably, three editions of the Ghana Human Development Report (1997-2004) and the State of Ghana Population Report (2003). ISSER intends to produce Ghana Social Development Outlook every four years. The report has an overview and 12 chapters devoted to key aspects of social development – education, population, health, sanitation and water, housing, work and employment, land, energy, security, social relations, governance, and environment.

The book *Globalisation, Trade and Poverty in Ghana* was jointly edited by Professor Ernest Aryeetey and Dr. Charles Ackah.

The main question posed by the book is: "Who benefits from trade liberalisation in Ghana?" The findings presented in each of the eleven chapters in the book suggest that despite the fact that there are both positive and negative sides of trade liberalization; the negative side significantly worsens the plight of the poor in the country. The book recommended that government needs to pay more attention to educating the public, investing in capital and infrastructure and promoting good governance in order to address the deficits of trade liberalization and its negative effects on the poor.

### State of the Ghanaian Economy Report, 2011

The 21st edition of the State of the Ghanaian Economy Report (SGER), 2011, was launched by Professor John Gyapong, the Pro Vice-Chancellor (Research Innovation and Development), University of Ghana.

The Report, which presents the state of Ghana's economy in 2011, noted that Ghana's economy witnessed a 14.4% growth in the year 2011 mainly due to revenue from oil. To sustain this level of economic growth, it was suggested that government pays more attention to addressing the issue of youth unemployment in the country. Also, it was recommended in the report that measures should be instituted particularly to monitor the performance of workers in the public sector to ensure increased productivity and facilitate a sustainable economic growth. The overview of the report was presented by Professor Felix Asante.



Launch of the State of Ghanaian Economy Report, 2011

### Selected List of Research Project at ISSER in the 2012/2013 Acamedic Year

PROJECT TITLE (FUNDING AGENCY)	FUNDS AS AT 31/12/12	LEAD RESEARCHER(S)
Step Skills Measurement Study: Standardised Reading Literacy Test (World Bank)	US \$174,340	Dr. Simon Bawakyilenou, Dr. Isaac Osei-Akoto, Prof Clement Ahiadeke, Mr. Frank Octhere
Value Chain, Peasants, autonomy and capture in times of increasing integration of Global food market (VW Foundation)	€ 42,940	Dr. Martha A. Awo
Land Titling Project (World Bank, MiDA)	US \$ 96,996	Dr. Robert Darko Osei, Dr. Isaac Osei-Akoto
Evaluation of Maternal and new born referrals project (Univ. of North Carolina & Chapel Hill)	US \$ 162,510	Dr. Isaac Osei-Akoto, Kavita Singh Ongechir
Gendered Social Contexts of Adolescent HIV Risks Behaviors: Family, Peers and Community Influences in Ghana Wave 2 (George Washington University School of Public Health)	US \$ 199,893	Clement Ahiadeke, Elizabeth Asante, Jeffrey B. Bingenheimer
Global Employment Monitor (IDRC)	US \$ 55,300	Dr. Simon Bawakyilenou, Prof. George Owusu
Innovative Models for Secondary Education in Africa Scope of Work (Results for Development, Rockefeller Foundation)	US \$ 24,500	Dr. Ernest N Appiah
Assess child labour in Agriculture in Ghana (ILO/IPEC)	GH ¢408,033	Dr. Ernest N Appiah, Dr. Bernardin Senedza, Frank Octhere
Gender and Enterprise Development in Africa: A Cross-Country Comparative Study (IDRC)	US \$730,613	Dr. Charles Ackah
YouthSave Project (New American Foundation, Save the Children's Federation Inc., Center for Social Devt Washington Univ., St. Louis)	US \$ 108,373	Dr. Isaac Osei-Akoto, Dr Ernest N. Appiah
Impact Evaluation of the Labour Intensive Public Works Component of the Ghana Social Opportunities (Ministry of Local Government and Rural Development)	US \$ 171,519	Dr. Simon Bawakyilenou, Dr. Isaac Osei-Akoto, Prof George Owusu
Impact assessment of the LEAP poverty and Household Development (MESW)	US \$ 382,430	Dr. Robert Darko Osei, Dr. Isaac Osei Akoto
International Growth Centre (IGC)	US \$ 51,464	Director, ISSER
Feed the Future (USAID)	US \$ 487,750	Dr. Isaac Osei-Akoto & Frank Octhere
ISSER UNIVERSITY OF BONN (DAAD/ZEF)	€ 163,820	Director, ISSER
Green Economy Scoping Study (United Nations Environment Project/ MEST)	US\$ 10,000	Prof. Felix Asante, Dr. Simon Bawakyilenou
Financing Healthcare (EU/LSE)	US\$ 250,000	Prof. Felix Asante
Brooking AGI Project (Brookings Institute)	US \$ 115000	Prof Peter Quartey
Global Energy Partnership Sustainability Indicators in Ghana (CSIR-Forestry Research Institute and Institute of Industrial Research)	€ 8,200	Dr.Simon Bawakyilenou
Promoting Participatory & Evidence Based Agricultural Policy Processes in Africa (IFPRI)	US \$ 65000	Prof. Felix Asante
Economy of Ghana Network (The African Capacity Building Foundation ACBF)	US \$ 50,000	Dr. Robert Darko Osei, Dr. Patricia Aidam
Youth Employment Monitoring (IDRC)	US \$ 33,299	Prof. George Owusu
Think Tank Initiative (IDRC)	US \$ 554,532	Director, ISSER
AFRINT(III) Poverty Impacts of Straddling: Rural Income Diversification in Sub-Saharan Africa (Lund University)	US \$ 29000	Prof. Daniel Sarpong, Dr. Fred Dzanku
Impact Evaluation of the Farmer Based Organisation (MiDA)	US \$ 187,518	Dr. Robert Darko Osei, Dr. Isaac Osi-Akoto
Agriculture and Sanitation Nexus (Bill & Melinda Gates/ ZEF)	€ 11,186	Prof Felix Asante
Evaluation of Millennium Village Project (IDS Sub-grant)	£18,753	Dr. Isaac Osei-Akoto, Frank Octhere
Innovative Steps Poultry Project (IDS)	£50,468	Dr. Martha A. Awo
CDP Agri-Business	US \$ 14,599	Prof. Peter Quartey
Urban Crime Poverty Nexus (IDRC)	US \$ 55,300.28	Prof. George Owusu, Rev. Dr. Adobea Y. Owusu
UNU-WIDER (UNU-WIDER)	US\$ 23,662	Prof. Augustine Fosu

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## Noguchi Memorial Institute for Medical Research (NMIMR)

### The Noguchi Memorial Institute for Medical Research (NMIMR) continues to demonstrate

the importance of cutting edge research in providing insights into the risk factors of diseases and helping in the development of targeted health interventions strategies, which ensure more effective implementations with the limited resources available.



**Prof. Kwadwo Koram** Director, NMIMR

### **Research Portfolio**

#### Malaria

One area of research that is on-going at the Institute is pregnancy-associated malaria (PAM) with a view to providing detailed information on the incidence and pathogenesis of *Plasmodium falciparum* infection in pregnant women and children in southern Ghana, and the impact on pregnancy outcomes and mother-child health status. This is in view of the fact that pregnant women are highly susceptible to malaria and can develop complications which can adversely affect them as well as the outcome of the pregnancy. The long-term goal of the study is to provide such information that will be of use in the development of syndrome-specific



Malaria Lab.

vaccines against PAM and severe malaria (SM) in childhood. The study received support from DANIDA.

NMIMR researchers, in collaboration with Professor Kenji Hirayama (Institute of Tropical Medicine, University of Nagasaki), are conducting a study to identify groups of children who are either resistant or susceptible to malaria upon exposure to infection. The antibodies levels against four new antigens: MVC1, MVC2, MVC3, and MSP-10 will be measured. The HLA profiles and cytokine genetic polymorphisms associated with susceptibility to malaria in these children will be determined. This study also received support from Danish International Development Agency (DANIDA)

#### **HIV/AIDS**

In collaboration with the Tokyo Medical and Dental University (TMDU), Japan, investigations to determine the efficacy of Antiretroviral Drugs (ARVs) in persons undergoing antiretroviral therapy (ART) in the Eastern Region of Ghana were launched. Thereafter, further work has been done on an in-house assay for HIV-1 viral load measurements based on a real-time reverse transcriptase polymerase chain reaction platform. Treatment failures were recorded and genotyping was performed to assess the level of HIV-1 drug resistance in the study population.



HIV/AIDS Lab.

A cross-sectional survey of known long-term HIV infections was undertaken by scientists at NMIMR in collaboration with the Ghana National Aids Control Programme (NACP) and Centres for Disease Control and Prevention (Global AIDS Program Division), to estimate the misclassification rates of assays to measure HIV incidence in Ghana.

The Institute also collaborated with Yale University School of Medicine and the University of Ghana Medical School to investigate viral and host biomarkers to monitor responses to ART in Ghana. A prospective longitudinal cohort of HIV-infected individuals receiving care at the Korle-Bu Teaching Hospital has been established to this effect.

### **Hepatitis B Virus (HBV)**

In collaboration with the University of Cambridge, UK, studies are ongoing to optimise a Polymerase Chain Reaction (PCR) based approach that evaluates Hepatitis B DNA viral load in the liver of patients. Also, a research partnership has been formed with the School of Allied Health Sciences, University of Ghana, to investigate the molecular epidemiology of Hepatitis Viruses B, C and D in relation to liver cirrhosis and hepatocellular carcinoma.

#### Influenza

In collaboration with US Navy Medical Research Unit 3 (NAMRU 3) based in Cairo, the Institute continued with the military to military Influenza like Illness (ILI) surveillance studies. The study is being conducted in military clinics and hospitals in Ghana, Togo, Côte d'Ivoire and Burkina Faso. This integrated hospital-based study of acute respiratory illness has also been extended to the Dangme West District of Ghana in collaboration with the Ghana Health Service. Furthermore it also seeks to provide technical assistance in the form of training and diagnostic services to other countries in the West African sub region and Africa in general. In addition, the Institute and NAMRU 3 continued with the surveillance of Acute Febrile Illness (AFI) and Acute Respiratory Infections (ARI) in three local hospitals in Accra, Tema and Tamale.

#### Rotavirus

The Institute is a key member of the African Rotavirus Surveillance Network, which was set up to determine the burden of rotavirus diarrhoeal disease across Africa and to provide evidence-based data for the introduction of rotavirus vaccines in Africa and the rest of the developing world. Surveillance studies by the Institute on diarrhoea diseases over the years have firmly established rotavirus as a major cause of diarrhoea in children below five years of age. Specific research activities undertaken in relation to diarrheal diseases included:

- Efficacy, immunogenicity and safety trials of the Pentavalent Rotavirus Vaccine in infants in Ghana (A vaccine trial sponsored by Global Alliance for Vaccine Initiative (GAVI), PATH and MERCK Pharma)
- Burden and surveillance of rotavirus infection and characterisation of rotavirus strains in Ghana
- Estimating the economic burden of gastroenteritis in Ghanaian children (in collaboration with PATH, USA)
- Studies to determine the burden of Noroviruses, Caliciviruses, Astroviruses and other enteric viruses in Ghana.

### **Tuberculosis (TB)**

The following research activities were conducted during the period under review:

Genotypic and phenotypic characterisation of *Mycobacterium africanum* (funded by Leverhulme-Royal Society Africa). The main research goal is to determine the genetic diversity of the two causative agents of human tuberculosis: *Mycobacterium tuberculosis* and *M. africanum. Mycobacterium africanum* is found only in West Africa,

a situation which has a strong bearing on the efficacy of vaccines being developed as well as on other control tools such as diagnostics and drugs. The specific objectives are to determine the global diversity between the two pathogens using molecular tools including spoligotyping, MIRU-VNTR, to investigate the evolutionary forces that drive this diversity using comparative genomics; and to determine the phenotypic consequences of this diversity by analysing phenotypic features of host-pathogen interaction - innate and acquired immune responses.

### **Buruli Ulcer (BU)**

Buruli ulcer is the third most important global mycobacterial disease, although in Ghana it is the second after tuberculosis. Very little is known of how the disease is transmitted and of immune responses to infections. Research aimed at



A Buruli Ulcer Lesion on the leg of a patient from the Ga-West District, Ghana

improving our understanding of the transmission of the disease, immune responses, therapy and optimisation of existing diagnostic tools is being undertaken by scientists at the institute.

NMIMR's STOP Buruli Project, funded by the UBS Optimus Foundation, Switzerland, had the goals to:

- Improve therapy of Buruli Ulcer (BU)
- Develop a field-compatible method for early diagnosis,
- Identify major transmission pathways and environmental reservoirs of *M. ulcerans*.

The research is structured around five axes:

- Development of platform technologies
- Development of new tools for diagnosis of BU
- Transmission of Mycobacterium ulcerans
- Socio-cultural and economic studies of BU

Antibiotic treatment and causes of recurrence or treatment failure.

#### **Schistosomiasis**

Schistosomiasis, commonly called bilharzia, is caused by trematode belonging to the genus Schistosoma. The disease is endemic in many communities in Ghana. A consortium of institutions and researchers called SchistoVac, is targeting the development of a new generation vaccine for schistosomiasis. The project aims at searching for exposed proteins and/or glycans of the vulnerable skin stage schistosomula of the parasite as targets for the development of a safe and effective vaccine. The stage-specific vaccine target selection strategy is based on state-of-the-art schistosomal transcriptomics and glycomics technologies using sera of infected patients in endemic areas. The SchistoVac is a four-year FP7-HEALTH-2009 funded project by the European Union and coordinated from the Leiden University Medical Center, Netherlands.

Another study to examine the innate immune responses and immunoregulation in schistosomiasis, specifically the novel mechanisms in the control of infection and schistosomiasis is underway.

### **Grant Management**

Mrs Nana Oye Akuffo is a Research Development Officer responsible for managing research grants at the Noguchi

Memorial Institute for Medical Research (NMIMR). Refer to the table on the next page for some of the grants she manages.



Mrs. Nana Oye Akuffo Grant Manager

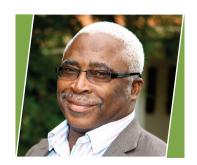
### Research Grants Awarded

PROJECT TITLE	DONOR AGENCY	TOTAL COST	PI's NAME
H3AFRICA KIDNEY DISEASE RESEARCH NETWORK	National Institute of Health, USA US\$5,424,872.00		Dr. Dwomoa Adu
Role of complement recepto1 in erythrocyte invasion by <i>Plasmodium Falciparum</i>	National Institute of Health, USA	National Institute of Health, USA US\$255,754.00	
GENINVADE	London School of Tropical €87 Medicine		DR. Gordon A. Awandare
SANIPATH	Emory University, USA	US\$95,738.00	Prof. George E. Armah
WELCOME TRUST INTERMIDIATE FELLOWSHIP	Wellcome Trust, UK	US\$828,944.00	Prof. Dorothy Yeboah- Manu
BONGO MALARIA PREVALENCE STUDY	National Institute of Health, USA	US\$80,319.00	PROF. Kwadwo A. Koram
Epidemiology and molecular mechanism anthelminthic treatment failure in Kintampo	National Institute of Health, USA	US\$608,575.00	Prof. Michael D. Wilson
Migration, sexual networks and HIV in Ghana	USA	US\$10,000.00	Prof. William K. Ampofo
Prevalence of TB infection among cattle and animal handlers: an insight into abattoir practices in Accra	University of Ghana	GH¢28,875.00	Dr. Kwasi Addo
Screening Ghanaian traditional medicinal plants for bioactive anti-cancer agents	University of Ghana	GH¢97,361.00	Prof. Alexander Nyarko
Alternative tools for identifying and measuring malaria transmission in Ghana	University of Ghana	GH¢29,348.00	Dr. Linda Eva Amoah
Accra Kayayie project	University of California, San Francisco (USCF), USA	US\$80,621.59	Prof. William K. Ampofo
Partpharma anti- serum	Partpharma anti- serum	US\$6,499.40	Prof. K. M. Bosompem
HIV/HLA and retrovises in West Africa	Japan Masaharu Kumashiru	US\$18,951.34	Prof.William K. Ampofo
Epidemiology,prevention and treatment of influenza and other respiratory infection	Centers for Disease Control and Prevention, USA	\$4,500,000.00	Prof.William K. Ampofo

## Institute of Applied Science and Technology (IAST)

The Council of the University of Ghana approved proposals for the establishment of an Institute of Applied Science and Technology (IAST) in January 2012. The Institute's primary mandate is to mobilise UG faculty and their partners, as well as resources to deliver intradisciplinary research that addresses national needs, particularly in the area of food production, processing and packaging to ensure food safety and security.

On 30th April 2012, IAST, in collaboration with the UG-Carnegie Next Generation of Academics in Africa Project funded by the Carnegie Corporation of New York, organised an interactive forum between Industry and University of Ghana Faculty. The purpose of the forum



Prof. Sammy T. Sackey Director, IAST

was to deliberate and formulate strategic partnerships for mutual benefit, consistent with the primary mandate of the Institute. Present at the Forum, which was chaired by the Vice Chancellor were the Honourable Ministers for Trade and Industry and of Environment, Science and Technology; several UG academics and members of the Association of



An Interactive Forum Between Industries and UG

Ghana Industries, the media and the general public.

In May 2012 the Vice Chancellor, in consultation with the Council, appointed Prof Sammy T. Sackey of the Department of Biochemistry, Cell and Molecular Biology as Acting Director of the Institute with a three year mandate to establish the institute, which has a fifteen member Advisory Board.

Four multidisciplinary consortia have been established to develop the research portfolio and seek funding for the Institute in accordance with its mandated core activities in Agricultural productivity, processing and packaging.

The underlying philosophy of the Institute in pursuing this research and training/teaching agenda is employment and wealth creation through industrialisation. The consortia are:

- Agricultural productivity-improved seeds, farm technology and services
- Processing and packaging of indigenous foods and food crops
- Natural products (medicinal plants and nutraceuticals)conservation, cultivation, processing and packaging.
- Marketing of University research output.

## West Africa Centre for Crop Improvement (WACCI)

WACCI, a partnership between the University of Ghana and Cornell University, was established with funding from Alliance for a Green Revolution in Africa (AGRA) in June 2007 to train Plant Breeders for the West and Central Africa sub-region. Five cohorts comprising 44 PhD students from 7 countries (Burkina Faso, Cameroon, Ghana, Mali, Kenya, Niger and Nigeria) are currently enrolled on the PhD programme. The first cohort of eight students

submitted their PhD theses to the School of Graduate Studies in December 2012. An additional two cohorts of 15 students will enroll in January 2013 and 2014 under the AGRA grant, bringing the total of students to be trained at the Centre to 59, ten and half years into the project.



**Prof. Eric Danquah** Director, WACCI

To continue the second phase of the programme, the Vice Chancellor, Prof. Ernest Aryeetey, has signed an agreement for a project support grant of US\$5,214,401 with the Alliance for a Green Revolution in Africa (AGRA) on behalf of the West Africa Centre for Crop Improvement (WACCI). The amount will be used to carry out the second phase of the project titled 'Establishment of West Africa Centre for Crop Improvement' for the period 1st January, 2013 to 30th June, 2018. This project aims to improve crop productivity

of smallholder farmers in West Africa through training of Plant Breeders, at the PhD level, that can develop improved varieties of staple crops for the region. Mrs. Jane Karuku, the President (of AGRA), signed on behalf of AGRA.

Other donors to the Centre include the Generation Challenge Programme (GCP), the Japanese International Cooperation Agency (JICA), the Kirkhouse Foundation, and the West Africa Agricultural Productivity Programme of Senegal. In a related development, the Director of WACCI, Professor Eric Danquah, intimated that the Centre was in discussions with the Bill and Melinda Gates Foundation and the USAID on sustaining the Centre beyond the AGRA project period.

