



## CDT wins £2 Million Global Health Research Award from National Institute for Health Research

### Who we are

CDT-Africa is an Africa Centre of Excellence established to bring about sustainable access to therapeutics in Africa through advanced training and research in therapeutic discovery.

### Core partners

The centre supports all relevant therapeutic discoveries across Africa but has direct partnership with five universities in Eastern and Southern Africa.

### Recent activities

- CDT-Africa members attended the Bio International Convention (June 19-22) in San Diego, CA, USA, with over 3500 companies/institutions and 17,000 individuals represented. The convention offered crucial learning and partnership opportunities. The participation was supported by BIO ventures for Global Health.

### Training

- CDT-A received 96 applications for PhD fellowship programs. 12 applicants were successful (4 females, 2 regional).
- The ACE is in the final stages of getting approval for the MSc in Clinical Trials curriculum, which will be the first of its kind in Africa. A validation workshop was held in July 2017 with excellent feedback.
- In the preparatory stages for developing two new programs relevant to drug discovery.

### Publications

- "The path to longer and healthier lives for all Africans by 2030: the Lancet Commission on the future of health in sub-Saharan Africa" (Lancet 2017. In Press. To be published in early September.)
- "Short-term impact of celebrating the international clinical trial day: experience from Ethiopia" (Trials (2017) 18:332 DOI 10.1186/s13063-017-2081-6.)

### Sustainability

CDT-Africa obtained two grants with its partners, King's College London (£1,138,223) and University of Sussex (£805,052), funded by the National Institute of Health Research:

- To conduct complex interventions study
- To develop diagnostic tool for podoconiosis and anti-infective agents
- These projects will support PhD students and post-doctoral fellows.

For more information: [www.cdt-africa.org](http://www.cdt-africa.org)



CDT-Africa team at the BIO International Convention



## ACE DS Teams up with Microsoft



*MoU signing between ACE-DS and Microsoft*

The African Centre of Excellence in Data Science (ACE-DS) is a regional centre based in Rwanda at the University of Rwanda (UR)-College of Business and Economics (CBE). ACE-DS combines expertise in statistics, economics, business, computer science, and engineering to use big data and data analytics to solve development challenges facing the region in data management systems. The main activities of the centre are post-graduate and professional courses training and collaborative applied research between academics, partners and stakeholders. The main areas of PhD and Masters training in Data Science are Data mining, Econometrics, Biostatistics, Demography and Actuarial Sciences Focusing.

### **ACE DS Progress**

Training: 23 PhD students are enrolled from different African countries: 26% Female 30% Regional. These have a team of

supervisors from more than five institutions including UR, CMU-Africa, RIT, Makerere University. A short course on Research Methodology was organised in collaboration with Birmingham City University in December 2017. Another short course on Quantitative Monitoring and Evaluation organized with the African Research, Implementation Science, and Education (ARISE) Network and the Harvard University T. H. Chan School of Public Health (HCSPH) is scheduled to take place in June 2018.

**Research:** The Center has six publications in reviewed journals, three publications in conference proceedings and four publications in book chapters. In March 2018 ACE-DS held a supervision workshop with the following outcomes: Improved PhD proposals and experience sharing on PhD supervision

methodology. PhD candidates got an opportunity to present their final research proposals.

**Partnerships:** A MoU has been signed between the ACE-DS and Carnegie Mellon University (CMU-Africa). In November 2017 a MoU between UR and Microsoft has been signed. Short courses will be the focus in this collaboration. In December 2017, the ACE held a big data and data analytics technical meeting in collaboration with the National Institute of Statistics of Rwanda (NISR). Participants were from different institutions including UR, NISR, RURA, RRA, and Toyota.

**Resource mobilization:** The ACE has submitted a proposal in partnership with Banyan Global for the implementation of the USAID Rwanda Nguriza Nshore Project.

For more visit <http://www.aceds.ur.ac.rw/>



## ACEWM wins \$1.5M for Water Infrastructure Project

The Africa Centre of Excellence for Water Management (ACEWM) is addressing the persistent water management challenges in the region by providing PhD and MSc training in that field. ACEWM will train a total of 51 PhD and 100 MSc students within a 5-year period of the ACE II project and also conduct relevant research in identified key challenges.

ACEWM is based at the College of Natural and Computational Sciences at Addis Ababa University. In June 2017, the centre enrolled 18 PhD and 11 Masters students in three and two specializations respectively. This cohort has successfully completed their first semester.

