African countries need to work towards becoming knowledge societies. Few (if any) would argue against the position that high quality PhD training is critical to turning African countries into knowledge societies. In the last 10-20 years there is an exponential increase in the number of PhD trainees on the African continent. However, there is no coordinated effort to assess the quality of the training programmes. It is important to promote discussions within THRiVE and beyond regarding what constitutes the key ingredients that may facilitate a movement towards excellence in doctoral education. The World federation of Medical Education is attempting to define the essential requirements. Below are some of the required components:

a) Presence of strong active research environment with learning and research facilities that are necessary to support the trainee’s education to the required standards.

As a THRiVE doctoral student aiming to complete my studies in the near future, I needed a place to go and read, learn and interact with some of the most brilliant minds of this world. The place for me has been the University of Cambridge: a one-stop hub of knowledge. A quiet place with facilities to enable me to concentrate and work on my research, it is the most desired place. During my visits to this University and interaction with my mentor, I have had a chance to attend modules, research seminars, workshops, educative talks and presentations. The intuitive meetings...
Dear Readers,

While addressing the World Health Assembly 2013 WHO’s Hans Kluge stated “We are not replacing our seed corn, we’re not funding the next generation…..Yet it’s clear the amount of funding is directly related to productivity.”

The Wellcome Trust support to the African Institutions Initiative (All) is clearly a departure from the above stance. THRiVE is proceeding as one of the All consortia is a shining example of a concerted effort to build African research capacity for the future. Within the past four years THRiVE has laid the ground work and developed a robust framework capable of contributing to replacing our seed corn and building the institutional environments conducive to high quality research productivity. The THRiVE model can be replicated in low resource African environments but requires strong institutional commitment (universities and research institutes), support by home governments, northern universities, partners and funders. As THRiVE matures it provides an opportunity for new funders to join hands and contribute to the same goal. Collaboration and coordination are essential if these partnerships are to have significant regional impact. THRiVE must capitalise on the strength of all partners; engage local resources (public and private), the public and civil society. Critical to success is that partners must share the same vision, develop mutual support, be involved throughout the whole process and never lose site of the end product.

One of THRiVE’s goal is development and growth of relevant internationally competitive researchers. Damtew Teferra has said, “building PhD programmes is not simply to encourage intellectual curiosity, but to address a critical aspect of national development”. Many African countries have set themselves targets of the number and category of doctoral graduates that they want to achieve in the next decade or so. This and other factors have led to the race by many institutions to produce an increasing number of PhD graduates. THRiVE is proceeding with other well-established institutions or programmes that offer doctoral training.

One of the areas that is frequently neglected is training in transferrable skills like critical literature review and systematic reviews, written, oral or poster presentations to both academic and non-academic audiences, writing, grant applications, career development and networking, teaching, leadership and project management.

At the end of it all, the expectation is that the holders of the PhD award will have competences that are required by a productive researcher, have a systematic understanding of his or her field of study, and mastery of the skills and methods of research associated with their fields, have ability to conceive, design and implement original research, can communicate scientific work to academic peers and society and can participate in academic and professional contexts about scientific work.

**Director, THRiVE**

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**Membership of the THRiVE Advisory Board**

1. Prof. Wilfred Mbacham, Chair, Rest of Africa
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9. Dr. Saidi Kapiga, Deputy Director
10. Dr. Jean Baptiste Mazarati, Rwanda

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b) **Availability of adequate internal and external resources like infrastructure, time, money, research materials, etc for the completion of the candidates PhD research project.**

c) Institutional mechanisms to support working within internationally accepted ethical standards

d) Formalised Course work in areas relevant to the trainees fields of study (see below)

e) Appropriate and adequate support, supervision and mentorship to the trainees.

f) **Appropriate assessment of the candidate during and at the end of the training.**

g) Ongoing efforts for benchmarking against other well-established institutions or programmes that offer doctoral training.

h) Opportunities for post-doc training with strong mentorship component for grant writing

Not all institutions hosting PhD programmes may have all the above requirements in place but they should collaborate with other institutions in the global North and Global South that can fill the gap. THRiVE is doing well in this respect through the strong partnerships that exist between the African institutions and with the London School of Hygiene and Tropical Medicine and Cambridge University. The support offered through joint supervision arrangements, to THRiVE PhD and Post-doc fellows by these two institutions, is highly commendable. It is clear that not all graduates will pursue a research carrier and a sizeable proportion may end up in non-academic positions. Whatever the case, quality PhD training programmes are essential and should take place within the framework of clear and smooth admission procedures that ensure selection of suitable candidates, who undergo competent supervision and mentorship, experience appropriate course work, and have a fair and thorough assessment. Adequate support for both students and supervisors is critical to achieving a meaningful experience by the trainee.
with my mentor were so handy, as I was analyzing my results and writing my thesis. I liked the interaction, flow of information and assistance from all faculty, irrespective of whether one belonged to that school, department or faculty.