### **Developing Genomic Tools To Improve Sorghum**

Prof.Eric Danquah, Professor of Plant Genetics at the University of Ghana's College of Agriculture and Consumer Sciences and Director of the West Africa Centre for Crop Improvement (WACCI), is among four scientists who will receive a US\$1,000,000 grant to develop genomic tools needed to improve sorghum, an important African food crop.

The Bill & Melinda Gates Foundation is supporting the research, which will help identify sorghum gene functions, especially those that play a role in crop yield, protein and starch digestion and resistance to Striga, a parasitic weed that attacks sorghum's root system. Sorghum is a vitally important crop throughout Africa, yet it doesn't receive a lot of research investment.

According to Mitch Tuinstra, who is the project's principal investigator and a Purdue Professor and Wichersham Chair of Agronomy, "We have a sorghum genome, but we don't have all the tools necessary to see what each of the genes do."

The research team will run workshops at the West Africa Centre for Crop Improvement at the University of Ghana to teach students plant-breeding techniques using genomics and bioinformatics, a high-tech method for analysing biological data, as well as train one Ghanaian PhD student on a split site research project. They will also partner with the Striga Research Unit in Burkina Faso to test new technology in Striga-infested fields.

This research will add to efforts being made to ensure food security in Africa. The Bill & Melinda Gates Foundation funding will cover the project's first three years.

### Institute of Agricultural Research (IAR)

The Institute of Agricultural Research (IAR) consists of the

three Agricultural Research Centres of the University of Ghana, namely the Livestock and Poultry Research Centre (LIPREC), Legon; the Soil and Irrigation Research Centre (SIREC), Kpong; and, the Forest and Horticultural Crops Research Centre (FOHCREC), Kade.



**Prof. Macarius Yangyuoru**Director, IAR

IAR was reconstituted from the three Agricultural Research Stations (now Centres) and established in May, 2004. The Institute mainly conducts research, but also contributes to the teaching and learning of pertinent areas of agricultural science at the University of Ghana. Additionally, the Institute develops agricultural technologies for the various agroecological zones of the country as well as trains farmers, extension agents and other stakeholders in the agricultural industry. Over the years, the Research Centres of the Institute have developed and disseminated improved technologies to farmers nationwide for increased agricultural productivity, poverty reduction and the attainment of food security in Ghana. Several agricultural professionals and students (both undergraduates and postgraduates) have also been trained for the improvement of the national agricultural sector.

### **Developing Global Crop Yields Gap Atlas**

**Dr. S. Adjei-Nsiah**, a Senior Research Fellow at the Forest and Horticultural Crops Research Centre (Kade), is championing the Global Yield Gap Atlas (GYGA) PROJECT in Ghana.

GYGA project seeks to:

- Assess how much food can be produced from existing crop land;
- Determine where largest gains are achievable when closing yield gaps within Ghana



Dr. S. Adjei-Nsiah

 Undertake land suitability analysis for future land expansion based on simulated yields, collected soils, climate and management data

Preliminary crop growth simulations show that a considerable potential exists for the production of the main cereals grown in Ghana. Water-limited potential yield levels range from approximately 7 t DM/ha for maize (Fig. 1) to approximately 4 t DM/ha for millet. The study also shows that current yield gaps for the major cereals grown in Ghana are large, ranging from about 5.5 t DM/ha for maize to about 3 t DM/ha for millet. Significantly closing the yield gap for these crops could reduce the ratio between food demand and food supply to almost one-to-one in the year 2050.

### Boosting Food Security Using "Biochar" For Food Production

Dr. George Oduro
Nkansah, a Senior
Research Fellow of the
Forest and Horticultural
Crops Research Centre
(FOHCREC), Kade, Institute



Dr. George Oduro Nkansah

of Agricultural Research, College of Agriculture and Consumer Sciences, University of Ghana, has introduced biochar (carbonated rice husk) as substrate for raising vegetable seedlings/transplants and as fruit/tree planting materials (mango, citrus and avocado) as well as for growing vegetable crops such as pepper and tomato.

The method of preparation is intriguing and involves the use of simple technology. Biochar is produced through pyrolysis or gasification - processes that heat biomass in the absence (or under reduction) of oxygen. The process can be summed as follows:

- Collection of rice husk
- Setting of fire
- Carbonation process
- Carbonated Rice Husk/Biochar (Final product)
- Biochar is a solid material obtained from the carbonisation of biomass. Biochar is added to soils to improve soil functions and to reduce emissions from biomass that would otherwise naturally degrade to greenhouse gases. Biochar has considerable carbon sequestration value which can be measurable and verified in a characterization scheme, or in a carbon



Process 1: Collection of Rice Husk



Process 2: Setting of Fire



Process 3: Start of Carbonation Process



Process 4: Carbonation Process



Process 5: Biochar (Final Product)



Cultivating Pepper seedlings in Biochar



Avocado Seedlings in Biochar

agricultural waste into a soil enhancer that can hold carbon, boost food security and discourage deforestation. The product which is fine-grained and highly porous helps soils retain nutrients and water and thus serves as a soil enhancer. It is an important tool to increase food security and cropland diversity in areas with severely depleted soils, scarce organic resources, and inadequate water and chemical fertilizer supplies.

### Institute of African Studies

The Institute of African
Studies was set up in 1961
as a semi-autonomous
institution within the
University of Ghana, to
pursue the mandate of
conducting research into all
aspects of the arts and the
social studies in Africa.



**Prof.** Akosua Adomako Ampofo Director

The Institute runs a

variety of academic programmes for postgraduate and undergraduate students of the University, and teaches a mandatory course in African Studies to all undergraduate degree students of the University. Areas of research focus include African History and Politics; African Societies and Cultures; Gender and Culture in African Societies; Family Studies; African Languages, Literature and Drama; African Religions and Philosophy; Media and Visual Arts; Music and Dance as well as Women and Gender Studies. Specifically, some of the research conducted currently include Christianity and new modes of expressions—African Independent Churches, Pentecostalism, and Charismatic Christianity; Drums as instruments of commemoration; Evolving ceremonial protocols in chieftaincy; Changing Representations of Women in Ghanaian Popular Music; Ethnographic Study of Family Planning (Rural, Peri-Urban and Urban Accra) and Popular culture - Structures and functions of Festivals and Funerals in Ghana.

### **Building the Next Generation of African Scholars**

Dr. Godwin Adjei, Research Fellow at the Institute of African Studies has been awarded the University of Michigan African

Presidential Scholars
Program (UMAPS) award.
The UMAPS enhances
collaboration between
early career faculty from
Ghana, South Africa,
Liberia and Uganda and
students and faculty at the
University of Michigan.
UMAPS seeks to build
and strengthen lasting



Dr. Godwin Adiei

relationships with African scholars and their institutions by bringing individuals to Ann Arbor for periods of two to six months. The program supports faculty development in Africa and capacity building for African home institutions by helping to cultivate the next generation of African scholars. Dr. Adjei joins a prestigious group of over 50 African faculty who have taken part in the program since its inception in February 2009.

Dr. Adjei is an Ethnomusicologist and is the head of the Music and Dance section of the Institute of African Studies, University of Ghana, Legon.

Professor Sutherland-Addy and Dr. Nanbigne win ORID award.

### **Preserving Ghanaian Tales and Storytelling Tradition**

Professor Esi Sutherland-Addy and Dr. Edward Nanbigne, both of the Institute of African studies received a research grant from ORID to engage in a project with the title: "Shall I tell you or shall I not tell you?": A survey of Ghanaian tales and storytelling traditions. The thrust of the project was to conduct a thorough search for stories in both private and institutional archival and library holdings to identify written



Storytelling in a Ghanaian Setting

and audio-visual records of tales and data on storytelling in Ghana. The texts will be, as necessary and with permission, digitised and/or transcribed and scanned or typed for study. Fieldwork was also undertaken and is still on-going to collect new data on under-represented areas, particularly from lesser studied languages and language areas.

Manuscripts for a compendium of tales and an anthology of scholarly essays have been prepared and are being readied for publication. It is anticipated that the volume of edited scholarly essays will be published by the Research Review of the Institute of African Studies by October of 2013. However, we see the volume of 100 tales as too big and not representative of all the typologies of tales and languages. The current intent is to compile volumes that cover language areas for the different types of tales. This reorganisation of the anthology is on-going.

Another phase of the project is the creation of a web based depository of folk tales as a site for scholarly research on tales.

## Centre for Gender Studies and Advocacy (CEGENSA)

The Centre for Gender Studies and Advocacy (CEGENSA) was set up in the University of Ghana in 2005 to, among other things, institutionalise gender as a legitimate business of the University; coordinate and plan the teaching of courses on gender across



**Dr. Akosua Darkwa** Director

the University; Promote research, documentation and dissemination and promote advocacy and initiate policies on gender in the University.

CEGENSA works with different departments and individuals to conduct research on specific topical themes.

### **Associational Life Versus Social Protection**

The Director of the Centre for Gender Studies and Advocacy (CEGENSA), together with Dr. Mavis Dako-Gyeke of the Social Work Department and Dr. E. Amponsah-Nketia of the Economics Department of the University of Ghana, received a grant worth US\$60,000 from the Partnership for African Social Governance Research (PASGR) to carry out a study titled "Understanding the varieties and usefulness of social protection programs in Ghana: A study of the Central Region in Ghana".

The research project seeks to explore the relationship between the associational life of an individual and his/ her level of social protection; examine the extent to which non-state institutions provide social protection that meet the needs of vulnerable groups (Persons with disability, specifically, the visually and hearing impaired, aged women

etc) in the communities; investigate the extent to which nonstate actors' development ideologies shape social protection service delivery to vulnerable groups; and examine the extent to which differences in governance structures (accountability, leadership) among and between formal and informal nonstate actors reflects in improved service delivery, both from objective and subjective perspectives. The project started in October 2012 and will end in 31st December, 2013.

### **Centre for Migration Studies**

The Centre for Migration Studies (CMS) was established in November 2006 at the University of Ghana to undertake research, teaching, training, capacity building, policy

assessment, development and dissemination in the area of migration. CMS is the first of such Centres in the West African sub-region and is seeking to be a regional leader in learning, teaching and research and is suitably located in the Faculty of Social Sciences.



**Prof Mariama Awumbila** Director

Areas of research focus include: Migration and Economic Development, Migration and Population Dynamics, Socio-Cultural Dimensions of Migration, Legal and Institutional Mechanism of Migration, Women, Children and Migration and Environmental Change, Migration and Livelihoods.

### **Getting Out Of Poverty - A Must!**

Prof Mariama Awumbila is leading a research project won by the Centre titled "Migrating out of Poverty", which is a consortium of universities and research institutes focusing on the relationships between migration and poverty in six regions across Asia, Africa and Europe.

The Migrating out of poverty project aims to generate new knowledge related to migration and poverty, create new datasets, engage policy makers, and build capacity in understanding and researching migration and poverty linkages.

The project addresses four key global questions, namely:

- Under what circumstances does migration help poor people move out of poverty?
- Does migration benefit poor women and girls?
- Does urbanisation and rural-urban migration reduce poverty?
- Which policies have worked and which have not in maximising the developmental impact of migration?

The project, which is funded by the UK's Department for International Development (DfID), will run from 2011 to 2017. The project is being coordinated by the University of Sussex. The total cost of the research is GB£5,662,710.

Under the project there are two sub projects:

- The Migrating out of Poverty Global Survey is a
   quantitative study with a focus on migrants from major
   sending regions of the country, namely the Brong Ahafo,
   Volta, Upper East, Upper West and the Northern regions,
   with the aim of answering the research question, "under
   what circumstances does migration help poor people
   move out of poverty? Field assistants have just finished
   with data collection from the 5 regions.
- Migrating out of Poverty Regional Studies

The regional research programme seeks to respond to the need for research-based evidence in ongoing national policy discussions. The research is focused on urbanization, rural-urban migration and increasing urban poverty in Ghana and seeks to address questions of whether migrants do transport poverty status from their places of origin, and what strategies they are adopting to maximise their chances of getting out of the poverty. The research will, in particular, examine the migration of poor people into urban slums, particularly Nima and Old Fadama, both in Accra, as well as migrants working in the informal sector and how it affects their state of poverty, access to services, economic and social opportunities and the barriers that they face in these urban areas.

### **Ease of Migration in West Africa**

"Facilitating Intra-Regional Labour Migration in the ECOWAS Region" is a 9 month research project by the Centre. It was commissioned by the African, Caribbean and Pacific (ACP) Observatory on Migration based in Brussels, with a total cost of €82,800.

The study is being undertaken in fifteen (15) member countries and coordinated by the Centre for Migration Studies with support from the Migration Policy Centre (MPC) of the European University. The participating countries are Ghana, Nigeria, Cote d' Ivoire, Liberia, Guinea, Guinea Bissau, Mali, Gambia, Burkina Faso, Senegal, Sierra Leone, Benin, Togo, Niger, and Cape Verde.

The project aimed to address the lack of concrete and reliable evidence on the interrelationships between South-South migration and development, which limits the global understanding of migration opportunities and impedes efforts to address challenges facing ACP countries. Undoubtedly, this situation is hampering governments in the African, Caribbean and Pacific (ACP) countries from effectively integrating human mobility into national

and regional development plans and poverty reduction strategies. There is, therefore, the need for comprehensive labour migration polices to manage the migration process. However, a major pre-requisite for migration management is availability of data, but such information is woefully lacking in ECOWAS Countries.

The research project, therefore, sought to identify data sources and to collect and compare existing data on labour migration within the ECOWAS region; to analyse the structure of the labour markets (demand and supply of labour) and the patterns of labour migration in the ECOWAS region; and to examine the obstacles in the implementation of the Free Movement Protocol. Professor Mariama Awumbila is the lead person for this research.

### Centre for Social Policy Studies (CSPS)

The Centre for Social Policy Studies (CSPS) was established in 1996 within the Faculty of Social Studies, University

of Ghana. This was in support of expanding social protection-related research and advocacy in the academic curriculum, to deepen policy and practice in aid of vulnerable groups in Ghana. The Centre aims to promote broader social protection research, training and advocacy to



**Prof. Ellen Bortei-Doku Aryeetey** Director, CSPS

deepen social policy formulation and practice in Ghana. As part of this agenda, the Centre collaborates with other departments at the University of Ghana, state agencies and civil society networks. In the process CSPS has been quite instrumental in supporting the formulation of policies that address vulnerability and exclusion in Ghanaian society. An important part of the work of the Centre involves research and creating a forum for the dissemination of information on social protection and policy. CSPS focuses on interdisciplinary research in the following areas; Human Capital Studies (Education, Health and Vocational skills development), Age related well-being studies (Ageing, Children, Family and Disability), Social Protection (Social Security studies, Vulnerability and Exclusion, Social grants/transfers) and Social Development and Livelihood Studies.

### **Child Rights and Livelihoods**

The Centre for Social Policy Studies (CSPS) is currently undertaking a study titled "Non-State Actors and Accountable Social Protection in Child Rights and Livelihoods in Wassa, Ghana". It is part of a wider research project across seven African countries under the theme "Features, Governance Characteristics and Policy Implications of Non-State Social Protection in Africa", and sponsored by Partnership for African Social and Governance Research (PASGR). The Centre was awarded a grant of Sixty Thousand U.S. dollars (US\$60,000.00). The project, which commenced in January 2013, is expected to end in July 2013.

The focus of the research is on the manner in which Non State Actors (NSAs) involved in child rights and livelihood services in the Wassa area of the Western region of Ghana ensure accountability in the delivery of services to beneficiaries. The primary objective of the research is to investigate the presence and activities of NSAs in the Wassa area. The research is in two phases. Phase one involves the complete listing or mapping of NSAs in the Wassa area, based on both secondary and primary data. This phase was competed in March, 2013. The Second phase involves in-depth interviews with selected NSAs and beneficiary households on governance structures and processes. This phase is nearing completion and the expected output is a final report that will be submitted to PASGR.

The outcome of the research is expected to highlight the key contribution of NSAs in the delivery of social protection services, especially in the context of a developing country like Ghana. It will also throw more light on the accountability structures and processes of NSAs and their net effect on the delivery of services. The engagement of policy actors at various levels of the study will also help all stakeholders in the delivery of social protection services to understand the nature of NSAs in social protection services, their governance structures and processes and the effectiveness or otherwise with which they deliver services at the grassroot level. It is also expected that the outcome of the research will inform policy decisions on the workings of NSAs. The research is managed by a team of researchers from the Centre under the leadership of the head of the Centre, Dr. Ellen Botei-Doku Aryeetey. Other members of the team are Dr. Steven Afranie, Mr. Daniel Doh and Mr. Paul Andoh.

### A Research Council For The Social Sciences And The Humanities

The CSPS has organised a consultative workshop to discuss the establishment of a Research Council to be known as Ghana Social Sciences and Humanities Research Council (GSSHREC), with a US\$24,000 grant support from Star Ghana. The proposed Research Council is to strengthen Social Sciences and Humanities research in Ghana. The CSPS has taken up the initiative due to several reasons, including the dire situation facing Social Sciences research in Africa and the low level of commitment to research and development programmes in Africa, GSSHREC is expected to be an independent but public research organisation that would mobilise and disburse funds to support high quality innovative policy relevant and analytical studies on development in Ghana and elsewhere. The University of Ghana is leading the process to ensure that there is an independent Research Council at the national level.

## Institute of Environment and Sanitation Studies (IESS)

Ghana is endowed with abundant natural resources, which have played a very important role in the agricultural and industrial development efforts of the country. However, as a result of incessant exploitation of these natural resources

to meet the legitimate socio-economic aspirations of her people, irreparable damage has been done to productive lands by deforestation, air and water pollution, desertification, overgrazing, and destruction of biodiversity.



Professor Chris Gordon Director, IESS

It is against this background that the Government of Ghana in collaboration with the University of Ghana, in 2010 established the Institute for Environment and Sanitation Studies, located on the University campus.

The Institute headed by Professor Chris Gordon was set up primarily, among others, to provide the needed human capacity to effectively manage the environment and all its



Challenges in Managing Environmental Waste ramifications. The capacity is required at various levels - National, Regional and Districts, with Non-governmental Organisations, Public and Private Institutions.

### **Protecting Our National Parks for the Benefit of All**

Mr Jesse S. Ayivor, a Research Fellow at the Institute for Environment and Sanitation Studies of the University of Ghana, conducted research to examine the root causes



Mr Jesse S. Ayivor

of conflict between the officially assigned managers and community members at the Digya National Park, with a view to recommending policy interventions that will help curtail those conflicts.

His research revealed

two main sources of conflict at the Digya National Park. The first relates to residents of fringe communities acting individually or as groups to carry out illegal activities for economic survival, which exerted pressure on the park and posed threats on its survival. Poverty, population growth

and livelihood issues were identified to be the root causes of most of these pressures. The second source of conflict involves squatter communities living inside the park.

An important way to resolve some of these issues would be to link community development to National Park management. This may include the promotion of self-sustaining economies in these remote areas, including alternative livelihoods such as bee keeping, local handicraft production and small livestock raising. Enhancing income generating opportunities and quality of life for human populations in proximity to protected areas will contribute to the attainment of conservation of the National Park.

## Legon Centre for International Affairs and Diplomacy (LECIAD)

The Legon Centre for International Affairs and Diplomacy (LECIAD) is an International Relations and Diplomacy Institute within the Faculty of Social Sciences in the University



**Prof. Henrietta Mensa-Bonsu** Director, LECIAD

of Ghana. As the training school of Ghana's Ministry of Foreign Affairs and its allied agencies, the Centre is mandated to train and produce through postgraduate and other higher degrees, well informed, highly qualified and specialised human

resource for Ghana's foreign and allied services as well as provide opportunities for continuing education through workshops, conferences, seminars, symposia, and occasional lectures.