ACEWM has also organized a five-day short-course training in Environmental Risk Assessment which was attended by multiple stakeholders from government institutions and private firms from Ethiopia, Kenya, Malawi and Sudan. As part of its commitment to generate external revenue, ACEWM partnered with Imperial College London and won a project funding on Water Infrastructure for Schistosomiasis-Endemic Regions from the Engineering & Physical Sciences Research Council of UK. The project will run from May 1, 2017 to April 30, 2020 with a total funding of 1,487,272 USD, of which USD 244,077 will be allocated to activities by ACEWM.

ACEWM will continue to recruit talented students from Ethiopia and the region and has a standing call for applications which closes on May 30, 2018 for intake in September 2018. The center will also focus on establishing strong partnerships with public and private institutions to become an institution that serves as a bridge between science, industry and policy arenas.

For more information about ACEWM visit their [website acewm-aa.u.edu](http://www.acewm-aa.u.edu)



Short Course Training in Environmental Risk Assessment

## Wise Futures Student Enrollment hits 50

WISE – futures

Water Infrastructure and Sustainable Energy Centre for the Futures (WISE-Futures) is a Center of Excellence based at Nelson Mandela African Institution of Science & Technology, Tanzania. Their target is to enroll 120 MSc and 51 PhD graduates over

a duration of five years, and with at least 30% of all graduates to be female. So far, the first batch of MSc and PhD students for academic year 2016/2017 were 11 students. The MSc students have defended their proposals and are continuing with their research while PhD students are preparing for proposal defense.

The second batch of enrollment has 39 students (26 MSc and 13 PhD) putting the total WISE-Futures student enrollment at 50. Four students are receiving research support from the World Academy of Sciences.

For more visit [www.wisefutures.ac.tz](http://www.wisefutures.ac.tz)



Wise Futures MSc and PhD students sponsored by Wise-Futures with staff and NM-AIST Vice Chancellor Prof. Karoli Njau

# Center of Excellence in Materials, Product Development and Nanotechnology (MAPRONANO) makes strides in Ebola research



## Research and Development

In partnership with Ben Gurion University, Uganda Virus Research Institute (UVRI) MAPRONANO is working on:

- Production of Nano bodies for development of competitive ELISA DIVA diagnostic for FMD that identifies animals infected with strains A, O and SAT 1
- Identification and immune profiling of Ebola virus, Marburg virus and Congo Crimean Hemorrhagic Fever (CCHF)
- Isolation of human monoclonal antibodies against the Congo Crimean Hemorrhagic Fever (CCHF) envelope protein by memory B cell sorting. Identification of neutralizing human monoclonal antibodies against CCHF.
- Immune profiling studies of Ebola virus to identify new neutralizing targets for immunotherapy
- Development of a lateral flow diagnostic for Ebola viruses using recombinant GP proteins of the viruses

## Publications

- Preparation and submission of manuscript on FMD diagnostic work with camel Nano bodies, entitled "Development and validation of a Nano body-based Competitive Immunoassay of a 3ABC antibody ELISA in Uganda for foot and mouth disease."
- Journal Publication of development of groundnut shells and bagasse briquettes as sustainable fuel sources for domestic cooking applications in Uganda
- Publication of a manuscript in "ACS nano22" on the development of a lateral flow diagnostic for Ebola virus that can be read via smartphone.
- Publication of DLC films deposited on rubber substrates: a review Publication of characteristics of briquettes developed from rice and coffee husks for domestic cooking applications in Uganda
- Production of recombinant non-structural proteins of Ebola virus for development of a humoral immune profile diagnostic for discrimination of true positive from false positives.

## Outreach Activities

- MAPRONANO ACE Participated in the first international

Non-Communicable Diseases symposium conference organized by College of Health Sciences

- Joint Partnership Meeting with University of Illinois at Chicago (UIC) and tour of the Nanotechnology Labs at Argonne labs, USA.
- Benchmarking activities with regional partners - University of Rwanda, University of Nairobi, Mekelle University, Ethiopian Biotechnology Institute and Jimma University, University of Dares Salaam (UDSM). This fostered discussions on MoUs, staff/student exchange activities and joint resources sharing
- The ACE participated in Equipment benchmarking exercise in South Africa organized by Carl Zeiss. Equipment and suppliers were identified.
- Strategic partnerships established with the Electron Microscopy Centers at MEDUNSA University, University of Pretoria and University of Witwatersrand to facilitate equipment user training.