The Centre is also required to provide foreign policy options for the consideration of the Government of Ghana, undertake research on topical issues on Ghana and Africa's foreign policies, as well as relevant events, and to disseminate the results through publications, releases and commentaries in newspapers, radio and television. Additionally, the Centre is tasked with the responsibility of undertaking research and capacity building activities that contribute to enhancing legislative oversight in democratic governance and foreign policy.

In March 2012, LECIAD was contracted to undertake a study to audit and monitor compliance and implementation of Protocols, Conventions and Decisions of the African Union in Ghana. Although Ghana has ratified a number of African Union instruments, there are challenges with incorporating some of the provisions into existing law to facilitate a comprehensive approach to tackling the issues addressed by the treaties. In some instances, despite the ratification of the instruments, the necessary policy frameworks are yet to be developed to enhance effective implementation. The study provides a mapping of government's implementation of sixteen select African Union instruments and an analysis of the successes chalked and challenges that bedevil the effective implementation. This research is part of a Continental study authorised by the Assembly of Heads of States of the African Union "to monitor the implementation of policies and decisions of the Union as well as ensure compliance by all Member States." The Principal Investigators for the research are Drs. Linda Darkwa and Philip Attuquayefio. The research project also provided an opportunity for some graduate students to gain practical field experience through research assistantship.

As part of its mandate to service the needs of Ghana and the Continent, the African Union requested the Centre to undertake a Training Needs Assessment (TNA) aimed at identifying the training gaps needed to be filled before the operationalization of the African Standby Force. This was in

recognition of the Centre's contribution to Peace Support Training through its International Training Programme for Peacebuilding and Good Governance for African Civilian Personnel, which prepares the civilian component of peace support operations. This is applied research as the findings would be the basis for the African Union's decision on training for the African Standby Force. So far, the team has visited three of the five regions and six countries including Botswana, Ghana, Kenya, Nigeria, Somalia and Zimbabwe. LECIAD is the lead Consultant on the Civilian Component and is represented by Dr. Linda Darkwa.

### **On-Going Research**

In addition to the institutional research being carried out

by the Centre, Fellows of the Centre are also engaged in individual research Projects. Some of the on-going research projects of Fellows include the following:

- Sino-Africa Relations: Realities, Conjectures and Refutations (Vladimir Antwi-Danso)
- Transcending Transnational Security Threats to West Africa through Peace Education (Kennedy Emmanuel Ahorsu)
- The Group of Eight (G-8) Summitries and Africa's Representation: Symbolism or Pragmatism? (Yao Boni Gebe)
- Changing Perspectives in the Didactics of International Affairs in Ghana (Darkwa Linda and Attuquayefio Philip)

### Regional Institute of Population Studies (RIPS)

The Regional Institute of Population Studies (RIPS) is a research and training Institute. RIPS seeks to promote population science education and strengthen the capacity of African population scientists. RIPS' core mandate is to train at graduate level; equipping young scholars with analytical research skills and providing practical field experience in social science based research.

Research at RIPS focuses on three main thematic areas of

population, health and the environment. Current and ongoing research investigates issues of adaptive capacity to climate change, adolescent health concepts and non communicable diseases. Other areas of research include maternal and child health and Urban poverty.



Prof. Samuel Codjoe

### Director, RIPS

### **RIPS Undertakes Research On Climate Change**

The International Development Research Centre (IDRC) awarded an amount of One Million, Four Hundred U.S. dollars (US\$ 1.4m) to the Regional Institute of Population

Studies to improve the quality of research, teaching and learning in Climate Change science, particularly as it interfaces with social and health development. The research is being carried out at the University of Ghana, in tandem with collaborating partner institutions of higher learning in Africa. The aim is to disseminate lessons to local communities through designed communication tools and to local and international communities and governmental and nongovernmental organisations.



Impact of Climate Change - Flooding In Accra

A second initiative, the AARC project has two main components: research and capacity building. At the end of the second year of the project, research conducted revealed

that flooding is a major environmental challenge in poor urban communities, and preferred adaptation strategies to floods vary with occupation, gender and age. In terms of health, one of the research outcomes is that malaria prevalence was linked to the following variables: increases with rainfall, the proportion of middle income households, and the proportion of households with no formal education. In the area of capacity building, the project organised climate change short courses and workshops for various categories of people within tertiary institutions in Ghana and across the region. For instance, on 9th November, 2011, a Faculty Colloquium in the form of a roundtable discussion was organised under the theme Climate Change Vulnerability and Ghana's for Security. It drew more than 120 participants from both the international and local development scientific communities and served as a platform to engage policy makers, development organisations and other scientists in order to promote science-policy debates and networking. Also, 4 PhD. and 8 MPhil. students are being sponsored on the project and a Climate Change Resource Centre has been established within the Institute. The project commenced in 2011 and will run till 2014.

The Project is being managed by a team of researchers from the Regional Institute of population Studies (RIPS) under the leadership of Professor Samuel Nii Ardey Codjoe, Associate Professor and Director at the Institute. His research interests are the population-environment nexus, migration, fertility, and climate change/variability and its impact on urban and rural livelihoods. Other members of the team are Professor Francis Dodoo, Dr. Delali Dovie and Gabriel Nii Teiko Tagoe.

Another equally important project undertaken by the Institute on Climate Change is the Climate Change Risk Communication Framework for Coastal Urban Development Policy. This research project is aimed at promoting the use of climate change risk factors as a common indicator for integrating climate compatible development and policy processes in Ghana. This project involves assessing risk and vulnerability, testing a Vulnerability Identity Matrix (VIM) method, evaluating and testing the sensitivity of policy frameworks to respond to community level climatic risks, understanding drivers of specific risk reduction and disaster contingency planning, and strengthening capacity in risk assessment and management of key impacts of climate change. Members of the Research team were led by Dr. Benjamin Delali Dovie, an AARC Scientist. This research project received funding of US\$360,000 from the CDNK/DFID. Expected outputs include journal articles, national workshops, video documentary, policy briefs, regional conferences, human capacity, contingency planning guides and toolkits. Expected development impacts include change in climate-related risk and disaster, as well as development planning processes, whilst the environmental impacts are expected in areas of risk reduction through best practices that build resilience through increased mitigation and adaptation. The funding is for one year, from February, 2012 through May, 2013.

### **Capacity Building Training of Population Studies Scholars**

The William and Flora Hewlett Foundation has awarded an amount of US\$850,000 to support capacity building efforts at RIPS for the period 2012-2015. The goal is to consolidate RIPS' training and research programme as a self sustaining programme of the highest quality on the continent, and as a centre of excellence that is a catalyst for regional development of population science and training.

The Hewlett Foundation is a key partner in the provision of funding to strengthen the capacity of the Institute through infrastructural development and facilitation of student scholarships and research support to faculty members. In addition, the Foundation provides support through its network of grantees for apprenticeships to graduating MPhil. students.

This makes ten consecutive years of progressively more funding for RIPS and it is undoubtedly in line with the Funder's recognition of RIPS as the leading population training centre on the African continent. RIPS now has about two dozen advanced research students and up to 30 more in the M.A. programme. The Principal Investigator (PI) is Professor Francis Dodoo.

### Non Communicable Diseases (NCDS) Among Children In Ghana

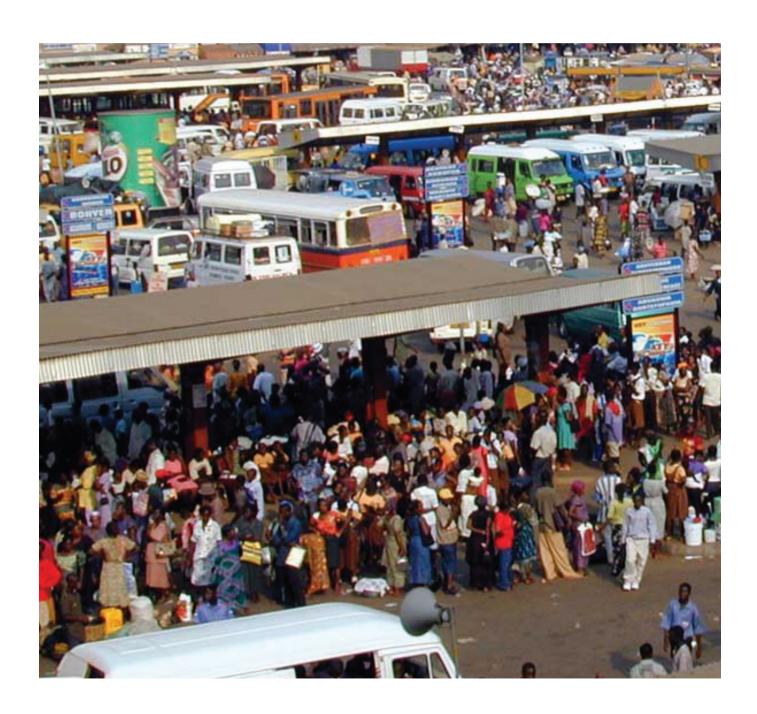


Dr. Delali Margaret Badasu

Dr. Delali Margaret Badasu led a team of researchers from the Regional Institute of Population Studies, the Institute of African Studies, the Medical School and the Business School of the University of Ghana to win a grant worth GH¢100,000 from ORID to

undertake a study on Non Communicable Diseases (NCDs) among children in Ghana from August 2012 to July 2013. The study aimed to examine the attitude of caregivers at health facilities and those at rural and urban community levels and associated health-seeking behaviours regarding NCDs among children. The apparent lack of explicit public health policy on the management and treatment of NCDs among children is also examined as an attitude and the factors associated with

it will also be investigated in the study. It is anticipated that the study, when completed, will contribute to the body of knowledge on NCDs among children and provide evidence for policy adoption to address this health condition among children in the country. Work on the project is at the stage of data analysis and drafting of papers. It is expected that ten (10) papers will be published after a residential writing period from 28th May to 1st June, 2013.



# 2012/2013 Research Highlights



The College has a strong reputation for research excellence and our research continued to progress robustly in the 2012/2013 academic year. To showcase and peer review cutting edge research done by faculty in the college, the college organises an annual

Scientific Conference, with the 6th edition held in 2012. To strengthen the research capacity of faculty and train health professionals, a ground breaking ceremony was held for the construction of a state of the art 600 bed teaching hospital.



**Professor Aaron L. Lawson**Provost, College of Health Sciences

In the College of Health Sciences (CHS), our academics continue to excel in their research fields. A notable achievement was that faculty won significant research grants, increased publications in prestigious journals, and won international awards. To recognize faculty who promote the College of Health Sciences as a place of learning, research and excellence in the University of Ghana, the college has instituted an award scheme for faculty who excel in research. This prestigious award also serves as motivation for faculty to carry out cutting edge innovative research that will impact on society. For the period under review, Professor William Kwabena Ampofo of the Noguchi Memorial Institute of Medical Research won the award for the best researcher in the health sciences.

Here at the CHS, our mission is to produce highly qualified and competent health professionals and medical scientists to provide promotive, preventive and curative services to meet the health needs of the nation and the global community through excellence in teaching, research and dissemination of knowledge. To fulfil this mission and to meet existing and emerging health challenges in order to compete effectively in the globalized world, we continue to draw on our diverse but complementary core competences in Nursing, Medicine, Dentistry, Public Health, Allied Health Sciences and Biomedical Research. We will continue to conduct research to inform national health policy developments. The College continues to make progress in the development of partnerships with international institutions for research and training. I am very proud of the faculty in the College of Health Sciences of the University of Ghana for their dedication and commitment to engaging in innovative research that feeds into national policies and brings good

health, comfort and happiness to all.

### Research Projects Coordinated By The College Of Health Sciences

### University of Ghana – Brown University Africa Initiative Partnership

This is a USAID and Higher Education for Development (HED) funded partnership between the University of Ghana, the College of Health Sciences and Brown University and its collaborators (Tufts and Yale Universities) to foster collaboration, leverage funding and implement a 5-year strategic plan to train a multidisciplinary healthcare workforce with a focus on enhancing the response to HIV/ AIDS challenges in Ghana and in the West African sub-region. The purpose of the partnership is to enhance the capacity of the University of Ghana in its educational programs, research and community engagement that will result in improved response to HIV/AIDS challenges in Ghana. This project is being led by Prof. Aaron Nii Lante Lawson, Prof. Andrew Anthony Adjei and Prof. Margaret Lartey as Principal Investigator, Co-principal Investigator and Project Director respectively.

### The Building of Stronger Universities Platform on Human Health (BSU-PHH)

This is a partnership between universities and research institutions in developing countries and Denmark. The components of the project are;

- Post graduate education
- · An enabling research environment
- Institutional capacity building

### Research At The University Of Ghana Medical School (UGMS)

In our quest to promote research in the UGMS, we have redefined the research agenda of the school and re-introduced

the UGMS monthly research forum for Senior Members, Research Fellows, Residents, Research Assistants and Postgraduate Students of the School. The forum provides opportunity for all Departments in the School to make presentations on on-going and completed



**Prof. Yao Tetteh** Dean, UGMS

research. The current research priorities of the UGMS are to:

- increase research at the UGMS
- promote inter-departmental research
- position the UGMS as a centre of research excellence
- attract substantial research funding from governmental and non-governmental agencies and from the private sector
- develop the capacity for world class research among undergraduate and postgraduate students
- increase the number of scientific publications (papers, manuals, manuscripts, books) arising out of research in the UGMS and/or involving UGMS staff

Research at the UGMS takes several forms including basic, applied, clinical and translational. Research by faculty is mainly in the medical and allied fields including public health and community health. Our research is currently being

integrated into the teaching and service activities of the school.

### Centre For Tropical Clinical Pharmacology & Therapeutics (CTCPT)

The Centre for Tropical Clinical Pharmacology & Therapeutics (CTCPT) carries out studies on drugs used for treatment of tropical diseases, especially malaria, and onchocerchiasis, as well as sickle cell disease and HIV/AIDS. The Centre conducts studies in the areas of clinical trials, pharmacogenetics, pharmacovigilance, pharmacoepidemiology, pharmacokinetics and clinical ethics. The CTCPT is also involved in research on interventions to improve rational use of drugs, drug safety and risk communication.

### Research projects being undertaken at the CTCPT;

PROJECT TITLE	DONOR/ FUNDING AGENCY	INVETSIGATOR
Better Medicines for children	World Health Organisation (Bill and Melinda Gates Foundation)	Prof. David Ofori-Adjei
African Journals Partnership	National Institutes of Health (NIH)	Prof. David Ofori-Adjei
Monitoring and evaluation of Pfizer malaria intervention study involving licensed chemical sellers and access to ACT's	Pfizer philanthropy	Prof. David Ofori-Adjei
Putative protective effects of sulphamethoxazole-trimethoprim on malaria incidence in HIV-infected children	University of Ghana-Brown University Academic Partnership for HIV/AIDS.	Dr. George O. Adjei
Establishment of a high performance liquid chromatographic method for measurement of plasma levels of selected antimalarial drugs in Ghanaian children with HIV or sickle cell disease	University of Ghana Research Fund through the Office of Research, Innovation and Development (ORID)	Dr. George O. Adjei
Improving correct diagnosis and treatment of malaria in rural Ghana	Clinton Health Access Initiative (CHAI)	Dr. George O. Adjei
Safety, efficacy and pharmacokinetics of antimalarial therapy in children with HIV or sickle cell disease.	Consultative Research Council for Development (FFU) Danish International Development Assistance (DANIDA)	Dr. George O. Adjei
In vitro susceptibility of Ghanaian Plasmodium falciparum isolates to Antimalarial drugs after a change in malaria treatment policy.	US Naval Medical Research Unit (NAMRU-3)	Dr Neils B. Quashie
Monitoring the efficacy of antimalarial drugs for the treatment of uncomplicated malaria in Ghana.	The Global fund	Dr Neils B. Quashie
Pharmacogenetics for every nation (PGENI) initiative.	University of North Carolina	Dr. William Kudzi

#### **DEPARTMENT OF PATHOLOGY**

The following research projects are currently on-going in the department:

- Breast cancer research in collaboration with NCI, USA.
- Diabetes and prostate cancer in Ghanaian men.
- HIV/AIDS and non- HIV/AIDS defining malignancies in Ghana.
- Pulmonary infections in people with HIV/AIDS in Ghana
- HIV nephropathy in Ghanaians

### On-going funded projects

PROJECT TITLE	DONOR/FUNDING AGENCY	AMOUNT	INVESTIGATOR
Morehouse School of Medicine Minority Health Disparities International Research Program	National Institutes of Health (NIH)	US\$1,195,625	Prof. Andrew A. Adjei
University of Ghana-Brown University Academic Partnership to address HIV/AIDS in Ghana	HED/USAID	US\$1, 000,000.00	Prof. Andrew A. Adjei
Molecular surveillance of hepatitis E in Ghana	University of Ghana Research Fund through ORID.	GH¢25,000.00	Prof. Andrew A. Adjei
Human immunodeficiency virus and sexually transmitted infections prevalence and Risk Factors Among Migrant Workers in Ghana.	HED/USAID.	US\$10,000.00	Prof. Andrew A. Adjei
Human immunodeficiency virus and sexually transmitted infections prevalence and Risk Factors Among Long-distance Truck Drivers in Ghana.	Danish Government	GH¢7,500.00	Prof. Andrew A. Adjei
Morehouse School of Medicine Global Infectious Disease Research Training.	National Institutes of Health (NIH)	US\$927,950	Prof. Andrew A. Adjei
Role of Hemo /HO-1 in malaria pathogenesis	National Institutes of Health (NIH)	US\$1,250,000	Prof. Andrew A. Adjei

### **DEPARTMENT OF ANAESTHESIA**

Research forms an integral part of teaching and learning in the Department of Anaesthesia. Faculty often carry out collaborative research projects. The following research projects have been carried out by members of faculty;

- BMI trends of patients reporting to the anaesthetic clinic
- Right Heart Cartetenisation in patients with
   Echocardiographic diagnosis of Pulmonary Hypertension
- Blood conservation in anaethesia and surgery a review

#### **DEPARTMENT OF PSYCHIATRY**

Research is an entrenched part of the teaching in the senior clerkship year. Thus senior clerks are engaged in clinical research projects on common mental disorders, ethical dilemmas of health care professionals and neuropychological deficits in patients with various illnesses. Faculty members are also involved in research projects in collaboration with

other researchers. The studies being undertaken currently include

- Monitoring and managing cardio-metabolilc risk factors in schizophrenia. Supported by the World Psychiatric Association (WPA), the study is being conducted in at least 13 countries on all continents and data collection has started in some of the countries.
- Ghana demonstration study of epilepsy Supported by International League Against Epilepsy (ILAE).
- A mental health screening study for medical students
   This is a study looking at risk factors for poor mental health in students.
- Depression and quality of life in chronic renal disease
- Parkinson's disease project.
- Mental neuropsychological functioning in sickle cell disease.
- Executive function deficits in traumatic brain injury.

- Memory training in older adults.
- Recruitment and retention of mental health workers in Ghana
- Research-policy partnership experiences of the mental health and poverty project in Ghana, South Africa, Uganda and Zambia.
- Psychological distress in Ghana: associations with employment and lost productivity.
- Female genital cutting current practices and beliefs in West Africa.
- Poor mental health in Ghana. Who is at risk?
- Changing trends in mental health care and research in Ghana.

#### **DEPARTMENT OF HAEMATOLOGY**

The main research areas of the Department have been in sickle cell disease and haematological malignancies. The Department collaborates with Delphe, WFH and directs the Ghana Institute of Clinical Genetics. During the period (2012/2013) faculty members of the department completed the following research activities:

- The Prevalence of Human Papilloma Virus Genotypes in Malignant Lymphoma Patients at Korle Bu Teaching Hospital (KATH)
- Molecular Monitoring of Response to Imatinb (Glivec) in Chronic Myeloid Leukaemia Patients
- Haemosiderinuria as a Marker of Intravascular Haemolysis in Sickle cell Disease
- Erythrocyte Alloimmunisation in Multiple Transfused
   Sickle Cell Anaema Patients at KBTH
- Determination of Genetic Polymorphisms Associated with Phenotypic Diversity in Sickle Cell Disease

### Research currently ongoing in the Department:

- Frequency and Clinical Outcomes of Tumour Lysis
   Syndrome (TLS) in Patients with Haematological
   Malignancies Receiving Chemotherapy at KBTH
- Coagulation Profile of Sickle Cell Patients with Chronic Leg Ulcers at the Centre for Clinical Genetics, KBTH
- Effect of Regular Blood Donation on Iron Stores in Male Ghanaian Donors

### **Research Grant**

Dr. Ivy Ekem won a NIH grant as a collaborator for the H3 Africa Kidney Disease Research Network.

#### **DEPARTMENT OF SURGERY**

The Department undertakes research in all its specialties and also does collaborative research with other institutions. There is an active monthly research forum that promotes research in the Department. The following research is currently being undertaken by faculty:

- Ghana Breast Health Study: A Multidisciplinary Study of Breast Cancer in Ghana:
- Study of Rota-virus and Intussusception
- Review of Intussusception
- Review of Hypospadias
- · Review of Bladder Exostrophy
- Study of Intestinal Atresia
- Occupational Hearing Loss in Non-formal Domestic Industry
- Molecular Characteristic of Colon and Rectal Cancer
- The Clinical and Pathological Aspects of Adenocarcinoma in Accra
- Febrile Neutropeania in Breast Cancer Chemotherapy

#### **DEPARTMENT OF OBSTETRICS AND GYNAECOLOGY**

The research activities currently ongoing in the Department are:

- Hypertensive Disorders in Pregnancy
- Fetal Heart Monitor
- Blood Salvaging and Auto Transfusion Device
- Cardiac Problems in Pregnancy
- Sickle Cell Diseases in Pregnancy
- Minimally Invasive Surgery in Gynecology
- Adolescent Gynaecology
- Maternal Mortality
- Colposcopy
- Use of Oral Hypoglycemia Agent (Metform) in Gestational and Non insulin Dependent Diabetes
- Role of Endothelial Dysfunction in the Pathogenesis of Preeclampisa
- Renal Diseases in Pregnancy

During the period under review, faculty completed the following research activities in collaboration with other faculty:

- Fatal hepatitis E viral infection in pregnant women in Ghana: a case series
- Menstrual characteristics in some adolescent girls in

- Accra, Ghana
- Prevalence and severity of dysmenorrhoea among some adolescent girls in a secondary school in Accra, Ghana
- Waiting time and women's satisfaction at an antenatal clinic in Ghana
- Fatal hepatitis E viral infection in pregnant women in Ghana. A case series
- Impaired renal function and increase in urinary isoprostone excretion in preeclampsia among Ghanaian women
- Association of maternal sleep practices with preeclampsia, low birthweight, and still birth among Ghanaian women
- Ten year review of vacuum assisted vaginal deliveries at a district hospital in Ghana
- Pregnancy outcomes among patients with sickle cell disease at Korle Bu Teaching Hospital, Accra, Ghana a retrospective cohort studies
- Sexual and reproductive health in Accra, Ghana

#### **DEPARTMENT OF ANATOMY**

Some of the research areas of senior members of the Department are: natural cocoa ingestion and microscopic anatomy of organs in laboratory and experimentally-diseased conditions, human anthropometry, comparative morphology of natural, and treated human hair, comparative structure of carotid bodies and arteries in insectivorous/frugivorous bats and laboratory mammals, comparative studies on hearing apparatus in bats and laboratory mammals, neural tube development, cardiac muscle development and ultrastructure, structure of the human placenta in health and disease, experimental embryology and cytogenetics.

### **Ongoing Research Projects**

- Microscopic structure of the femoral vein in rats treated with streptozotocin prior to prolonged feeding with cocoa.
- Effect of regular consumption of cocoa on development of atherosclerosis in streptozotocininduced diabetic rats.
- Morphological profile of hairs from head, eyebrow, axilla and pubic regions in Ghanaian adolescents.
- Facial anthropometric indices of adult Ghanaians with respect to nine neoclassical canons.
- Effect of daily cocoa/chocolate ingestion on blood pressure, serum lipid and magnesium levels in

- hypertensive and normotensive Ghanaians.
- Correlation of height with anatomic-obstetric dimensions of pelves in Ghanaian females.
- Anatomical, cytogenetical, and endocrinological profiles of Ghanaian females showing masculine body hair distribution.
- Explorative investigations into methods for preserving the structural integrity of the eyeball during histological processing.
- Effect of regular cocoa ingestion on vascular morphology in rabbits born to hypercholestrolemic mothers.
- Effect of regular ingestion of natural cocoa on testicular histology in streptozotocin-induced diabetic rats.
- Facial anthropometric measurements in 12-13 year old Ghanaians.
- Variation of placental index with volumetric composition of terminal villi of spontaneously delivered term placentas.
- Effect of prolonged ingestion of cocoa on microstructure of cardiovascular organs in experimentally-induced hypertensive rats.

### **Completed Research**

- Sexually dimorphic anthropometric measurements and testosterone/oestrogen ratios in young adult Ghanaians
- In vitro activity of extract and fractions of natural cocoa powder on Plasmodium falciparum
- Voluntary Ingestion of Natural Cocoa Extenuated Hepatic Damage in Rats with Experimentally Induced Chronic Alcoholic Toxicity
- Natural cocoa ingestion reduced liver damage in mice infected with Plasmodium berghei (NK65)

### **DEPARTMENT OF CHILD HEALTH**

The Department seeks to protect the future today. Faculty participate in collaborative research aimed at improving the health of children. The Department has been championing research into childhood cancers since 1969 with the establishment of the Burkitt's tumour project. The Department has been recognized as a training centre for Essential Newborn Care and Kangaroo Mother Care by USAID.

### **Ongoing Research**

- Paediatric bacterial meningitis surveillance, a WHO AFRO multi-country project ongoing since 2001
- IeDEA West Africa HIV collaboration, a multi-centre project involving 7 West African Countries
- Biomarkers to monitor response to anti-retroviral study in collaboration with researchers from Yale University
- Pneumococcal Disease surveillance a WHO AFRO multi-country project
- Sankofa HIV paediatric disclosure study, a five year HIV funded project with Yale University and Komfo Anokye Teaching Hospital
- Outcome of treatment for paediatric cataracts in a tertiary eye clinic, Korle-Bu Teaching Hospital, Ghana
- A study on the aetiology of pharyngitis in children in out-patient setting
- Pubertal changes in children with sickle cell disease

### Completed Research (2012/2013)

- Reversible audiometric threshold changes in children with uncomplicated malaria
- Insights into deregulated TNF and IL-10 production in malaria: implications for understanding severe malarial anaemia.
- Peadiatric resuscitation for nurses working in Ghana: an educational intervention.
- Changing pattern of childhood cancers in Korle-Bu Teaching Hospital, Accra, Ghana.
- Performance of clinical criteria for screening of possible antiretroviral related mitochondrial toxicity in HIVinfected children in Accra.
- A survey of paediatric HIV programmatic and clinical management practices in Asia and Sub-Saharan Africa
- Severe acute malnutrition in very low birth weight preterm infants
- Prevalence of severe acute rotavirus gastroenteritis and intussusceptions in Ghanaian children under 5 years
- Reversible audiometric threshold changes in children with uncomplicated malaria
- Twin reversed arterial perfusion sequence in a triplet natural pregnancy
- An often unrecognised but treatable cause of intractable seizures
- Electrocardiographic study in Ghanaian Children with uncomplicated malaria treated with artesunateamodiaquine or artemether-lumefantine
- Haemophagocytic Lymphohistiocytosis in a Ghanaian Child
- Multicentric Castleman's disease in a Ghanaian adult
- Cost of hospitalisation for children with severe malaria

#### in Ghana

### **DEPARTMENT OF MICROBIOLOGY**

Research in the Department of Microbiology is thriving and covers a wide spectrum, though much of our work is focused on public health microbiology.

The following is a list of the research projects on-going in the Department:

- HIV-1 and HIV-2 infections (dual infection, drug resistance, sequence diversity)
- HIV and tuberculosis co-infections
- HIV and blood transfusion safety
- Molecular characterization of hemorrhagic fever viruses in Northern Ghana
- Infectious diseases of children under five years old in Ghana with emphasis on those causing respiratory and diarrheal diseases
- Molecular Epidemiology of parasitic infections
- Detection and characterization of invasive and noninvasive species of Entamoeba spp
- Opportunistic parasitic infections among HIV/AIDS patients and children with special emphasis on diarrhea associated parasites
- Parasitic infections among out-patients visiting the Korle-Bu Teaching Hospital
- Epidemiology of Leishmaniasis in Ghana
- Neglected parasitic diseases
- Food and water quality analysis
- Invasive pneumococcal disease
- Antimicrobial susceptibility pattern of Mycobacterium tuberculosis to electro-colloidal silver
- The susceptibility pattern of multiple resistant Enterococci to electro-colloidal silver
- Evaluation of donor arm disinfection techniques
- Occurrence of antimicrobial drug residues and resistant bacteria in eggs sold in Accra
- The role of street foods in the transmission of enteropathogens
- Susceptibility of multiple antibiotic resistant
   Staphylococcus aureus to herbal medicinal preparations
   sold in Accra
- Comparative efficacy of crude extracts of garlic and onion to multi drug resistant streptococcus pneumonia in Korle Bu Teaching Hospital
- Quinolone resistance in feacal E.coli
- Malnutrition and diarrheal diseases in children less than
   5 years
- Dual HIV-1/HIV-2 seropositivity/infections; hepatitis B/C viruses, TB and malaria co-infections in HIV infected: discordant HIV couples; drug resistance mutations in HIV-1/HIV-2

### SCHOOL OF PUBLIC HEALTH

The School has a focus on applied research and is currently undertaking 23 research projects with a strong multidisciplinary focus linked to key issues in Ghana and around the world. The School has established an extensive research partner network with leading institutions in over 35 countries on a regional and international scale. Another strength of the School lies in its numerous collaboration and

alliances with non-university research institutions in Ghana and elsewhere in Africa.

Faculty, staff and students of the various departments in the School are involved in research across traditional subject boundaries.



**Prof. Richard Adanu**Dean, School of Public Health

### DEPARTMENT OF HEALTH POLICY PLANNING AND MANAGEMENT (HPPM)

Faculty in the Department carry out research in the areas of economic evaluation, health care financing, health services utilization, quality assurance and improvement, human resource development, motivation and productivity, health planning, monitoring and evaluation, health legislation and public health leadership and management

The HPPM Department is currently running five research projects which concentrate on health systems strengthening, resource management, and health policy analysis and workforce performance improvement. The research projects are:

 Supporting Decentralized Management to Improve Health Workforce Performance in Ghana, Uganda and Tanzania (PERFORM)

The PERFORM research project is designed to enhance understanding of how, and under what conditions, a management strengthening intervention can improve workforce performance within districts in three (3) African countries. Dr. Moses Aikins is the Principal Investigator.

 Multilateral Association for studying health inequalities and enhancing north-south and south-south CooperaTion (MASCOT)

The MASCOT project is a study of the social determinants of health which most influence Maternal and Child Health (MCH) inequalities in Africa, Latin America and Europe. In

Ghana, the main objective of the project is to establish the current status of MCH inequalities, and analyze existing health policies, programmes and strategies which aim to reduce MCH inequalities in Ghana. Another objective of the MASCOT project is to assess national health research systems to identify weaknesses, strengths and needs of research, as well as the use of research evidence in decision making. The project has produced a detailed country report on the status of MCH inequalities in Ghana. The Ghana team is currently analysing the 'Waiting Homes' programme of Mozambigue, where women who are identified to have highrisk pregnancies are provided with accommodation close to a referral centre during critical periods of their pregnancy and monitored till delivery. The Ghana team is investigating how the 'Waiting Home' concept could be incorporated into the CHPS programme to benefit women with high-risk pregnancies. Dr. Moses Aikins is the Principal Investigator of the project.

 Consortium for Health Policy and Systems Analysis in Africa (CHEPSAA).

This is a Consortium of Five (5) African Public Health Schools with the objective of building capacity in Health Systems and Policy Analysis. Prof. Irene Agyepong-Amarteyfio is the Principal Investigator.

Accelerating Progress Towards Attainment of MDG 4 & 5 in Ghana (ACCELERATE).

This project seeks to promote reductions in maternal and infant mortality by developing and evaluating approaches for accelerated attainment of MDG 4 and 5. Prof. Irene Agyapong -Amarteyfio is the principal investigator.

• Sustainable Sanitation Solutions (SUSA).

SUSA is a collaboration between University of Ghana and University of Copenhagen. The project office is located at the Dodowa Health Research Centre. There are different components of sustainable sanitation and each component has PhD students. The Principal Investigator is Dr. Mawuli Dzodzomenyo.

### DEPARTMENT OF POPULATION FAMILY AND REPRODUCTIVE HEALTH (PFRH)

Areas of research by faculty in the Department are: Maternal and Women's Health, Child Health, Sexual and Reproductive Health, Adolescent Health, Population Health, HIV and AIDS and Nutrition. The PFRH Department is currently running seven research projects. These are:

### Mobile Technology for Community Health (MOTECH).

This project is a partnership between the Health Innovation Technology (HIT) Lab and the SPH to investigate the role of mobile phones on the quality and utilization of prenatal and neonatal care in rural Ghana, and to demonstrate that mobile phones could serve as an efficient tool for improving maternal and child health outcomes. Dr. Augustine Ankomah is the Principal Investigator.

 National Health and HIV Survey of Prison Inmates and Prison Officers in Ghana.

This study is being conducted on behalf of the Ghana AIDS Commission, and has some partners from the University of Ghana Medical School. Dr. Augustine Ankomah is the Principal Investigator.

• Bridging Academic Institutions (ACBRIDGE)

Prof. Richard Adanu is the Principal Investigator

 New York University Cardiovascular Research Training (CaRT)

Prof. Richard Adanu is the Principal Investigator

• Evidence for Action (E4A)

Evidence for Action aims to improve maternal and new born health (MNH) and make issues of MNH more prominent using existing evidence from six (6) countries. SPH is the host for the project in Ghana. The project has three (3) main objectives: improving training and supervision of caregivers, improving client/provider partnership for advocacy and using evidence/data for decision making. Prof. Richard Adanu is the Principal Investigator.

- Mapping HIV Prevention Services and Activities at the District Level in Greater Accra Region, Ghana
- A Performance Evaluation of Ghana's HIV Prevention Program for At-Risk Populations

#### **DEPARTMENT OF EPIDEMIOLOGY AND DISEASE CONTROL**

The Department carries out research on malaria epidemiology, programme evaluation, non communicable diseases, zoonotic diseases, health events (accidents, injuries, disasters), effectiveness and safety studies of antimalarial vaccine trials and rotavirus vaccines trials.

The Department is currently running three research projects. These are:

Filariasis Elimination in Africa

The Filariasis elimination in Africa project is aimed at improving coverage through understanding of the social and behavioral factors affecting community treatment compliance of the disease to develop innovative ways of improving the reporting of treatment coverage from the community level to the national level using mobile phones to verify the absence of transmission and to develop research capacity in the field of epidemiology social sciences at the SPH.

- African Field Epidemiology Network (AFENET)
- African Programme for Advanced Research Epidemiology Training (APARET)

This is an EU funded project to support field epidemiology and laboratory training. The Project is currently providing support for graduates of Field Epidemiology in their mini and major projects. This project is affiliated to AFENET

 Training of the One Health Next Scientific Generation in the Sahel and Maghreb (OH-NEXT-GEN)

The SPH is amongst 9 institutions on this project, and serves as the editorial board for the OH-NEXT-GEN project. SPH is involved in the development of curricula and course content, as well as producing the virtual learning environment for the programme. The main output of this project is the unique and sustainable web-based diploma-level training programme in neglected zoonotic diseases based on the 'One Health' concept to contribute to research development and improved control of zoonoses in Africa. The project is intended for post-graduate and post-doctorate communities of medical and veterinary scientists in the Maghreb and Sahel regions. Dr. Samuel Sackey is the Principal Investigator.

### DEPARTMENT OF SOCIAL AND BEHAVIOURAL SCIENCES (SOBS)

The Department of Social and Behavioural Sciences has one major goal which is to equip trainees with knowledge and skills in the social sciences to enable them perform/function effectively as Public Health Practitioners sensitive to the prevailing socio-cultural contexts at the district, regional, national, and international levels. Research in the Department is in the following areas:

- Health systems research
- Health intervention and implementation research
- HIV and AIDS
- Socio-cultural and behavioural aspects of endemic tropical diseases
- Maternal, child and reproductive health issues

### Ongoing research in the Department

### • Institute of Infectious Diseases of Poverty (IIDP)

The Institute for Infectious Diseases of Poverty is a consortium of 6 institutions in Africa to produce interdisciplinary research information on infectious diseases of poverty and to support regional disease control programmes. The project has a capacity building component with the potential of training up to 12 PhD students. Currently 2 PhD students have been enrolled into the programme. Dr. Phillip Adongo is the Principal Investigator.

### Ghana Essential Health Interventions Programme (GEHIP)

The Ghana Essential Health Interventions Programme (GEHIP) was developed by a team at the School of Public Health led by Dr. Philip Adongo in partnership with the Ghana Health Services and the Mailman School of Public Health to extend the CHPS programme to urban communities by giving local districts the tools to make evidence-based decisions about their healthcare and allocation of healthcare resources. The unique population, culture and demographics in the urban communities require innovation and expertise in transferring the CHPS programme from the rural settings to urban contexts. This innovation is being implemented in the Ga East District of the Greater Accra Region of Ghana.

### DEPARTMENT OF BIOLOGICAL, ENVIRONMENTAL AND OCCUPATIONAL HEALTH SCIENCES (BEOHS)

The Department of Biological, Environmental and Occupational Health Sciences (BEOHS) continues to fulfill its mandate as a teaching and research Department that aims to build expertise which will provide leadership and inform health policy reforms in the sub-region. Research projects currently running in the Department are:

### • Sustainable Sanitation Solutions (SUSA)

SUSA is a collaboration between University of Ghana and University of Copenhagen. There are different components of sustainable sanitation and each component has PhD students. Dr. Mawuli Dzodzomenyo is the Principal Investigator.

### Tulane University's Disaster Resilience Leadership Academy

Dr. Ishmael Norman is the Principal Investigator

### **DEPARTMENT OF BIOSTATISTICS**

The Department is engaged in research with a partner implementer in the Africa Build project, together with 7 other European and African partners. The Department is also engaged in the Centre for AIDS research.

### Africa Build

AFRICA BUILD is a collaborative effort to support and develop advanced Centres of Excellence in health care, education and research in African countries through Information Technologies. The project is supported by the EU's Seventh Framework Programme (FP7-ICT). It is a project consortium of seven (7) institutions. Dr. Richmond Aryeetey is the Principal Investigator.

### • Centre for AIDS Research (C-FAR)

The objective of this project is to assess food security among HIV/AIDS patients. It is in collaboration with Tufts University and Brown University. The project is undergoing a qualitative assessment of the activities of people living with HIV/AIDS. Dr. Richmond Aryeetey is the Principal Investigator.