## Revenue Generation

- Matching funding 100,000 USD from University of Illinois at Chicago (UIC) to foster UIC-ACE Collaboration initiated and a MoU in place.
- Submission of USAID joint grant proposal of \$54 million with University of Illinois at Chicago, NORC and JSI.
- MAPRONANO ACE applied for the NIH D71 Planning grant in partnership with UIC Cancer Center, Ben Gurion University, UVRI, MakCHS and Mekelle University (Ethiopia).
- MAPRONANO ACE is putting together a joint Wellcome Trust Collaborative grant proposal worth 4 million pounds with London Center for Nanotechnology (UK)

- MAPRONANO ACE in partnership with Ethiopian Biotechnology Institute submitted a Bio-innovate grant proposal.

## Student Training

- 3 PhD students and 15 MSc. students enrolled for 2017/18.
- 73 students Trained in Bioinformatics & Next Generation Sequencing techniques short course, half from regional universities
- Staff & Student Exchange
- Two staff from University of Rwanda, 2 from University of Nairobi and 7 staff from Ethiopia and 1 staff from University of Malawi participated in staff exchange activities.

## MoUs generated

- Five MoUs i.e. University of Rwanda, University of Petroleum Studies (India), University of Illinois at Chicago, University of Nairobi and one industry partner (Luwero Industries) have been signed.

## Curriculum Review and Development

- Curriculum review for MSc and BSc in Mechanical Engineering has been done
- Curriculum review for Biomedical Engineering on course

## Courses Developed

- Short Course in Bioinformatics and NGS Techniques has been developed and executed and over 73 students trained.
- Short Course in Nano body technology & Recombinant Protein Techniques to be conducted in July 2018.

For more information about MAPRONANO visit their website <http://www.mapronano.mak.ac.ug/>



Students attending Short Course Training in Bioinformatics and Next Generation Sequencing Techniques

## INSEFOODS commercializes production of edible insects as a profitable farm enterprise

Jaramogi Oginga Odinga University of Science and Technology (JOOUST) has established the *Africa Center of Excellence in Sustainable Use of Insects as Food and Feeds (INSEFOODS)*. The overall objective of INSEFOODS is to achieve long-term food and nutritional security by using insects as a cost-effective, reliable and sustainable source of protein and other nutrients for food and feeds. To achieve this objective, INSEFOODS' strategy is to develop and offer high quality regional and internationally accredited masters, doctoral and short courses programs in food security and sustainable agriculture with insects for food and feeds as the entry point. The educational programs will involve teaching, research, product development and commercialization, as well as student and staff exchanges in different disciplines related to insects as food and feeds across Africa.

INSEFOODS became effective in June 2017. Since then, the Center has been institutionalized within JOOUST as per University's Statutes. This ensures the Center's sustainability beyond the five-year period of the World Bank's funding through the ACE II Project. The Center has been allocated facilities such as office, teaching and research laboratories, field insect production facilities, a guest house and hostels for regional students when recruited.

A Masters and a Doctoral Program in Food Security and Sustainable Agriculture to be offered through

the Center have been developed and approved by the JOOUST Senate in 2017. The programs are undergoing accreditation by the Commission for University Education (CUE). It is hoped that the first intake of students will take place in the University's 2018/19 second Semester which starts in September 2018. The Programs will subsequently be submitted for regional and international accreditation as per World Bank requirements.

The Center has developed two curricular on short courses in edible insect rearing and value addition. These are: (i) Short courses curriculum for cricket rearing and production. (ii) Short courses curriculum for black soldier fly rearing and production.

The Center will train farmers in the region on commercial production of edible insects as a profitable farm enterprise in collaboration with the Center's partners. INSEFOODS negotiated MoUs with two NGOs for them to train farmers and youths starting May 2018. The Center has established partnership with Sigam Feeds Limited, a major livestock feeds manufacturer based in Nairobi, to commercialize edible insect products from INSEFOODS' research activities. INSEFOODS' research work in insect based feeds will enable Sigma Feeds to lower the cost of production of their feeds by replacing currently expensive sources of protein with the lower cost insect based protein.



Former Cabinet Secretary Education, Dr. Fred Matiang'i receives a packet of cricket biscuits from Prof. Monica Ayieko 32

## CALL FOR AFRICAN CENTERS OF EXCELLENCE (ACEs) TO HOST INCUBATION CENTERS

### Co-Financing Development of Incubation Centers or Learning Factories

As Regional Facilitation Unit (RFU) for the ACE II Project, the Inter-University Council for East Africa (IUCEA) leads the implementation of key elements of Component 2 of the project, aimed at building strong and sustainable regional partnerships and collaborations to produce competent Masters and PhD holders for the regional market and improve quality of teaching in higher education and quality of production and services in public and private sectors.