### The summary of research projects currently running in the School of Public Health is shown in the table below.

No.	TITLE OF RESEARCH CONTRACT SIGNED	VALUE (AMOUNT OF MONEY)	PRINCIPAL INVESTIGATOR
1.	Mobile Technology for Community Health (MOTECH)	US\$790,570.30	Dr. Augustine Ankomah
2.	National Health and HIV Survey of Prison Inmates and Prison Officers in Ghana.	US\$ 95.563.93	Dr. Augustine Ankomah
3.	Bridging Academic Institutions (ACBRIDGE)	€ 1,967,272.00	Prof. Richard Adanu
4.	New York University Cardiovascular Research Training (CaRT)	US\$134,136.00 (first year)	Prof. Richard Adanu
5.	Evidence for Action (E4A)	£1,000,000.00	Prof. Richard Adanu
6.	Filariasis Elimination in Africa	£1,776,629.00	Prof. John Gyapong
7.	African Field Epidemiology Network (AFENET)	US\$6,000,000.00	Dr. Edwin Afari
8.	African Programme for Advanced Research Epidemiology Training (APARET)	€ 2,227,413.60	Dr. Edwin Afari
9.	Training of the One Health Next Scientific Generation in the Sahel and Maghreb (OH-NEXT-GEN)	€ 1,997,402.31	Dr. Samuel Sackey
10.	Institute of Infectious Diseases of Poverty (IIDP)	US\$1,379,000.00	Dr. Phillip Adongo
11.	Ghana Essential Health Intervention Programme (GEHIP)	US\$1,268,351.00	Dr. Phillip Adongo
12.	Africa Build	€1, 999,496.00	Dr. Richmond Aryeetey
13.	Centre for AIDS Research (C-FAR)		Dr. Richmond Aryeetey
14.	Sustainable Sanitation Solutions (SUSA)	US\$200,000.00	Dr. Mawuli Dzodzomenyo
15.	Tulane University's Disaster Resilience Leadership Academy	US\$5,639,494.00	Dr. Ishmael Norman
16.	Sustainable Sanitation Solutions (SUSA)	US\$14,550.93	Dr. Moses Aikins
17.	Supporting Decentralized Management to Improve Health Workforce Performance in Ghana, Uganda and Tanzania (PERFORM)	€ 3,785,692.00	Dr. Moses Aikins
18.	Multilateral Association for Studying health inequalities and enhancing north-south and south-south Cooperation (MASCOT)	€ 101,370.00	Dr. Moses Aikins
19.	Consortium for Health Policy and Systems Analysis in Africa (CHEPSAA).	€ 2,237,212.80	Prof. Irene Agyepong- Amarteyfio
20.	Accelerating Progress Towards Attainment of MDG 4 $\&$ 5 in Ghana (ACCELERATE)	€ 800,000.00	Prof. Irene Agyepong- Amarteyfio
21.	Mapping HIV Prevention Services and Activities at the District Level in Greater Accra Region, Ghana (HIV Mapping Project)	US\$100,870	Dr. Amos Laar
22.	A Performance Evaluation of Ghana's HIV Prevention Program for At-Risk Populations (MARP Evaluation)	US\$111,529.00	Dr. Amos Laar

### **SCHOOL OF ALLIED HEALTH SCIENCES**

The new academic and professional orientation of the School

of Allied Health Sciences (SAHS) has provided a major stimulus for research activity within the various disciplines of allied health sciences. Research by faculty has increased and a number of research awards/grants have been received by some faculty



**Prof. Patrick Ayeh-Kumi**Dean, School of Allied Health Sciences

in the past year. Research publications have increased considerably; faculty and postgraduate students are exploring new research areas and working out collaborative research opportunities with local and international universities, institutes and organizations.

Some of the areas of faculty research in the School include investigation into molecular epidemiology of human papillomavirus (HPV) infection and its involvement with cervical, oral, head and neck cancers in Ghana, Helicobacterrelated duodenal diseases, oxidative stress and malaria, the KEEP IN TRACK WITH ACTIVITY (KITWA) project involving

inpatients with psychological problems at the Accra Psychiatric Hospital, investigations into mammography examination, Tomography Dose and Radiation Safety Assessments, Orthopanthomography and Lateral Cephalostat examinations, Radiation Dose Optimization in Chest Examinations.

Other areas of research include maternal, child and infant nutrition, adolescent nutrition, nutrition and diet Issues in obesity and chronic disease management, nutrition knowledge and education and the state of dietetic practice in Ghana.

#### **DEPARTMENT OF MEDICAL LABORATORY SCIENCES**

The Department of Medical Laboratory Sciences is currently engaged in three key research areas: human papillomaviruse (hpv), helicobacter-related duodenal diseases and oxidative stress and malaria

### 1. Human papillomaviruse (HPV) work

 Prevalence and distribution of human papillomaviruse (HPV) genotypes among Ghanaian women

In collaboration with the School of Public Health and other partners we have collected over 500 field samples and determined the prevalent genotypes. Major oncogenic HPV

types associated with cervical cancers in Ghana have been found.

 Molecular epidemiology of human papillomaviruses involved in cervical, oral, head and necks cancers in Ghana

Together with the Pathology Department (University of Ghana Medical School) and the University of Ghana Dental School, we have genotyped HPV from paraffin-embedded cervical tissues of over 300 confirmed cervical and oral cancers cases.

#### 2. Helicobacter-related duodenal diseases

In collaboration with the University of Ghana Medical School we have so far characterized vacA/cagA strains of the bacteria in the Ghanaian population, which is the first data of this sort to be generated.

#### 3. Oxidative stress and malaria

We have been exploring the gene effects of oxidative stress on the Plasmodium falciparum parasite during complicated and uncomplicated malaria infection to try and broaden understanding of the molecular basis for the parasite's survival or otherwise to reactive oxygen species generated by the host resulting from oxidative stress.

### **Summary of Current Research Contracts in the Department of Medical Laboratory**

TITLE OF RESEARCH CONTRACT SIGNED	VALUE	PRINCIPAL INVESTIGATOR
Epidemiology, molecular and immunological characterization of giardiasis in Ghana	GHS 25,437.05	Isaac Anim-baidoo
Molecular gene effects of oxidative stress on Plasmodium falciparum during complicated and uncomplicated malaria in Ghanaian children	GHS 28,875.00	Richard Harry Asmah
Molecular Studies of Human Papillomaviruses among HIV Positive Ghanaian Women	\$10,000.00	Richard Harry Asmah
Prevalence of human immunodeficiency virus and sexually transmitted infections among long distance truck drivers in Ghana	GHS 7,500.00	Rev. Nicholas Nii Trebi

### **DEPARTMENT OF RADIOGRAPHY**

Faculty at the Department of Radiography are currently carrying out the following research:

- Effects of Verbal Communication on Experiences of Discomfort in Women Undergoing Mammography Examination
- Levels of Research Participation Among Radiographers in Two Academic Hospitals in Ghana
- Computed Tomography Dose and Radiation Safety Assessments in Selected Hospitals in Ghana
- Indirect Measurements of Entrance Skin Doses for Orthopanthomographyand Lateral Cephalostat Examinations at the University of Ghana Dental School Clinic
- The Role of Exposure Charts on Reject Rates of Radiographs in Two Hospitals in Accra
- The Role of Automatic Exposure Control on Radiation
  Dose Optimization in Chest Examinations
- Optimization of patient radiation protection in pelvic
   X-ray examination in Ghana.

#### **DEPARTMENT OF DIETETICS**

The Department of Dietetics has staff researching in various areas of nutrition, diet and lifestyle. We are currently working within the following broad research themes:

### Maternal, child and infant nutrition

Work in this research area has contributed and continues to contribute new knowledge on feeding practices, nutrient intakes, dietary habits and dietary management of diseases among Ghanaian infants and children.

#### Adolescent nutrition

Nutritional status and eating patterns of adolescents have been assessed and new insights are being gained.

### Nutrition and Diet Issues in Obesity and Chronic Disease Management

Work in this area focuses on assessing nutritional status and risk factors as well as dietary management of patients with

chronic diseases such as diabetes, cardiovascular disease and kidney disease. With the rising levels of obesity in Ghana, of particular interest is an ongoing project which focuses on auditing and assessing the effectiveness of weight loss strategies employed in various dietherapy units.

### Nutrition Knowledge and Education

Work in this area has focused on food choices and food label use among Ghanaians. More work which is currently ongoing is looking at nutrition knowledge among different population groups, with the aim of identifying nutrition education gaps.

#### State of Dietetic Practice in Ghana

This research area has looked at job satisfaction among Ghanaian dietitians. Another area that has been looked at is the awareness and practice of the Ghana Health Service Patients' Charter in Dietherapy Units of the Korle-Bu Teaching and Ridge Regional Hospitals.

Table 3: Summary of Current Research Grants in the Department of Dietetics

TITLE OF RESEARCH CONTRACT SIGNED	VALUE	PRINCIPAL INVESTIGATOR
The effectiveness of dietary and lifestyle interventions in persons with major lifestyle related chronic disease at the Korle- Bu Teaching Hospital - University Of Ghana Research Fund; Investigator-Led Grants	GH¢ 29,852	Mrs. Rebecca K. Steele-Dadzie
Nutritional status of newly diagnosed cancer patients: A comparative study of 2 selected hospitals in Ghana - Building Stronger Universities-Platform for Human Health (BSU-PHH) Research Award	GH¢7,500	Mrs.LaureneBoateng
Nutritional anaemia in pregnant adolescent girls in selected communities in Accra - University Of Ghana Research Fund; Investigator-Led Grants	GH¢25,000	Mrs. Freda Ntiful

#### **DEPARTMENT OF OCCUPATIONAL HEALTH**

The following research activities are currently being undertaken in the Department;

 Practice Placement Education: Potential Impact on Developing Professional Identity of Occupational Therapy Students in Ghana.

The aim of the study is to explore the development of students' professional identity as occupational therapists.

 Keep In Track With Activity (KITWA) Project: The KITWA project involves people with psychological problems who are on admission at the Accra Psychiatric Hospital.

The aim of the KITWA Project is to work with clients, their relations and other stakeholders to ensure relapse prevention.

#### **DEPARTMENT OF PHYSIOTHERAPY**

The Department recognises the interdependence of research with personal development and professional practice and hence attaches importance to research. The focus of the Department's research profile is wide and varied but essentially includes musculoskeletal, neurology, paediatrics and physiotherapy education.

**Table 4: Summary of Current Research Grants in the Department of Physiotherapy** 

Title of Research Contract signed	DONOR/ FUNDING AGENTS	VALUE	PRINCIPAL INVESTIGATOR
Developing a rehabilitation strategy for home-based care among pulmonary tuberculosis patients living with HIV/AIDS in the Accra metropolis of Ghana.	UG-Brown AIDS Academic Partnership (UBAAP)	US\$5000.00	Jonathan Quartey
A problem-based teaching approach to enhance self-directed learning in undergraduate physiotherapy students at the University of Ghana.	UGRF-ORID	GH¢22,197.00	Jonathan Quartey
Developmental screening towards early identification of development delays in children attending a rural community Welfare Clinic in Ghana: A preliminary study.	UGRF-ORID	GH¢5000.00	Ajediran Bello
Impact of physiotherapy on community reintegration among stroke survivors.	The University of Ghana-Danish Universities Academic Partnership (BSU-PHH)	GH¢7500.00	Jonathan Quartey
Efficacy of behavioural graded activity compared with conventional exercise therapy in non-specific chronic low back pain.	Agency: The University of Ghana- Danish Universities Academic Partnership (BSU-PHH)	GH¢7500.00	Ajediran Bello

#### **SCHOOL OF PHARMACY**

The School has a vision of "Promoting human health through safe, efficacious and affordable pharmaceutical intervention". Being a fairly new school with very young faculty, research in the school is still at its early stages. Through hard work a few faculty members have won grants for research for which

they serve as Principal Investigators. With the level of commitment shown by faculty especially in research, I am optimistic that in a few years the School will build its research profile and become a very strong pharmaceutical research center in the country.



Prof. Alexander Nyarko Dean, School of Pharmacy

- nanoparticles, magnetic nanoparticles, nanorods and nanowires for bioelectronic and biomedical applications.
- Biomolecule-Based Nanostructures: Functional interfaces comprising biomaterials and nano-objects, supra-molecular hybrid systems with complex molecular/biomolecular nano-architecture.
- Nanocircuitry: Based on biotemplates, supramolecular approach for the self-assembly of functional nanowirebased carbon nanotube materials.
- Biosensing: Based on integrated systems with complex molecular architecture, self-powered biosensors and DNA-machine based sensors.
- Gene Expression: Study fundamental aspects of the chemistry of DNA/peptide assemblies, and their applications in controllable gene expression systems mediated by supramolecular interactions.

### **DEPARTMENT OF PHARMACEUTICAL CHEMISTRY**

The following research is currently being carried out in the Department:

- Bionanotechnology-Bioelectronics & Optobioelectronics:
   This is a means for amplification bioanalytical systems, employing biological materials and photo-switches to create active electrical components.
- Functional & Nano Materials: Comprising metallic

#### **DEPARTMENT OF PHARMACEUTICS AND MICROBIOLOGY**

Research in the Department is in the following areas:

- Microparticulate and nanoparticulate drug formulation and target delivery of novel drug formulations
- Drug analysis studies to determine the quality of Amoxicillin/Clavulanic acid formulations found in the central region of Ghana
- Investigation into some pharmaceutical applications of natural plant polymers as pharmaceutical excipients
- Formulation of extract of the plant Cassia alata, which has remarkable antimicrobial activity but is sensitive to

- heat and light and unstable in water, as an active and stable pharmaceutical topical product for superficial skin infections
- A survey of extemporaneous preparations on the Accra market and their compliance to standard requirements
- Determination of alpha –cyanomethrin levels in long lasting insecticide treated mosquito nets in the Akuapem South District
- Bioactivity guided isolation and characterization of parts of Spathodea campanulata as a potential antibiotic against plasmid mediated bacteria resistance
- Gut bacteria in Health and Disease: Probiotics and Prebiotics
- Quality control of Pharmaceuticals and Nutraceuticals containing live cultures

#### **DEPARTMENT OF PHARMACOGNOSY & HERBAL MEDICINE**

Research in the Department is in the following areas:

- Fractionation, Characterisation and Biological activities of extracts of Croton membranaceus and Mondia whitei
- Anti-Inflammatory Constituents of Selected Medicinal Plants

#### **DEPARTMENT OF PHARMACOLOGY & TOXICOLOGY**

Research in the Department is in the following areas:

- Anticonvulsant and related neuropharmacological effects of the whole plant extract of Synedrella nodiflora (L.) Gaertn (Asteraceae).
- Gastroprotective Effect and Safety Assessment of Zanthoxylum Zanthoxyloides (Lam) Waterm Root Bark Extract
- Anti-secretory effects of a dichloromethane fraction of the stem bark of Piliostigma reticulatum ( Cesalpiniaceae)
- Hypoglycaemic activity of ethanolic leaf extract and fractions of Holarrhena floribunda (Apocynaceae)
- The efficacy of NHIS-listed anti-glaucoma drugs in the

- management of primary open angle glaucoma
- The hypotensive effect of an aqueous extract of Heliotropium indicum Linn (Boraginaceae)
- Investigating the Site of Action of an Aqueous Extract of Heliotropium indicum Linn (Boraginaceae) on Smooth Muscles
- Oxidative capacities of cardiac and skeletal muscles of heart transplant recipients: mitochondrial effects of cyclosporin-A and its vehicle Cremophor-EL
- The anti-secretory effect of a dichloromethane fraction of the stem bark of Piliostigma reticulatum (Caesalpiniaceae)
- The hypoglycaemic activity of ethanolic leaf extract and fractions of Holarrhena floribunda (Apocynaceae)
- The antidiarrhoeal activity of an ethanol extract of the stem bark of Piliostigma reticulatum (Caesapiniaceae) in rats
- The anti-asthmatic potential of Kalanchoe Integra and Unsweetened Cocoa Powder
- The neuropharmacological potential of Kalanchoe Integra
- A safety assessment of Kalanchoe Integra Leaves.
   Funding GH¢7,500 from Danish sponsorship.
- An observation of unphosphorylated STAT3 core protein binding to target dsDNA by EMSA and X-ray crystallography
- Probing the STAT3beta protein-protein interaction interface and druggability using crystallographic approaches

# DEPARTMENT OF PHARMACY PRACTICE AND CLINICAL PHARMACY

Research in the Department is in the following areas:

- Psychosocial determinants of antihypertensive medication adherence
- Emotional influence on antiretroviral medication adherence behaviour
- Psychosocial factors and health related quality of life of HIV patients on HAART

**Table 5: Grant Awards** 

PROJECT TITLE	AMOUNT/ VALUE	INVESTIGATOR
A Pharmacological study of the antinociceptive effects of Synedrella nodiflora in neuropathic pain - International Foundation of Science Grant Award, Sweden	US\$12,000.00	Dr. Patrick Amoateng
Developing an alternate anti-epileptic product from medicinal plants: exemplifying utilization of natural resources for quality health - 5th UG-ORID Grant	GH¢30,000.00	Dr. Patrick Amoateng
Anticonvulsant activity-guided fractionation of Synedrella nodiflora (L) Gaertn whole plant extract - BSU-PHH, UG CHS Seed Grant	GH¢7,500.00	Dr. Patrick Amoateng
Screening Ghanaian medicinal plants for antipsychotic properties - 6 <sup>th</sup> UG-ORID Grant	GH¢25,000.00	Dr. Patrick Amoateng
Danish sponsorship	GH¢7,500.00	Dr. Isaac Julius Asiedu-Gyekye

# **SCHOOL OF NURSING**

Within the past five years, most of the faculty of the School had to embark on PhD programmes. It is the wish of the School that as more faculty obtain PhD degrees, the School and its departments will be equipped to embark on

aggressive research and project activities.

The School is currently in collaboration with some sister institutions from foreign Universities. During the period, some of the faculty members have in their individual capacities been able to undertake some research activities.



**Dr. Ernestina Donkor** Dean, School of Nursing

#### **DEPARTMENT OF MATERNAL AND CHILD HEALTH**

A research project in collaboration with the University of Wisconsin-Madison School of Nursing is currently underway in the Department. The project is titled "A pilot study treating depression comorbid with infertility among Ghanaian women: Oh Happy Day" and it is being led by Dr.



Dr. Florence Naab

Florence Naab. This research will be the first to test the feasibility and acceptance of psycho-educational counselling as an additional treatment for infertile women in active medical treatment in Ghana. The grant amount is \$6,000 US dollars.

#### **DEPARTMENT OF ADULT HEALTH**

The research activities of the Department are related to individual faculty members' doctoral studies in areas such as Diabetes, Hypertension and HIV/AIDS.

# Guideline For Post-Operative Pain Management Within A Resource-Limited Clinical Environment Developed



Dr. Lydia Aziato

Dr. Lydia Aziato's doctoral research aimed at developing a context appropriate clinical guideline for the management of postoperative pain in Ghana. The study adopted an innovative rigorous multi-step ethnographic

approach to achieve this quest. The innovative approach triangulated multiple methods of data collection such as individual interviews, clinical observation, and review of clinical documents. Multiple sources of data such as patients, health professionals, patients' families, and key informants were used. The study also involved a systematic review of the current evidence of post-operative pain management. The final clinical guideline had four inter-related components with their specific statements described within a framework of a Radial Venn. The clinical guideline developed in this study has been endorsed by the Ghana Health Service. The guideline is the first developed for post-operative pain management within a resource-limited clinical environment.





The College, as a specialised entity of the University, has a vision of becoming an internationally acclaimed African institution for scientific innovations in sustainable agriculture and human development to meet national and global challenges. Its mission is to provide a world class academic

environment through quality teaching, research and extension, integrating system-wide innovations to realise tangible results.