IUCEA wishes to invite ACEs to compete through co-financing development of incubation centers or learning factories by 4 disciplines (industry, agriculture, health and education/statistics) within the ACE II Project. Through establishment of incubation centers, we aim to develop the region's four (4) best ACEs into regional research hubs that will demonstrate the pathways for the transformation of research outcomes into innovative products or policies.

### JUSTIFICATION

The visions espoused by all countries in Eastern and Southern Africa (ESA) appear to put a distinctive and growing emphasis on knowledge production, scientific innovation, and closer convergence between research and sustainable development. A shared view about the region's research and innovation performance, however, is that it is mainly focused on generating research publications, but not at commercializing innovations. Whereas the idea of a "gap" between research done in academia and its translation into marketable products is certainly not new, the approaches some academic institutions and companies are taking to bridge that gap remain a big challenge. For instance, over the five-year duration of the ACE II Project, collectively the ACEs plan to publish almost 1,500 journal articles, launch more than 300 research collaborations with private sector and other institutions, among other academic and research outputs such as patents.

Implementers of ACE II Project should strive to ensure that research findings and innovation outputs generated are turned into tangible and impactful products and services for the socio-economic development of society. The benefits of successful research studies can be meaningful only if the results are converted into marketable and consumable goods (medicaments, diagnostic tools, machines, and devices, etc) services, or inform policies. They must also continue to place more emphasis on the promotion of entrepreneurship, and the facilitation of businesses to develop, register and commercialize trademarks, copyrights and patents.

Therefore, support is required for streamlining effective partnerships between businesses, universities and research institutions to ensure that that science translates into innovative technologies, products and services for the marketplace. Establishment of incubation centers in universities will bring academia and industry closer to each other by providing graduate students and faculty a platform to commercialize their research, academic outputs and other technology based business ideas.



*Implementers of ACE II Project should strive to ensure that research findings and innovation outputs generated are turned into tangible and impactful products and services for the socio-economic development of society.*

## GUIDELINES FOR SELECTION OF INCUBATION CENTERS

The following factors will be considered in selecting an ACE to host an incubation center:

### 1. Existing physical infrastructure

- Physical space including premises with suitable working space
- Research and innovation facilities, including labs, relevant support equipment, etc
- Office support, including access to secretarial services, equipment (copiers, telephones, etc) and receptionist services
- Use and optimization of internet technologies, (including accessible, reliable and high speed Internet connectivity)

### 2. Quality and level of education and research

- Volume and level of research output, scientific publications, patents, etc
- Proximity to industrial nucleus or demonstrated relations with the private sector
- Capacity to attract top students from the region

### 3. High value-added differentiated services and products

- Regionality of the center i.e. mechanisms for incubating ideas from other centers in the same field
- Ability to provide free as well as pay services for some of their support packages
- Capacity for coaching on technical aspects, IP protection, and business plan development
- Development of a viable sales and marketing strategy for the product or service

### 4. Management support

- Commitment and willingness of the host university to support the incubator

- The position of incubation in the corporate mission, plans and/or strategies of the host institution
- Faculty that demonstrates strong linkages with industry
- Intellectual property policy and management
- The creation of a task force with regular meetings in order to coordinate actions

### 5. Partnerships and networking

- Evidence of partnerships with prominent organisations across programmes, including large multinationals (e.g. healthcare, telecommunications), financial institutions, professional services providers, small to large research companies, technology companies, social enterprises and charities
- Linkages with business umbrella bodies, including the chamber of commerce, businessmen's association, etc
- Networking opportunities, including identifying and/or making contact with mentors, peers/ alumni, and potential investors

### 6. Sustainability options

- Terms and amount of financing support available as seed capital for co-financing
- Ability to network with venture capitalists for mentoring and financial support to the start-ups
- Synergies created between companies and relationships that may contribute to the incubator's sustainability
- Overall sustainability strategy, demonstrating ability to generate own funds

## INCUBATOR SELECTION AND FINANCING ARRANGEMENTS

The following processes will be used in incubator selection and financing:

- Proposals submitted by interested ACEs within the ACE II Project
- Initial screening conducted by RFU for basic eligibility:
  - only applications from any of the 24 ACEs within the ACE II Project are allowed
  - proposals must address any one of the four priority areas: industry, agriculture, health, and education/statistics)
- Proposals passed through the eligibility screening will be forwarded to the Regional Steering Committee (RSC) for endorsement
- Endorsed proposals will be evaluated by an Independent Selection Panel (ISP), using an evaluation protocol in two stages
  - a technical assessment by three experts who have knowledge and experience in the respective disciplines
  - an in-depth, on-site assessment of the ACEs whose proposals will have been short-listed

- from the first stage by a team of experts
- The teams will assess leadership and management capacity of the ACE, and ascertain the feasibility of acting as an incubation center, given the existing capacity of staff, facilities and infrastructure for research, incubation and administration
- Each of the selected incubation centers will be provided with financial support of up to a maximum of USD 250,000, for improvement in infrastructure and for providing financial support to the selected projects for incubation. This amount will be disbursed in four phases based on the agreed implementation plan.