In line with our vision and mission, this annual research report covering the 2012/2013 academic year demonstrates the



**Prof. S. Kwame Offei** Provost

remarkable reach and depth of our faculty's research and consistently innovative and exceptional quality of their research outputs/results. The College's key research activities cover a whole spectrum of activities such as plant/animal breeding, characterisation and conservation of indigenous (domestic) animal/plant genetic resources, vaccine development for cattle disease, innovative and cost effective way of feeding ruminants, climatic change



Research on cattle at Livestock and Poultry Research Centre (LIPREC)

impact analysis on agriculture and mitigation strategies, sustainable management of pest on the field and on stored produce, hydroponics and soilless culture (use of biochar) for vegetable and fruit crops production, soil fertility analysis and management, market and economic analysis, and so on. We acknowledge the fact that currently, research advances depend more on constructive and innovative collaboration between multi-disciplinary fields. Indeed, today's research with the greatest impact emerges from the convergence of multiple disciplines. As such, during the academic year under



Cultivation of Vegetables using Hydroponics and Soilless Culture

review, our faculty members also collaborated with faculty members of other universities, governmental institutions and the private sector to ensure that our research outputs are impactful both nationally and internationally.

We believe that there are more opportunities available for faculty members to renew and reinvent ourselves in critical and impactful areas in this country. This will ensure that we not only remain a distinctive and unique College in the University, but one that engages with national socioeconomic development challenges; whilst ensuring that we effectively serve our society and have a dynamic and sustainable future as a College.

To this end, I extend my congratulations and appreciation to all our researchers, technicians and administrative staff, students, collaborators, donors, and partners (both public and private) who enormously contributed to making 2012/2013 an academic year in which research activities in the College continue to flourish and be impactful. Your competence, expertise, dedication, positive attitude and generosity continue to assist the College in its stride to achieve its vision and mission.

# CONVERGENCE OF SCIENCES – STRENGTHENING INNOVATION SYSTEMS

Convergence of Sciences-Strengthening Innovation Systems (CoS-SIS) is an action research programme in Benin, Ghana and Mali. It carries out scoping and diagnostic studies, agrarian system analyses and participatory field experiments with multi-stakeholder innovation platforms at the local, district and national levels. Its purpose is to identify pathways for removing 'the pervasive bias' against the small farm sector in s ub-Saharan Africa. The programme aspires to make progress toward (global) food security and supports

sustainable intensification of smallholder farming as a key option for realizing this goal. The overall objective of this research programme is to identify research opportunities and strategies that can contribute to innovations that will lead to poverty reduction.

CoS-SIS is a partnership among the Université d'Abomey-Calavi (UAC) at Cotonou, Benin; the University of Ghana (UG) at Legon, Ghana; the Instut Polytechnique Rural de Formation et Recherche Appliquée, (IPR/IFRA) at Katibougou, Mali; Wageningen University (WUR); the Royal Tropical Institute (KIT) and Agriterra in the Netherlands.

The National Programme Coordinator for Ghana is Dr. Owuraku Sakyi-Dawson of Department of Agricultural Extension of the College of Agriculture and Consumer Sciences. The programme has received funding totaling € 4.5 million for six years (end of 2008-mid 2014) by the Directorate-General for International Cooperation of the Netherlands Ministry of Foreign Affairs (DGIS/BUZA).



Convergence of Sciences Training Workshop

CoS-SIS is the second phase of CoS. CoS1 (2001-2006) focused on participatory technology development (PTD) in Benin and Ghana. It showed that smallholders can capture only limited benefits from even the best-adapted and appropriate technologies because of their constrained opportunities. The programme adopts a multi-stakeholder approach to research and innovation, which is grounded in the three-dimension principle of convergence, namely convergence of stakeholders, of disciplines, and of institutions.

It also seeks to develop capacity among stakeholders to create opportunities for resource-poor farmers and smallholders in the agricultural sector through institutional and technological development using an innovation system approach. In Ghana, its research areas of focus are the oil

palm industry, cocoa industry and food security (including livestock). Within these domain areas of the programme, action research is being carried out through the programme structures.

# TRAINING TOMORROW APPLIED AGRICULTURAL ECONOMISTS TODAY

Alliance for Green Revolution in Africa (AGRA) awarded an amount of US\$1,289,880 to the Department of Agricultural Economics and Agribusiness to run a PhD in Applied Agricultural Economics and Policy in the Department. The programme will cover September 2012 to August 2017.

AGRA identifies itself with an African Green Revolution. For this to happen, AGRA believes that technical interventions must be relevant to the needs of actors in the agricultural sector and technical change must benefit smallholder farmers. Africa therefore needs a policy support system in ways that bring researchers and policy makers closer; and also a need to build analytical capacity, strengthen policy advocacy platforms and support farmer institutions to influence policy.

While there is funding for research in crop improvement (e.g. the West African Centre for Crop Improvement, at the University of Ghana); similar level of funding is lacking for the social science research that links the technical research to policy. The need to understand agricultural development issues and the contexts in which these issues arise also require that locally relevant policy research and advocacy capacities are built.

AGRA therefore, in her mandate on Policy strengthening, needed to build local capacity for policy research, through graduate level training to build Africa's human resource base. AGRA is supporting Francophone West African countries training in applied agricultural economics and policy at the Master-level. AGRA found it prudent (with the conviction that Africa badly needed home-grown policy makers and faculty development) to enhance the training to a higher level and made a decision in 2010 to partner the University of Ghana's Department of Agricultural Economics and Agribusiness for this purpose. Thus, the PhD training programme in Applied Agricultural Economics and Policy is designed to complement the Master in Applied Economics Policy (AAEP) of the University of Ouagadougou and to also enhance the PhD programme in Agricultural Economics being run by the University of Ghana.



Graduate Students on a field

The overall objective of this AGRA-sponsored PhD program is to contribute significantly to the enhancement of the environment for evidence based policy making in sub-Sahara Africa. The PhD program is to train policy analysts and impart knowledge and skills needed to champion the transformation of agro-food sectors and the rural economies through

evidence-based policy making in departments of Agricultural and Applied Economics in the Universities and in relevant government Ministries, Departments and Agencies in Benin, Burkina Faso, Ghana, Mali, Niger, and Nigeria. The program is designed to support the training of Doctor of Philosophy (PhD) students. AGRA believes that a good PhD degree is very costly and most potential students will not be able to afford it without support.

The first phase of the sponsored programme will target 20 students to be admitted in annual batches of 10 (80 percent francophone students; 20 percent Anglophone (Ghana and Nigeria)) over a two year period. The first cohort of 10 students will be admitted in January 2013 and the second, August 2013. The sponsored programme itself will run for five years. The target class size per year, however, will be 15-20 students. The aim will be to graduate 20 students by the end of 2017.





The oldest and the second largest teaching and research unit of the University of Ghana, the Faculty of Arts is home to the departments of English, French, Modern Languages, Linguistics, the Study of Religions, Philosophy and Classics, as well as the Language Centre and the School of Performing Arts which consists of the departments of Music, Dance

Studies and Theatre arts. Research themes of the faculty therefore cuts across these broad range of disciplines including modern and ancient literatures, African and European languages, introspective inquiries of philosophy, religion and



**Prof. Cephas Omenyo** Dean, Faculty of Arts

classics and the performing and creative arts.

During the year under review, seventeen faculty members won local, regional and international research awards including the prestigious American Council of Learned Societies award for postdoctoral research, International Association for the History of Religion (IAHR), Africa Trust Fund, the CODESRIA African Sexuality Programme award, and the Indian Council for Cultural Relations (ICCR) Fellowship. The Confucius Institute for Research in Chinese Language and Culture was also inaugurated on 22<sup>nd</sup> May, 2013.

In the Faculty of arts, we nurture innovative research and the international publication efforts of all our faculty members at every stage of their careers. In this academic year, the first two issues of the biannual Ghana Journal of Linguistics resumed a long history of cutting edge theory in general linguistics. The fourth volume of the Ghana Bulletin of Theology which has been in existence since the 1960s was also published by the Faculty. We published two issues of our flagship journal, Legon Journal of the Humanities, which is one of the University's oldest continuously running journals in the University of Ghana: Volume 23 (2012) and a Special Issue (2012) containing papers presented at the Society for Pidgin and Creole Languages (SPCL) conference held at the University of Ghana, Legon from 2nd to 6th August 2011.

Since 2002, we have run Arts Colloquium from which a selection of blind reviewed papers have been published as journal issues and as two cross disciplinary anthologies, Identity Meets Nationality: Voices from the Humanities in 2011 and The One In the Many: nation building through

cultural diversity in 2013. The two books were launched on April 16, 2013 during the annual colloquium which was organized under the theme, "From Theory to Practice: Insights from the Humanities". The Faculty of Arts also hosted this year's interfaculty lectures, of which eleven papers were presented.

#### THE 2012/ 2013 FACULTY OF ARTS COLLOQUIUM

The 11<sup>th</sup> Colloquium of the Faculty of Arts was held under the theme, "From Theory to Practice: Insights from the Humanities". The sub-themes covered include: 'Exploring Theory and Practice in the Performing Arts', 'Bringing Theory to Practice in the Literary Arts', 'Combing Theory and Practice in Language and Linguistic Research' and 'Theory and Practice in Philosophy, Classics and Religions'.

In all, forty eight presentations were made across all the disciplines in the faculty. The keynote address titled "Clapping with One Hand, or Fundamentally Flawed Management of Post-Colonial African Spaces" was delivered by Professor Ama Ata Aidoo. During the opening ceremony, a book



11th Faculty of Arts Colloquium

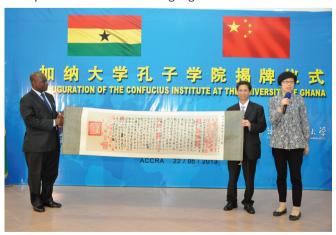
consisting of selected peer-reviewed papers from the 2011 Colloquium was launched. The 255-pages book titled "The One in the Many: Nation Building through Cultural Diversity" was reviewed by the Pro-Vice-Chancellor for Academic and Students Affairs and immediate past Dean of the Faculty, Professor Kweku Osam. The book was jointly edited by Professor Helen Lauer of the Department of Philosophy and Classics, Professor Nana Aba Amfo of the Department of Linguistics and Dr. Joana Boampong of the Department of Modern Languages. One highlight of the Colloquium was a plenary presentation by Professor Martha Frederiks, Head, Department of Religious Studies and Theology, Faculty of

Humanities, Utrecht University in the Netherlands. Her paper was titled, "The Humanities: From Theory to Practice". There were inspiring parallel presentations and an exhibition of publications and creative artifacts.

# ESTABLISHMENT OF THE CONFUCIUS INSTITUTE FOR RESEARCH IN CHINESE LANGUAGE AND CULTURE

In May 2008, the Department of Modern Languages introduced the Bachelor of Arts in Chinese. This was in direct response to the University's recognition of the increasing role and influence of China in world affairs. The introduction of this programme is part of efforts at promoting internalisation at the University of Ghana. Following the introduction of the degree programme, the University, in collaboration with the Chinese Embassy in Ghana, decided to establish the Confucius Institute at the University of Ghana (CIUG). The institute is expected to improve research and the teaching of Chinese language and culture in the University. A Memorandum of Understanding (MoU) was therefore signed between the University of Ghana and the Headquarters of the C.I. (Hanban), under which the office of the Chinese Language International, China was to provide two technical assistants yearly to promote the teaching and learning of the Chinese language and culture at the University of Ghana. To further deepen this partnership, the Zhejiang University of Technology was selected by the Headquarters of the Confucius Institute to partner with the University of Ghana in September 2012. As part of the MoU, the Confucius Institute will support educational and cultural exchanges between the two universities. With its establishment, the CIUG has joined the community of twenty (20) Confucius Institutes located in sixteen (16) countries in Africa.

At the inauguration of the Institute, thirty (30) scholarships were presented to Chinese language students of the



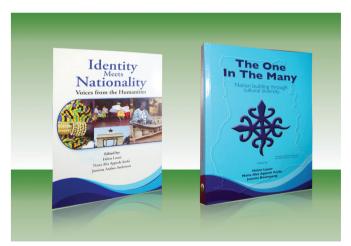
Inauguration of the Conficius Institute

University of Ghana for a year's study in Zhejiang University of Technology. The successful inauguration was the last condition to be met for the release of the start-up fund of US\$150,000 to the University of Ghana by the Confucius Institute Headquarters. The ceremony was attended by the Ambassador and staff from the Chinese Embassy in Ghana, members of the Ghanaian and foreign press, including the Chinese Xinhua News Agency, and representatives of Zhejiang University of Technology and University of Ghana.

#### **BOOKS LAUNCHED**

Three books all published by sub-Saharan Publishers were launched during the year. The first book titled "Identity Meets Nationality: Voices from the Humanities" was edited by Professors Helen Lauer and Nana Aba Appiah Amfo and Dr. Jemima Anderson. This anthology contains papers presented at the 2010 Annual Faculty of Arts Colloquium. The second book titled "The one in the many: Nation building through cultural diversity", is edited by Professors Helen Lauer and Nana Aba Appiah Amfo and Dr. Joanna Boampong. This second book is also a collection of papers presented at the 2011 Faculty of Arts Colloquium.

The third book titled "Reclaiming the Human Sciences and humanities Through African Perspectives". Vols. 1& 2, (ed.

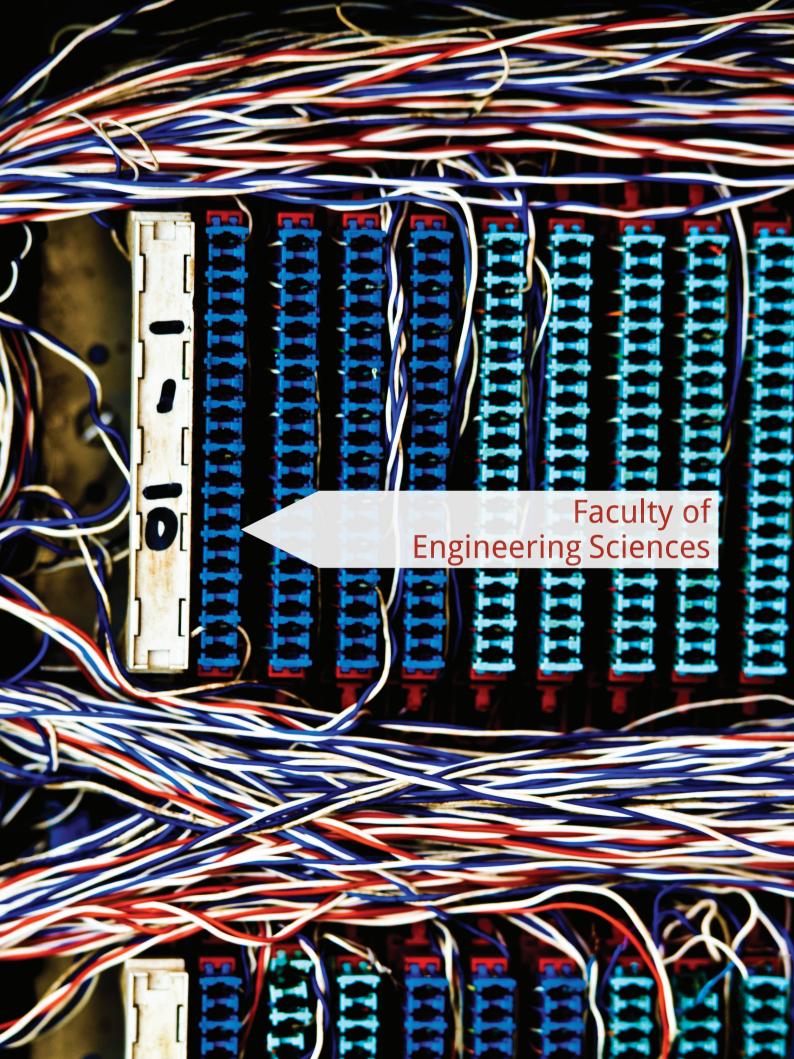


Book Launched

Helen Lauer & Kofi Anyidoho). This book comprises the two Volumes of 1,682 pages and contains 85 chapters organised into nine sections. They feature seminal work of established scholars including Mahmood Mamdani, Peter Ekeh, Samir Amin, James Ferguson, Anthony Kwame Appiah, Kofi Agawu, Kwame Ninsin, Efua Sutherland, Kofi Awoonor, Biodun Jeyifo, Niyi Osundare, Femi Osofisan, Kofi Anyidoho, and Ngugi wa Thiong'o, Claude Ake, Kwame Nkrumah, Chinua Achebe, Kwabena Nketia, and Kwasi Wiredu, as well as many young

scholars. Cross-referenced and cross-indexed, both volumes contain an appendix tutorial on preparing publishable manuscripts in standard journal styles of footnoting and referencing.





Research productivity in the Faculty of Engineering Sciences has been very encouraging. Faculty members have various grants to carry out research that is expected to have remarkable impact on policy and on the livelihoods of Ghanaians.



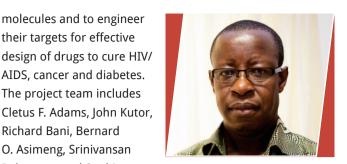
Prof. Richard Bani Dean, Engineering Sciences

The project team includes Cletus F. Adams, John Kutor, Richard Bani, Bernard O. Asimeng, Srinivansan Balapangu and Sophia Tetteh, all of the Faculty of Engineering Sciences.

molecules and to engineer

AIDS, cancer and diabetes.

their targets for effective



Prof. Elvis K. Tiburu

DANIDA provided funding of US\$1.25 Million for research project on sustainable food production through irrigated intensive farming systems in West Africa led by Dr. Abenney-Mickson. The project is a collaboration between the University of Ghana, Aarhaus University and the University of Copenhagen. The work is timely and relevant because the livelihood of the majority of the people living within the catchment of the Keta sand spit largely depends on an irrigation system supported by a shallow aguifer. In the last decade, a sprinkler irrigation system was introduced which may cause over-consumption of water and could lead to fatal saltwater intrusion in the aquifer in the coming years.

The project is expected to address these challenges through:

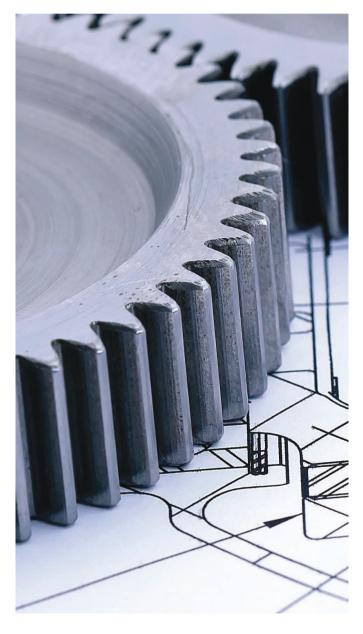
- The introduction of water-saving irrigation systems and new heat tolerant crop varieties.
- The minimisation of the environment impact on water courses due to farming systems

DANIDA also provided funding of US\$50,000 for an interdisciplinary research cooperation to develop a prototype solar powered drip irrigation and fertigation system adapted to soils and climate conditions in Ghana. This project is led by Dr. Edward Sabi of the Department of Agricultural Engineering.

Dr. Henry Mensah-Brown received a research grant of GH¢25,000 from the University of Ghana Research Fund to implement the project titled "the development of a system for indirect non-invasive measurement of respiratory parameters using human speech".

### The Quest for the Development of Potent Drugs

The National Institute on Drug Abuse (NIDA) under the National Institute of Health provided funding of US\$375,000 to Professor Elvis Tiburu, a Visiting Scholar to the faculty to conduct research into the isolation of synthesizing of small





In January, 2013, the Faculty of Law hosted an International Conference on Law and Religion in Africa: Comparative Practices, Experiences and Prospects. This was done in

collaboration with the
Unit for the Study of Law
and Religion, Faculty of
Theology, University of
Stellenbosch and the
Centre for Human Rights,
University of Pretoria, both
in South Africa; the Centre
for the Study of Law and
Religion, Emory University,



**Prof. Kofi Quashigah,** Dean, Law Faculty

United States and the International Center for Law and Religion Studies, Brigham Young University, J. Reuben Clark Law School.



International Conference on Law and Religion in Africa

Prof. Kofi Quashigah's paper, titled "Religion and the Republican State in Africa: Need for a Distanced Relationship", argued for a separation of religion from the political affairs in the republican states. He stated that religion, if it is to be true to itself, should not allow its use for political gain, neither should it seek to usurp political power to advance its goals. To do otherwise will set the stage for abuse of the rights of sections of citizens of the various countries of Africa that are essentially republican.

# **Book Launched and Grants**

In 2013, Dr. Poku Adusei launched his book on Patenting of Pharmaceuticals and Development in Sub-Saharan Africa: Laws, Institutions, Practices and Politics (Springer, 2013). The book investigates the patent protection of medication in the light of the threats posed by HIV/AIDS, malaria and tuberculosis epidemics to the citizens of countries in Sub-Saharan Africa (SSA).



Dr Poku Adusei at his book launch

Dr. Peter Atupare, a lecturer at the faculty also published a book in 2013 titled "Constitutional Justice in Africa: An examination of constitutional positivism, fundamental law and Rights in Ghana and Nigeria". He also received a research grant provided by the University of Ghana Research Fund to implement the project titled "Criminal Justice and Sentencing Decisions in Ghana". He also published in the Sarbah Special Edition on the topic "Sarbah on Legal Pluralism and Senses of Legality in the Gold Coast: Some Insights for Ghana's Current Legal Systems".

### The University of Ghana Law Journal

The Faculty is getting ready to publish two volumes of its journal, The University of Ghana Law Journal by October 2013. Some of the articles and their authors to be included in these volumes are: "The Sources of Pubic International Law and their Applicability to the Domestic Law of Ghana" by Mr. E.Y. Benneh, "The Taxanomy of Transitional Justice in Africa: A Reflection on the Theoretical Trajectories of Truth Commissions and International Criminal Courts" by Dr. Atudiwe P. Atupare, "Holding Corporations Liable for criminal conduct: An Examination of Ghana Law" by Dr. Abdul Bassit Aziz Bamba, "Developing a More Balanced Framework for Dealing with the Effects of Statutory Illegality on Contracts" by Christine Dowuona-Hammond, "Public Accountability Under the Constitutional framework of Ghana" by Prof. Kofi Quashigah, "Developing the Rule of Law among Nations: A Challenge to the United Nations" by Mr. Emmanuel Yaw Benneh and "Legislative Trajectory and Judicial Interventions on Interest Rates in Ghana" by Mr. Godwin Djokoto.



The Faculty of Social Sciences derives its mission from that of the University which is to "develop world-class human resources and capabilities to meet national development needs and global challenges through quality teaching, learning, research and knowledge dissemination". To fulfill this mission, the faculty endeavours to make teaching,

research and extension activities in the social sciences more relevant to the development needs of the Ghanaian society in particular and the world in general through the offering of attractive, innovative and demand-driven programmes, scholarly research and productivity.



Prof. Samuel Agyei-Mensah, Dean, Social Sciences

The research areas of Faculty members have expanded to address emerging development and social issues of concern and interest such as oil and gas, migration, social protection, non-communicable diseases, poverty, climate change, energy use and air pollution, mental health, public policy and corporate governance. The Faculty plays an important role in advocacy, and members are often called upon to comment on major economic, political and social issues. Some members of the Faculty have also been involved in the drafting of national policies such as the social protection policy, the migration policy, the urban development policy and the climate change and sustainable development policy.

The Faculty has established teaching and research networks with a number of universities across the world and these networks provide opportunities for both students and faculty. There are partnerships with University of Bonn, University of Manitoba, Penn State University, University of Copenhagen, Yale University, Harvard University, University of North Carolina, and more recently, the University of Malmo, in Sweden.

The organisation of research conferences and colloquia has been the hallmark of the Faculty's activities. The Faculty was part of the organising committee of the Sixth Annual International Conference on Population, Reproductive Health and Economic Development (POPPOV) organized by the Population Reference Bureau, USA in 2012 in Accra. A number of key conferences and colloquia have been held over the past year, including Placing Health at the Centre of Development (ISSER); International Conference on Migration

and Development (Centre for Migration Studies),

International Conference on Climate Change and Population (RIPS); International Conference on Promoting Discourse on Social Policy and cash Transfers in West Africa (Centre for Social Policy Studies (CSPS)), African Economic Society Conference (Economics Department) as well as the New Year School of the Institute of Continuing and Distance Education (ICDE) and the Faculty of Social Sciences Colloquium on Social Sciences and Public Policy. The State of the Ghanaian Economy (ISSER) is also an annual report produced by the Faculty.

The School of Communication Studies, together with Thomson Media Foundation (TMF), organized an inaugural training program on Africa Means Business: Building Communications Capacity with the African Media, Economic and Related Sectors. The training brought together economists and journalists to improve understanding of each other's areas of expertise. The programme is funded by the Bill and Melinda Gates Foundation.

#### **Books**

During the period under review, faculty members published books as well as chapters in books including:

- Prof. H. Nii-Adziri Wellington's book titled "Stones Tell Stories at Osu" which was launched on November 25, 2012. Prof. Wellington is a faculty member at the Department of Archaeology and Heritage Studies.
- Dr. Wazi Apoh of the Department of Archaeology and Heritage Studies published a book in 2013 titled Germany and its West African Colonies – Excavations of German Colonialism in Post-Colonial Times.
- The Oxford Companion to the Economics of Africa, edited by Ernest Aryeetey, Shanatayanan Devarajan, Ravi Kanbur, Louis Kasekende; 2012 Oxford University Press.

# **Thematic Research Areas From The Department**

### **Exploring The Crime And Poverty Nexus In Urban Ghana**

This is a new Collaborative Research Project between the Institute of Statistical Social and Economic Research (ISSER) and the Department of Geography & Resource Development. The overall objective of the Project is to develop an evidence-base on the relationship between socio-economic characteristics in urban neighbourhoods in Ghana and the

occurrence, type and impact of crime and violence in urban Ghana that will deepen our understanding and contribute to more effective policy-making and practice.

The project/study will:

- Map and highlight the prevalent types of crime across socio-economic neighbourhoods within urban Ghana
- Explore the relationships between neighbourhood and household socio-economic characteristics and the occurrence rates, types and impact of crimes
- Assess the effectiveness of strategies both formal and informal for addressing urban crime in urban neighbourhoods.
- Assess the implications for neighbourhood crime mapping and law enforcement interventions

The study will be carried out in neighbourhoods of varying socio-economic characteristics in four urban centres: Accra, Kumasi, Sekondi-Takoradi and Tamale.

**Project Duration:** 3 years (2013-2015) **Total Project Sum:** CAD 497,000

Funding Agency: International Development Research

Centre (IDRC), Canada

**Project Team:** 

- Prof. George Owusu (Principal Investigator/Team Leader)
- Dr. Martin Oteng-Ababio (Co-Investigator)
- Rev. Dr. Adobea Y. Owusu (Co-Investigator)
- Dr. Charlotte Wrigley-Asante (Co-Investigator)

A key component of the project is the training of 2 PhDs to be funded under the project through monthly stipends and research grants.

# The Air We Breathe: Air Pollution And Health In The Neighbourhoods Of Accra

Professor Samuel Agyei-Mensah of the Department of Geography and Resource Development is researching in a critical area of our society, air pollution and its effects on our health. Many urban households in developing countries use biomass fuels for cooking. The proportion of household biomass use varies among neighborhoods and is generally higher in low socioeconomic status (SES) communities. Little is known of how household air pollution varies by socioeconomic status (SES) and how it is affected by biomass

fuels and traffic sources in developing country cities.

In order to unravel some of these issues, a team of researchers from the University of Ghana and Harvard



Sources of Air Pollution

University began a collaboration in 2007. The project team comprised Prof. Majid Ezzati, then of the School of Public Health, Harvard University (now at Imperial College, University of London), Prof. Samuel Agyei-Mensah of the Department of Geography and Resource Development, University of Ghana, Raphael Arku, a graduate student in the Department of Geography and Resource Development, University of Ghana (now at Harvard University), Audrey Quaye (Environmental Science Programme, University of Ghana) and Allison Hughes of the Department of Physics, University of Ghana. The project received funding from the National Science Foundation, USA.

The results of this study show that PM in these four neighborhoods is substantially higher than stipulated in the WHO Air Quality Guidelines and in some cases even higher than the WHO Interim Target 1, with the highest pollution being recorded in the poorest neighborhood.

The second phase of the project which begun in the middle of 2013 and seeks to find out whether PM exposure is a risk factor for low birth weight in Accra, Ghana, and identify major sources of air pollution exposure in different communities. In addition, the study seeks to assess the childhood growth trajectory of children based on birth weight and their exposures. Hospital administrative birth records and other maternal determinants of birth weight, along with detailed data on determinants of air pollution exposure from personal surveys and census data will be used for this

analysis. This phase of the project is being financed by the University of Ghana Research Fund.

### **Digging The Earth - Excavation Research**

The Department of Archaeology and Heritage Studies, supported by the University of Ghana, conducted five Field



Sources of Air Pollution

schools during the inter-semester break in January 2013. A total of one hundred and twenty-four (124) students participated in the exercise, during which they were taken through field methods and approaches in archaeological and ethnographic research. The sites included Dodowa, Yikpabongo, Wenchi, Adome-Atimpoku, and Kpando.

# Frederikssted Plantation Archaeological Project, Dodowa, Greater Accra Region

The Frederikssted Plantation Archaeological Project at Dodowa, initiated in January 2011, employs archaeological, landscape and historical strategies to investigate the



Dodowa Field School Directed by Dr. Clement Apaak & Mr. David Akwasi Mensah Abrampah

Frederikssted Plantation and historic sections of the Dodowa town. The January 2013 component was one of the sequel undertakings carried out to complement the excavations done in the previous years. The 2013 phase was executed over a twelve day period from January 4-15, 2013. It comprised twenty eight (28) Level 400 students and one (1) graduate student from the Department of Archaeology and Heritage studies.

A walk survey within the precincts of the former Danish plantation also led to the discovery of anther archaeological feature related to the Frederikssted Plantation. The feature, which comprises chunks of a staircase that facilitated movement into the Dodowa River, was earmarked for future archaeological investigations.

## **Kpando 2013 Archaeological Field School**

This year's Kpando Field School was a mandatory ethnographic and archaeological field school project undertaken by the Level 400 students of the Department of Archaeology and Heritage Studies from 5<sup>th</sup>-16<sup>th</sup> January, 2013. The objective was to train the students in the practical rudiments of ethnographic research and archaeological field



Archaeology Field Trip

techniques under the field direction of Dr. Wazi Apoh. The students excavated a 17th century archaeological site located at Kpando Old Abanu site. The array of excavated material culture provides insight into the lifeways of the past dwellers of this settlement. The data confirms oral accounts that purport that before the coming of the Kpando Ewe migrants from Notsie, there was an Akan speaking community in the Old Abanu area. The students also engaged in ethnographic research at Kpando-Fesi to document the settlement histories, pot making and cultural heritage practices of the

people. Overall, the objective of this ongoing project at Kpando is to train students while generating data that could be used to rewrite the history of Kpando. The information would also add value to the sites in our bid to develop heritage tourism in the Kpando area.

# United Nations Women Evidence-Based Policy Project On The Distribution Of Assets Across Gender

This project is a collaborative effort amongst five institutions, of which Ms Abena Oduro of the Department of Economics is the lead investigator for the University of Ghana. The Gender Asset Gap project has carried out nationally representative household asset surveys in Ecuador and Ghana and at the state level in Karnataka, India. These data sets are unique in that they gathered information on asset ownership at both the household and individual levels, thus allowing an analysis of gender inequality on a broad range of topics, each with potential policy implications. The research addresses the following topical issues:

- The impact and shocks on the economic vulnerability of men and women
- Participation in credit markets and the debt burdens of men and women
- Inheritance and the Gender Distribution of Wealth

The other investigators on the project include:

- Carmen Diana Deere, University of Florida (Lead institution)
- Cheryl Doss, Yale University
- Caren Grown, American University
- Hema Swaminathan, Indian Institute of Management, Bangalore

# China Goes Global: A Comparative Study Of Chinese Hydropower Dams In Africa And Asia

Ghana has been faced with electricity problems for years and in recent times load shedding of electricity for both residential and industrial usage is rampant. Everyone is looking for a permanent solution to this problem.

The University of Ghana's study team on this collaborative project is based at the Department of Geography and Resource Development and is led by Prof. P.W.K Yankson. The other team members include Prof Alex Asiedu and Dr. Kwadwo Owusu, both of the Department of Geography and Resource Development.

The entire project, which is funded by UK Economic and Social Research Council (ESRC), is led by Dr. Franke Urban of the School of Oriental and African Studies (SOAS), UK and runs for three (3) years, from October 2012 to October 2015.

The aim of this project is to conduct the first comparative analysis of Chinese hydropower dam projects in low and middle income countries. Its specific focus is to explore the environmental, social, economic and political impacts of these projects in the hydropower sectors in Ghana, Cambodia, Nigeria and Malaysia through fieldwork such as in-depth interviews and focus group discussions (FGD) as well as document and data analyses.

The project team is composed of 16 researchers from SOAS, the Open University, the University of Nottingham Ningbo in China, the University of Ghana, Cambodia's Development Resource Institute (CDRI), the Nigerian Institute of Social and Economic Research (NISER), the University of Nottingham in Malaysia, Tsinghua University of Beijing and the international NGO, International Rivers.

### **Climate Change And Roads**

Dr. Daniel Twerefo of the Department of Economics undertook a research project on the Impact of Climate Change on Roads in Ghana as part of a collaboration between UG and UNUWIDER, the funder. The research, which begun in 2012, ended in June 2013 and is expected to have policy implications for governments.

Ghana has been experiencing long periods of drought and erratic rainfall over the years, a situation which can be attributed to climate change. Several climate change scenarios for Ghana indicate that temperatures will increase while the intensity of rainfall will either increase or decrease. The impact of climate change on economies has been documented, and it is envisaged to be high. However, very little has been done to assess the economic impact of climate change on road infrastructure to inform policy on the need to adapt. In this work, the economic impact of climate change on road infrastructure is assessed using the Infrastructure Planning Support System (IPSS) software developed by the Institute for Climate and Civil Systems, USA, which analyses the economic impact of climate change on road infrastructure using two scenarios - No Adapt and Adapt

Analyses undertaken indicates that it is going to cost Ghana cumulatively over an 80 year peroid (2020-2100) about US\$473 million to maintain and repair damage caused to

existing roads directly as a result of climate change (no adapt scenario). However, if the country adapts the designing and construction of new road infrastructure assets, or if it rehabilitates the assets to changes in climate expected to occur over the assets' lifespan (adapt scenario), the total cumulative cost will increase to about US\$678.47 million in 2100. Regional distribution of the economic impact indicates that the highest cumulative cost of US\$113.16 million will be incurred in the Northern Region if the country opts for the adapt policy and the lowest cumulative cost of US\$44.2 million will be incurred in the Greater Accra Region. Under a no adapt policy, the Northern Region will still incur the highest cumulative cost of US\$69.21 million while the lowest cost of US\$35.31 million will be incurred by the Upper East Region.

# Aid And The Environment Funded By The African Economic Research Consortium (Aerc)

Dr. Daniel Twerefo also worked on the project titled "Aid and the Environment" which is the project funded by the African Economic Research Consortium (AERC). The project is undertaken in seven countries to assess the impact of environmental aid. The project was expected to determine whether donors are fulfilling their obligations and how much aid is going into the environmental sector. The project was

implemented from August 2012 to June 2013.

# E-Susu Operation: Can Mobile Money Revolutionize An Ancient Saving System Among Indigenous West Africans?

Dr. Eric Osei-Assibey of the Department of Economics is conducting the above research which is funded by the Institute for Money Technology and Financial Inclusion (IMTFI). The amount involved is US\$14,200. Susu has been an ancient means of saving money among indigenous West Africans. With the upsurge of technology, mobile money transfers are being done. The project investigates whether ancient savings system be revolutionised into an electronic form of savings?

It is expected that the outcome of this research project will have an effect on this ancient saving system.

#### Private Lives Of Chiefs In Northern Ghana

Dr. Anamzoya, a lecturer at the Department of Sociology, obtained a US\$18,000 grant from the American Council of Learned Societies African Humanities Programme to conduct a study into the private lives of Dagomba Chiefs in Northern Ghana. This award is an Early Career Postdoctoral Fellowship.





The Faculty of Science has completed a successful academic year regarding teaching, research, and extension services. The Faculty achieved some milestones in its research endeavours and I am delighted to share some of the highlights.



**Prof. Daniel Asiedu**Dean, Faculty of Science

### **Graduate Training**

The departments within the Faculty continued to offer a wide and diverse range of disciplines in postgraduate programmes. The Faculty had a total graduate student population of 450 and also had a high graduation turnout. For the 2012/2013 academic year 14 doctoral and 182 masters' degrees were awarded in the Faculty. This is a reflection of the success of our postgraduate programmes.

# **Faculty Research**

The Faculty of Science continues to place premium on high quality and high impact research. Many faculty members are actively engaged in sponsored research. Research publication output from academic staff remained high, with 173 articles published in peer reviewed journals. Given the staff strength of 154, the ratio of staff to publication in the year under review was slightly over 1: 1 which is an improvement on the previous year's performance.

#### **Grants**

A number of academic staff have been successful in securing grants from industry, government, public entities and statutory bodies to cover a range of projects. At the Department of Biochemistry, Cell and Molecular Biology, an NIH/NAID grant of US\$255,754 is being managed by Dr. Gordon Awandare. This grant is in support of research on the role of complement receptor 1 in erythrocyte invasion by P.



Dr. Gordon Awandare

falciparum in semi-immune Ghanaians. The Department of Earth Science has secured a grant of GH¢500,000.00 from the Ministry of Lands and Natural Resources for postgraduate training in basic geology to develop local content capacity. Currently ten MPhil

students and one PhD student have received scholarships under this grant. Dr. George Wiafe of the Department of Marine and Fisheries Sciences received funding from the United States Naval Forces Europe-Africa (NAVEUR-NAVAF) to conduct research on vessel characterization in the Gulf of Guinea through remote sensing.

### **Faculty Colloquium**

One important milestone was the Faculty's 17th Colloquium which was held in March 2012. The theme for the Colloquium was "Reaching for Greater Heights in Science and Technology for National Development". The theme was carefully crafted to reflect the fact that though a lot of scientific research has already been conducted or is being conducted in the University there was the need for a platform where this wealth of knowledge could be assembled for easy access by stakeholders and industry to address specific issues in the country. The Faculty recognizes the need to foster a good quality relationship with the private sector to ensure that products are well oriented and prepared to meet future challenges. Over the years, the Faculty colloquium has become a key activity on the Faculty's calendar which provides the platform for deliberation on topical issues of national interest and for useful interaction among stakeholders. The Colloquium provided an avenue for the cross fertilization of ideas among stakeholders and for networking among research scientists, technologists, policy makers and practitioners in various fields related to the emerging trends in the field of science. It also helped to create awareness in policy makers and other stakeholders to make good their commitments toward a major improvement in funding for Science, Technology and Innovation activities as indicated in the current Science, Technology and Innovation Policy of Ghana. One hundred and ten (110) scientific presentations were made at the Colloquium, out of this number, 19 were from contributors outside the University of Ghana. The colloquium attracted a lot of dignitaries including the Minister of Environment, Science and Technology, Madam Sherry Ayittey.