### PROPOSAL SUBMISSION

Interested ACEs are advised to submit their proposals by e-mail not later than 5.00 PM East African Time on June 4 2018 addressed to:

Executive Secretary, Inter-University Council for East Africa, P.O.BOX 7110, Kampala, Uganda Tel: +256772340544 Email: [exsec@iucea.org](mailto:exsec@iucea.org) Website: [ace2.iucea.org](http://ace2.iucea.org) and [www.iucea.org](http://www.iucea.org)

**CLOSING DATE: JUNE 4 2018**

## ACEITLMS strengthens teaching and learning of Math and Science

The African Centre of Excellence for Innovative Teaching and Learning Mathematics and Science (ACEITLMS) based at the University of Rwanda - College of Education (UR-CE) aims at strengthening human capacity to deliver research-based quality teaching and learning of mathematics and science in Rwanda and across the region, in collaboration with regional and international institutions.

The centre's main activities focus on bringing quality and innovation into teaching and learning, research and training, and community engagement. For *teaching and learning*, ACEITLMS runs outstanding PhD and MEd courses in mathematics and science education for the delivery of efficient and innovative pedagogical approaches; for *research and training*, the centre conducts and support research aiming to address Rwandan as well

as regional societal development challenges; in *community engagement*, the centre organizes science and mathematics outreach programs targeting all educational levels across the region. In all these, the centre considers integration of ICT and inclusiveness.

In December 2017, ACEITLMS enrolled the first cohort of PhD students who were admitted in the PhD (by Research) in Mathematics and Science Education. Admitted students include nine males and six females with eight from Rwanda, four from other EAC countries and three from outside EAC countries.

MEd in Mathematics/Science Education Programme (with 4 pathways: MEd in Biology Education; MEd in Chemistry Education; MEd in Mathematics Education; MEd in Physics Education) has been developed.

The programme has been approved at College level and submitted to the University for further validation and accreditation by the Higher Education Council (HEC).

### Training of Teachers of Mathematics and Science

From February 26<sup>th</sup> to March 5<sup>th</sup> 2018, ACEITLMS in collaboration with the Mathematics and Science for Sub-Saharan Africa (MS4SSA) Regional Node at UR-CE, African Institute for Mathematical Sciences (AIMS), Rwanda Educational Board (REB), Ministry of Education (MINEDUC), New Jersey Center for Teaching and Learning (NJCTL) and the Worcester Polytechnic Institute (WPI), USA organized the Training of Teachers of Mathematics and Science on integration of technology and new pedagogy.

## CREATES and SAGCOT Catalytic Fund to boost e-Agriculture in Tanzania

The Africa Centre for Research, Agricultural Advancement, Teaching Excellence and Sustainability (CREATES) through the Nelson Mandela African Institution of Science and Technology (NM-AIST) signed a MoU with the Southern Agricultural Growth Corridor of Tanzania *Catalytic Trust Fund* (SAGCOT-CTF) to promote the use of Information Communication Technologies (ICTs) in agriculture development in Tanzania. The MoU which was signed in February 2018 will support a Mobile Agricultural and Rural Development application (m-ARD apps) for the purpose of supporting Farming-as-a-Business (FAAB) in Tanzania.

The Partnership provides the framework for the partners to act as a think tank for ARD solutions in the agriculture sector by providing valuable analysis, develop and institutionalize the software development framework(s) for mobile applications and solutions for agricultural value chains in Tanzania. The partnership will build capacity of ICT service providers and agriculture sector stakeholders to consume research and assess opportunities resulting from the m-ARD app Framework, and it will bring the applications or products to the market.

Speaking during the event, the NM-AIST Vice Chancellor Prof. Karoli Njau assured the CREATES and SAGCOT Catalytic Fund to take advantage of the NM-AIST ICT infrastructure including the NM-AIST ICT Resource Centre which has an HPC

conduct research based on the data analytics generated from the inputs of m-ARD apps which can directly benefit the communities through solving their existing problems and challenges.



Prof. Hulda Shaidi Swai the CREATES Centre Director receives the signed MoU from SAGCOT Catalytic Fund CEO Mr. John Kyaruzi. Center is the NM-AIST VC.

Super Computer which can be useful in intensive tasks in computational science.

"The entire aim of this partnership is to help small holder farmers in Tanzania get out of poverty through different scientific support which will directly benefit them through solving existing challenges and by increasing volumes of production and improving the quality of their produce," said the Chief Executive Officer of SAGCOT Catalytic Fund Mr. John Kyaruzi.

The CREATES Centre director Prof. Hulda Swai said that the CREATES center will encourage students and faculty to

SAGCOT-CTF is a fund that aims to link smallholder farmers to agricultural value chains within the SAGCOT Corridor. The fund seeks to support inclusive agribusinesses by engaging farmers in commercial partnerships to improve the revenues derived by smallholder farmers.

The overall objective of the CREATES is to strengthen the capacity of NM-AIST to serve as an African Centre of Excellence for provision of post graduate training (Masters, PhD and Postdoc), applied

research and outreach programs for Food and Nutrition Security in the Eastern and Southern Africa region. Specifically the project seeks to strengthen the NM-AIST to become a magnet environment that provides innovative opportunities and state-of-the-art learning environments for graduate students (PhD, Postdoc and MSc) as well as for faculty and other relevant stakeholders in the area of Food and Nutrition Security. This will enable NM-AIST produce high quality evidence-based research products, technologies and services with respect to agriculture, biodiversity, health and nutrition.

For more: [www.creates.ac.tz](http://www.creates.ac.tz)



## SACIDS trains stakeholders in participatory disease surveillance



Stakeholders training in participatory disease surveillance

In order to enhance community One Health security, the Southern African Centre for Infectious Disease Surveillance (SACIDS), based at Sokoine University of Agriculture, Tanzania, has engaged key stakeholders from human, livestock and wildlife health sectors in participatory disease surveillance using One Health approach.

The key stakeholders were trained on the application of digital technology in the community-based disease surveillance. The aim of the training programme was to promote community level One Health security through improved outbreak detection, early communication and rapid response to enhance disease prevention and control at the source. The stakeholders were drawn from 13 wards and 51 villages in Kilosa District Council. Others were drawn from Mikumi National Park. A total of 109 stakeholders were trained in the district including 81 CHRs, 15 officers-in-charge of primary health care facilities and eight Wildlife Rangers (hereafter referred to as

CHR). Others included (one-each) Integrated Disease Surveillance and Response Focal Person, District Medical Officer, District Veterinary Officer, Wildlife Ecologist and Wildlife Veterinarian.

The training package included theory and practical sessions on the application of Information, Communication and Technology (ICT) tools in disease surveillance, recognition and recording of clinical manifestations in human and animal populations, their prevention and control measures. In addition, they were trained on ethics and best practices during the provision of health care services, collection and submission of reports of health events to relevant authorities. All CHRs were provided with android phones installed

with AfyaData, which is a mobile phone digital surveillance tool designed for capturing, reporting, data exploration, and provision of feedback on health events. The paper-based data capture forms for human, livestock and wildlife official surveillance systems were digitized and installed in the smart phones. The In-charges of health facilities and Livestock Field Officers were trained on how to use the digitized forms to capture and submit disease data to district level.

All CHRs were trained on how to refer patients to health care facilities and were provided with referral forms. In addition, the trainees-specialist WhatsApp group network was established to assist sharing of experience, challenges and solutions.

The training was conducted in Kilosa, Morogoro, Tanzania from February 7-21, 2018.

For more: [www.sacids.org/](http://www.sacids.org/)

**“**  
*The aim of the training programme was to promote community level One Health security through improved outbreak detection, early communication and rapid response to enhance disease prevention and control at the source.*  
**”**

# ACE IRPM&BTD's research to generate new knowledge on rodents and shrews in Eastern Africa



Until end of February 2018, Africa Centre of Excellence for Innovative Rodent Pest Management and Biosensor Technology Development (ACE IRPM & BTD) at Sokoine University of Agriculture, Tanzania had a total of 17 registered PhD candidates. To-date all the candidates have developed their research Concept Notes and are at various levels of proposal development. Nine candidates had their full proposals approved at various levels at the end of March 2018.

This first batch of PhD candidates includes national and regional students as follows:

1 Nigerian (Male), 4 Ugandans (Male), 1 Ugandan (female), 3 Ethiopians (Male), 4 Tanzanians (Female) and 4 Tanzanians (Male) (Total 17).

The research proposed by the candidates is diverse, interesting and will result into quality scientific output that will contribute immensely to generation of new knowledge on rodents and shrews in Eastern Africa, in particular their ectoparasites and endoparasites, ecology, molecular genetics, diversity in various ecosystems ranging from Ethiopia, Uganda and Tanzania, zoonotic potential, impact on human health, etc.