#### **Links with Industry**

Industry continues to assist the Faculty in the training of its students. Schlumberger International continues to provide training support for Earth Science students in Petroleum Geosciences in the use of the Petroleum Geoscience software, Petrel, valued at USD 2.5 million, which the Company donated to the Department. Halliburton International donated three workstations and accessories

plus a software package and training worth USD 200,000.00 to the Department of Earth Science for student training and research. At the Department of Nutrition and Food Science, Myroc Food Processing Company renovated the student laboratory, and the International Development Research Centre, Canada and Ajinomoto, renovated two research laboratories.

#### Outreach

Many faculty members are actively engaged in outreach programmes. The Department of Nutrition and Food Science has established a Nutrition Research and Training Center in Asesewa in the Eastern Region. The Centre is contiguous with the Asesewa Government Hospital, thus opening opportunities for clinical rotation in dietetics to provide support in dietetic services to the hospital. The Centre will provide nutrition field training to para-professionals, community volunteers and postgraduate students. Funds are being sought for the building of a 30-person on-site hostel.

#### **Exploring The World Of ICT Through Innovative Research**

In the last year, the Department of Computer Science collaborated with international partners to submit three research project proposals: one in response to the AU/EU call for proposals and two to the Royal Society. In addition, it had made two submissions locally at the university level. It also won a US\$6,000 competitive bid from Google led by Mrs. Matilda Wilson to undertake a project titled "Computer Science for High Schools" (CS4HS)

Research to investigate how location and context awareness could be used to estimate the best handover radius led to the publication of the paper "Exploiting Location and Contextual Information to Develop a Comprehensive Framework for Proactive Handover in Heterogeneous Environments (Katsriku et al)". (Published in Journal of Computer Networks and Communications, August 2012).

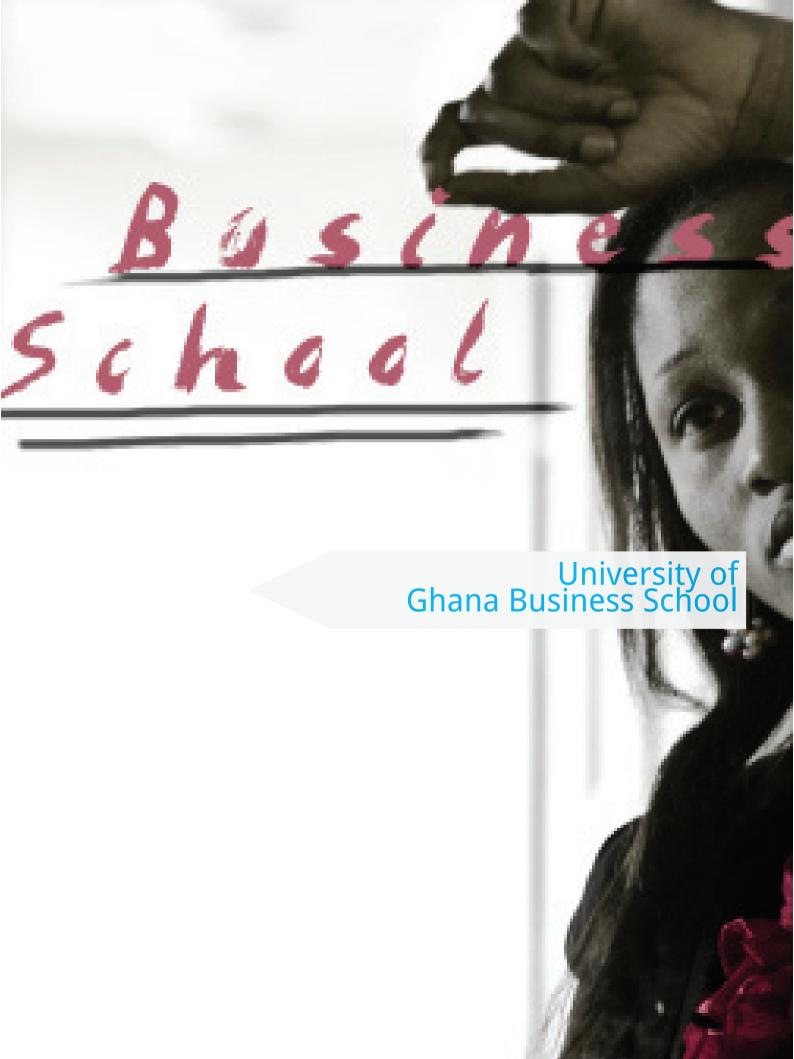
The paper investigates how such techniques may be integrated into the Y-Comm architecture which is being used to explore the development of future mobile networks. It also highlights the use of ontological techniques as a mechanism for specifying and prototyping such systems.

The Department also received a grant of US\$40,000 for the design, development and implementation of a comprehensive database management system for the Protocol Bureau of the Ministry of Foreign Affairs.

# Development of Alternative molecular mechanisms for erythrocyte invasion by Plasmodium falciparum in Ghana

Currently Dr. Awandare and his research team are investigating the relationship between sequence variation in parasites genomes which may result from immunological pressure, and the invasion mechanisms deployed by the parasites to infect red blood cells. Thus, they are using a hospital-based approach to collect parasites from children aged 2-14 years (n=160) residing in two highly endemic areas in Ghana: Kintampo and Navrongo. The parasites are being analyzed for their invasion phenotypes, and they are sequencing the entire genomes of the parasites and examining one nucleotide at a time to identify polymorphisms that could confer escape from invasion inhibitory antibodies. These studies are necessary to guide the deployment of any potential vaccines targeting the blood stage of the parasite.

In addition Dr. Awandare and three other collaborating laboratories in The Gambia, Senegal and Mali are investigating the "Parasite population genomics and functional studies towards development of a blood stage malaria vaccine". This is a multi-center study involving population genomic analyses of malaria parasites in sites of contrasting endemicity in West Africa. The overall aim is to finely determine signatures of selection with high-resolution throughout the genome and particularly help refine hypotheses on mechanisms used by merozoites to invade erythrocytes and evade acquired immune responses. Each of the 4 collaborating laboratories in the countries above maintain facilities for parasite culture and cryopreservation including long-term liquid nitrogen storage, ability to perform erythrocyte invasion assays, purification of parasites for DNA extraction and quantification on site, as well as routine genotyping to discriminate different parasites.



In the 2012/2013 academic year, a total number of eight (8) PhDs were recruited to augment and enrich the faculty's teaching and research capacity. UGBS's mission is to develop quality human resource capacity through the provision of

world-class management education, skills training and development, applied research, consultancy and other extension services to meet the needs of its domestic and international customers using knowledgeable, competent and experienced Faculty and state-of-the-art technology.



**Prof. Kwame Domfe** Dean, Business School

Faculty members continue to win major research grants. They write and publish an exceptional breadth of research work, with Prof. Robert E. Hinson and Dr. Bedman Narteh of the Marketing Department, Prof. Joshua Abor, Vice-Dean, Dr. Kwesi Amponsah Tawiah and Dr. Kwasi Dartey-Baah of the Department of Organization and Human Resource Management winning a total grant of US\$526,215. Research grants won were from DANIDA as well as from the University of Ghana Business School. A sizable portion of the grants won from DANIDA is for Institutional Capacity Building. Prof. Hinson won an additional US\$48,014.49 grant from DANIDA for research. Additionally, Dr. Mohammed Amidu in the Accounting Department won an €89,500 research grant from VolkswagenStiftung Foundation to conduct a study on "The Measurement, Determinants and Implications of Competition in the Africa Banking Sector: A new industrial organization perspective". Prof. Joshua Abor and Dr. Sam Mensah of the Department of Finance also won a grant from the International Growth Centre for a study on "Agency Conflict and Bank Interest Spreads in Ghana".

UGBS supported a total of twenty five (25) faculty members to participate and present papers at various conferences. Countries visited for conferences included China, Spain, France, Nigeria, Czech Republic, South Africa and Tanzania. The School also supported Eight (8) research proposals.

The School submitted a proposal to receive support for Market-Oriented Programmes under Component 2 of the Ghana Skills and Technology Development Project (GSTDP) and intends to use the funds to establish a private-sector oriented technology and development center, dubbed "Centre for New and Emerging Technologies" (CNET). The

mission of CNET, which will be established in our UGBS-HFC building, an office and seminar room complex in the Central Business District of Accra and a multi-purpose graduate complex at Legon, is to coordinate the work of a private-sector oriented faculty who will research, develop and contextualize new and emerging technologies for adoption and use by the private sector and local communities.

In January 2013, a highly successful colloquium on Scholarly Writing and Academic Progression was organized. The various sub- themes of the Colloquium and speakers were as follows, "Scholarly Writing and Journal Selection" by Prof I. Otchere, Carleton University, Canada, "Publishing and Academic Progression" by Prof. A. A. Ampofo, University of Ghana, Legon, and "Faculty Promotions: Expectations of the University of Ghana" by Rev. Prof. E. Dovlo, University of Ghana, Legon.

UGBS held a seminar series during the Academic year, with faculty presenting papers on various topics. As part of activities to mark its 50th anniversary, UGBS held its maiden conference on "Business and Development: Determining New Frontiers". The Conference sought to review the past to determine the new or emerging connections between business and socio-economic development in Ghana and Africa.

# **Star Faculty**

Dr. Mohammed Amidu is a Senior Lecturer at the
University of Ghana Business School. He received his
PhD from University of Southampton, United Kingdom.
He is a researcher with the African Economic Research
Consortium (AERC) and his area of research includes:
Banks earnings management, corporate governance,
corporate tax policy, development finance, banking market
structure, regulation and stability. In 2012 Dr. Amidu was
awarded a VolkwagenStiftung Junior Fellowship grant to
conduct research on the measurements, determinants and
implications of competition in the African banking sector

using new industrial organization literature. His publications have appeared in journals such as the European Journal of Finance, the International Review of Financial Analysis, the Review of Financial Economics, the Journal of Risk Finance, Investment



Dr. Mohammed Amidu

Management and Financial Innovations, the Journal of Africa Business and the Baltic Journal of Management. He is a referee in many of these and other journals. He is a Chartered Accountant and a member of the Institute of Chartered Accountants. Ghana.



**Dr. Richard Boateng** of the Department of Operations and Management Information Systems, in partnership with

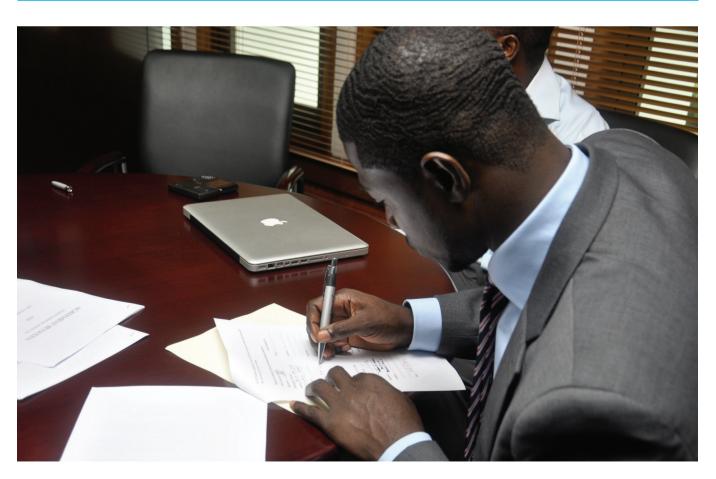


Dr. Richard Boateng

Samsung Electronics, established a mobile Library. This mobile library will allow faculty to post their lecture notes as well as drop their publications for easy access by both faculty and students.

UGBS Mobile is a library powered by mobile devices. It is an educational initiative which seeks to provide educational institutions, students and the general public with multimedia educational content primarily through mobile devices. It was launched by Prof. Kwame A. Domfeh, Dean of the University of Ghana Business School on 10th April 2013. UGBS Mobile is sponsored by a number of institutional and individual contributors. The institutions include the PearlRichards Foundation, Samsung West Africa, Craft Concepts Limited, Business House JCR 2012/2013 and the Ghana Multimedia Incubator Centre.

This project is in line with University of Ghana's goal to develop world class human resources and capabilities to meet national development needs and global challenges through quality teaching, learning, research, and knowledge dissemination. With the burgeoning rate of mobile diffusion, equipping the nation's future leaders with knowledge on appropriate and entrepreneurial usage of mobile devices cannot be understated.





The School of Graduate Studies (SGS), University of Ghana coordinates all postgraduate programmes at the University. The School established in 1961/62 academic year with six

(6) students has grown to currently over 4500 students enrolled in several programmes (Figure 1). Programmes offered are in the Sciences, Engineering, Administration and Humanities. A total of 212 Masters and Doctorate programmes are currently being offered.

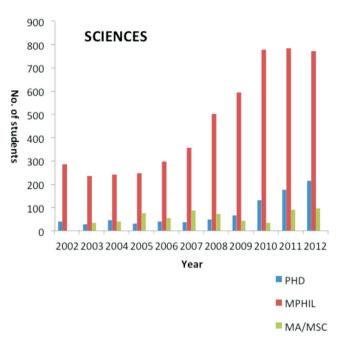


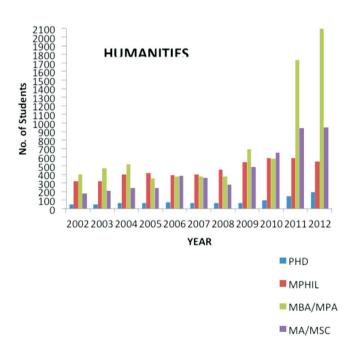
**Prof. K. Ofori** Dean, Graduate School

The School (SGS) organizes workshops on Research Planning and Thesis Writing for graduate students. Separate workshops are available to Science and Humanities students. Resource persons are drawn from across the University. Each student is assigned a supervisory committee to advice, guide, monitor progress and provide support. Workshops on Research Supervision are also organized for faculty to review our performance and to discuss ways of improving graduate delivery through quality supervision.

Thesis are examined by both internal and external (outside of University of Ghana) examiners. Theses and dissertations are sent throughout the world for examination. Master of Philosophy and Doctor of Philosophy students go oral defense of research work submitted for examination. Some of these external examiners are also available for the oral defense of theses of doctorate students.

Beginning from the 2012/2013 academic year, the University of Ghana has started a new four-year Doctor of Philosophy programme that involves course work, experiential learning or research internship, comprehensive examination and thesis research. This replaces the previous three-year programme that had only research and evaluated through thesis examination and viva voce. The University of Ghana projects that graduate intake would increase to 20% from the current 7% within the next three years.









The Balme Library was set up to support the mission of the university in the areas of teaching, learning, research and knowledge dissemination. In order to achieve this goal, the Library carries out the following duties:



**Prof. Ellis E. Badu** University of Ghana Librarian

- Acquires, organizes, stores and disseminates information in all the appropriate formats for academic work;
- Instructs readers in the effective and efficient use of the Library and its resources;
- Provides the physical facilities and equipment needed for the purposeful use of its resources;
- Co-operates with other libraries in building total library resources through inter-library co-operation and consortia;
- · Conducts research in library related issues; and
- Participates in activities of professional associations so as to keep library staff abreast with new developments in libraries and the library profession.

# **Research Commons**

New developments in the Library to aid research include the establishment of the Research Commons for faculty and postgraduate students, with funding from the Carnegie Corporation of New York, and the Knowledge Commons for undergraduate students.

A researcher requires a serene, comfortable and conducive environment that would encourage him/her to enjoy what he/she is doing. The provision of a Research Commons therefore offers support to faculty and graduate students in one central campus location at any point in the complex research process.

Our Research Commons, located on the east wing of the Balme Library, attempts to assemble groups and expertise currently distributed throughout the various campuses by blending technology with current traditional resources to serve as a centre for a wide range of scholarly activities. This is one of the roles being played by our Library to help achieve the University's strategic objective of developing graduates with high level skills.

# The Research Commons of the Balme Library provides the following:

- State of the art technology, access to a number of software packages in the Sciences and the Humanities, Microsoft Office applications and hardware facilities such as laptops, laser printing (colour and black and white), digital projector and screen, scanner, etc.
- A comfortable workplace for contemplation, research, preparing and rehearsing presentations and discussions.
- A relaxed seating area where a researcher can have a cup of tea or coffee.



Faculty Research Commons

Users are also free to bring their own laptops, headphones, digital cameras and scanners and will be responsible for the safe keeping of their equipment.

An epoch-making ceremony to inaugurate the plush University of Ghana Research Commons took place on



Graduate Research Commons

Thursday 25<sup>th</sup> October, 2012. The Research Commons is the first of its kind in the West African Sub-Region and has been made possible through a Two Million US Dollar grant from the Carnegie Corporation of New York.



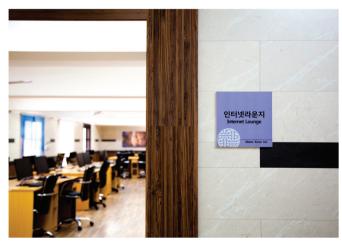
Knowledge Commons

# The Ghana-Korea Information Access Centre

The Ghana-Korea Information Access Centre (IAC) is an initiative by the Korean Government to enhance our already existing IT equipment in the centre. The IAC has four (4) components, mainly seminar rooms, internet lounge, video conferencing room and training laboratory. The IAC is located on the 2nd floor of the West Wing in the Balme Library.

#### **IAC Internet Lounge**

The internet lounge is mostly for student's use in terms of research purposes and findings; the public, on the other hand, are granted access to the place provided they can show their national identity cards. In all, there are thirty computers



IAC Internet Lounge

for use.

#### **Seminar Rooms**

This facility is made up of four rooms for small group discussions of up to six (6) members. It is usually patronized by Lecturers, UG Staff members and students.

#### **Video conferencing**

This unit is for making calls with the use of IP (Internet Protocol). The unit can host a number of participants during the video conference provided both parties have access to IP video conferencing.



Video Conferencing

# **Training Laboratory**

This laboratory is for training programmes; and it is mostly used by staff of the university and by various organizations and agencies. The facility has a projector and public address system as well as thirty (30) computers. It holds thirty (30)



Training Laboratory

participants per training session. It is a preferred venue for any organisation that wants to use computers for their training programmes.

#### **Exhibition Of Published Works**

#### Introduction

Exhibitions of publications were undertaken as part of the library's core responsibilities. Exhibitions allow the library not only to market its resources, but also to showcase the published works of the institution and encourage young faculty members to publish.

#### **How It Began**

The exhibition of published works was first mounted by the Balme Library for Professor Ernest Aryeetey as part of activities to mark his induction as Vice Chancellor of the University of Ghana, Legon. The exhibition was very successful and attracted a large number of people from the university community.

Subsequently, the Library Board approved the decision to exhibit the publications of all Professors prior to their inaugural lectures.

#### Organisation

Each exhibition is mounted for five days, beginning with an opening ceremony which is normally held on the Monday preceeding the inaugural lecture usually on a Thursday.

#### Content

Members exhibited journal articles, workshop proceedings, seminars, conference papers, book chapters, chapters in encyclopedias as well as textbooks. Photographs of field work, projects with international organizations as well as personal profiles were displayed.

#### **Exhibitions Held**

The opening ceremony introduces the exhibition and this usually closes on Friday, that is, a day after the inaugural lecture has been held. Exhibitions are not limited to Professors; but faculty members who wish to showcase their academic work may do so by informing the library.



# Research Development Officers

The primary responsibilities of Research Development Officers are to: facilitate research within the various Colleges, Faculties, Schools, Research Institutes and Centres, build a portfolio of funded research projects, assist in generating research funds and also contribute to research productivity.



Mr. Ezekiel Acquaah Fac. of Science & Eng. Science



Mrs. Afia Serwaa Attrams Fac. of Social Sciences



Mr. Fidelis E. Y. Anumu College of Health Science



Mrs. Beatrice Sakyibea Biney-Nyamekye Institutes & Centres of the Fac. of Social Sci.



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