The following are some of the research titles approved by the ACE IRPM&BTD for which the candidates developed research proposals:

1. Landscape and ecology population genetics of *Stenocephalemys albipes* in the Afro-alpine ecosystems of Ethiopia.



2. Effect of habitat disturbance on population dynamics and community structure of rodents in Mabira Central Forest Reserve in Uganda.

3. Prevalence and diversity of haemoflagellates and filarial worms in rodents and shrews inhabiting a degradation gradient in Mabira Forest Reserve, Uganda.

4. Community ecology of rodents and shrews in the Selous ecosystem in Tanzania.

5. Rodent and ectoparasites ecology in the Rift Valley plague outbreak Districts of Karatu and Mbulu, Tanzania

6. Prevalence of *Leptospira* in rodents, shrews and humans from selected areas in Wakiso District, Uganda

7. Ectoparasites and gastro-intestinal helminths diversity on rodents and shrews in Siemen Mountain National Park, Ethiopia.

8. Community ecology of small mammals in habitats surrounding Lake Ngozi, Tanzania.

9. Community ecology and population genetics of rodents in highland and lowland forests of Nguru Eastern Arc Mountain, Tanzania

For more information visit <http://afirodents.org/>

## Opportunities at the ACEs

The Africa Center of Excellence for Climate Smart Agriculture at Haramaya University, Ethiopia is welcoming applications in MSc. Climate Smart Agriculture, MSc. in Biodiversity Conservation and PhD in Climate Smart Agriculture and Biodiversity Conservation. Deadline: 30 June, 2018. For more: <http://www.haramaya.edu.et/call-for-applications/>

- Quantitative Monitoring and Evaluation course by the African Centre of Excellence in Data Science (ACE-DS). Deadline: 11th May 2018. For more: <http://www.aceds.ur.ac.rw/>
- WISE - Futures PhD Scholarship Opportunities Available at Nelson Mandela African Institution of Science and Technology (NM-AIST) for Regional (Africa) students only. Deadline: November 30th, 2018. For more: [www.nm-aist.ac.tz](http://www.nm-aist.ac.tz)
- Msc and PhD programmes at the Africa Center of Excellence for Water Management, Addis Ababa University. Deadline: May 30, 2018. For more: <http://acewm-aau.org/>
- Short term staff exchange visit travel grant at the Africa Center of Excellence for Water Management, Addis Ababa University. Deadline: May 30, 2018. For more: <http://acewm-aau.org/>
- Short course on Nuclear Technology for Water and Food Security by the two ACEs at Nelson Mandela African Institution of Science and Technology (NM-AIST) is scheduled for July 23 July—03 August 2018.

## Call for MSc. and PhD by the Center of Excellence for Climate Smart Agriculture and Biodiversity

The Africa Center of Excellence for Climate Smart Agriculture and Biodiversity Conservation (Climate SABC) at Haramaya University in Ethiopia has a new opportunity for African students to enroll in: i. Msc in Climate Smart Agriculture ii. Msc in Biodiversity Conservation and Ecosystem Management iii. PhD in Climate Smart Agriculture and Biodiversity Conservation.

Deadline: June 30, 2018

For more information <http://www.haramaya.edu.et/call-for-applications/>

## MSc in Clinical Trials fellowship opportunity at Addis Ababa University

As part of its commitment to support regional capacity for therapeutic development, the CDT-Africa has developed a Master's program in Clinical Trials. This MSc program was developed after a needs assessment, which combines extensive need for the program, and following standard procedures. Deadline: June 22, 2018.

For More: <http://www.cdt-africa.org/>

Please share any available opportunities with the Communication Officer at [aasiimwe@iucea.org](mailto:aasiimwe@iucea.org) for dissemination.

## CALL FOR MASTERS FELLOWSHIP APPLICATIONS

**Supporting Young Talented Female Scientists to Become Future Leaders**  
**CLOSING DATE: June 4, 2018**

As Regional Facilitation Unit (RFU) for the ACE II Project, the Inter-University Council for East Africa (IUCEA) leads the implementation of key elements of Component 2 of the project, aimed at building strong and sustainable regional partnerships and collaborations to produce competent Masters and PhD holders for the regional market and improve quality of teaching in higher education and quality of production and services in public and private sectors.

To encourage the participation of young African female students at postgraduate level, IUCEA wishes to implement a Fellowships Program aimed at providing competitive Masters Scholarships to academically deserving future talents to promote regional female student mobility. Eligible female applicants who can demonstrate interest and ability in the priority areas are encouraged to apply for the 30 Fellowships available for the 2018/2019 academic year.



*To encourage the participation of young African female students at postgraduate level, IUCEA wishes to implement a Fellowships Program aimed at providing competitive Masters Scholarships to academically deserving future talents to promote regional female student mobility.*

### THE FELLOWSHIP AWARD

The provided financial support for each Fellowship Program will cover:

- i) University tuition fees: Approximately USD 3,000 per year (payable directly to the Host University according to an official invoice)
- ii) Stipend: USD 800 per month to support living expenses such as housing, food, utilities, local transportation, medication and settlement expenses
- iii) Research: USD 4,800 to support student research, payable upon approval of research proposal
- iv) Allowance: USD 2,000 one-off allowance to cover visa, laptop and books
- v) Air ticket: A round-trip economy fare for the most direct route between the beneficiary's home country and the study destination of Host University

Note: Candidates must complete all academic work within the specified period of the programme as the scholarship cannot be extended beyond a maximum of 24 months.

## ELIGIBLE SECTORS/DISCIPLINES

The Fellowship Program will provide support in the following broad areas of activities:

**i) Industry.** In general, Eastern and Southern African countries experience low and, in some cases, declining levels of enrolment in areas associated with the growing industrial sectors which require skills in Science, Technology, Engineering and Mathematics or Industry – STEM. Thus, there is huge demand for graduates in emerging sectors with high growth potential such as oil and gas, energy, extractives, and railways industries across the region. This Fellowship will contribute to improved availability of skilled professionals with specialized knowledge who can innovate and boost productivity in the STEM areas, such as engineers (civil, petroleum, and mechanical), geoscientists, mechanical technicians, etc.

**ii) Agriculture:** Low levels of agricultural productivity has contributed to shortage of food and overall food insecurity due to skills and labour constraints, as well as the slow adoption of technology. Primarily this low productivity is caused by factors such as frequent droughts, rampant diseases (crop and livestock), unimproved crop varieties, lack of access to

quality seeds/fertilizers, and poor management of water resources. To address these challenges, this Fellowship will contribute to training of female graduates to become agribusiness specialists/managers, crop scientists, plant breeders, veterinarians, agronomists, water and irrigation engineers, and food preservation and processing specialists, who will contribute to innovative research and teaching for agricultural advancement, improved nutrition, and agricultural sustainability.

**iii) Health:** There is low life expectancy in Eastern and Southern African region. Both infectious and non-infectious diseases account for highest proportion of illness in the region, and include malaria and tuberculosis and other diseases that may have been eliminated elsewhere. Infectious diseases are also a major constraint to both the export of African livestock and the spread of diseases from animals to humans. This Fellowship will address development challenges in the areas of infectious diseases, public health, and drug development through training and research in molecular biology, analytical epidemiology, traditional medicine, and pharmaceutical technology.

**iv) Education.** Poor education quality, especially at the primary and secondary levels, is a significant obstacle to higher education access and outcomes. Poor teaching competencies, particularly in mathematics and science, are a barrier to the production of high-quality graduates and faculty in the field. This Fellowship will contribute to improved quality of tertiary education, leading to improved learning outcomes in the STEM disciplines.

**v) Applied Statistics.** The absence of reliable and accurate data, data management systems, and skilled statisticians is a serious constraint to policymaking, adequate analysis of development challenges, and monitoring and evaluation (M&E) of interventions. In sub-Saharan African countries, across various sectors, there is a severe shortage of highly trained statisticians and of good quality data. This makes it difficult to provide analyses, plan and monitor interventions, inform fact-based policy, and track progress. This Fellowship will contribute to capacity of research and training within higher education, with a focus on providing improved statistical skills.

## THE FELLOWSHIP AWARD

The provided financial support for each Fellowship Program will cover:

- i) University tuition fees:** Approximately USD 3,000 per year (payable directly to the Host University according to an official invoice)
- ii) Stipend:** USD 800 per month to support living expenses such as housing, food, utilities, local transportation, medication and settlement expenses
- iii) Research:** USD 4,800 to support student research, payable upon approval of research proposal
- iv) Allowance:** USD 2,000 one-off allowance to cover visa, laptop and books
- v) Air ticket:** A round-trip economy fare for the most direct route between the beneficiary's home country and the study destination of Host University

**Note: Candidates must complete all academic work within the specified period of the programme as the scholarship cannot be extended beyond a maximum of 24 months.**

Application forms and other requirements are available on the website [ace2.iucea.org](http://ace2.iucea.org) and [www.iucea.org](http://www.iucea.org)