For instance, in my training, I needed some assistance in running certain computer applications, which required a specialist in bioinformatics. I therefore requested for help, and immediately meetings were organized for me to work with a bioinformatics specialist at the School of Biological Sciences. After a day’s meeting, I was able to utilize and transfer the knowledge gained to independently run another challenging programme for my analyses to a successful conclusion. All the resources and books I needed and other research materials were provided accordingly.

The University of Cambridge is endowed with a rich history that is highly treasured, and we as THRiVE PhD students have been fortunate to be accepted as temporary students. We have access to libraries and essential facilities. The issuance of University cards and being part of Cambridge Colleges enables visiting African researchers, including THRiVE fellows, to fit well in the University. Special thanks to the coordinators and management of the Cambridge-Africa Programme.

During my time in Cambridge, I have been able to concentrate fully and respond to reviewers' comments for two manuscripts I had submitted for publication. Eventually, these manuscripts were published in PubMed in March 2014. The Cambridge THRiVE Coordinator also made me aware of a workshop taking place at the University of Oxford in April 2014, which will focus on ‘fertility transition in the South’. Since this is very relevant for my PhD research, I applied to attend, and although the application process was very competitive, I have fortunately been invited to present a paper at the workshop.

Availability of a wide range of educative and supportive associations also comes in handy for students and faculty of the University of Cambridge. I joined some of the associations, notably CamAWISE—a Cambridge networking group that connects and inspires women in Science, Technology, Engineering, Mathematics and Medicine.

I am hopeful that I will be able to share the information, network and skills I gained during my attachment at Cambridge with my colleagues and students back in Uganda. Special thanks to THRiVE Secretariat-Makerere University College of Health Sciences for giving me this opportunity and to the Cambridge-Africa Programme management for facilitating my studentship and stay in Cambridge.

It is an honour to be part of the THRiVE Consortium and THRiVE Cambridge.
By Pauline Essah, University of Cambridge

2014 got off to a great start in Cambridge, as we officially launched the African Society of Cambridge University (ASCU) at King’s College in Cambridge. ASCU will serve as a great resource for THRiVE fellows visiting Cambridge, as they can immediately be plugged into a community of African students and staff who can help them settle into Cambridge life (in addition to the on-going support offered by the Cambridge THRiVE Coordinator). The Cambridge-Africa Programme also now organises a ‘Visiting African Researchers’ Showcase’ each term, to give all visiting African researchers the opportunity to present their work to a multi-disciplinary audience. We in Cambridge are very proud to inform you that Ms Allen Kabagenyi (THRiVE PhD fellow from Makerere University) flew the flag of THRiVE high by giving a brilliant presentation at the February 2014 event!

Although we have been receiving THRiVE fellows in Cambridge regularly, we were especially pleased to be able to welcome Ms Harriet Nambooze and Ms Regina Namirembe (THRiVE administrators) for a day’s visit to Cambridge in March 2014. It was great to give them some insight into how research management and administration is carried out centrally at the University of Cambridge’s Research Operations Office. The ladies also got the opportunity to meet with appropriate staff at the Cambridge Departmental level, to compare practices and experiences between Cambridge and Makerere/THRiVE. Therefore, we hope the visit was beneficial to them. They certainly enjoyed their sightseeing in Cambridge (curtesy of Allen), after a busy day of meetings! Ms Stella Kepha (THRiVE fellow linked to the LSHTM) also visited Cambridge with Harriet and Regina, and now holds the record as the first LSHTM THRiVE fellow to visit Cambridge! We hope more LSHTM THRiVE fellows will visit Cambridge when they are in London – we are just a 50 minute train ride away......
In 2011 THRiVE awarded a collaborative pump-priming grant to scientists at icipe and UVRI to develop molecular markers for Mansonia mosquito disease vector species differentiation and population genetics. During the course of this pump-priming grant, numerous modern molecular approaches were considered and work on Mansonia mosquito genetics has continued as part of a PhD student, Yvonne Ajamma’s research project and has facilitated the success of a recently completed MSc student, Thomas Onchuru’s project of investigating the aquatic ecology of mosquito breeding sites.

As implementation of the grant coincided with the development of icipe’s new Martin Lüscher Emerging Infectious Diseases Laboratories, novel diagnostic approaches based on High Resolution Melting (HRM) analyses of DNA fragments developed as part of THRiVE’s initial pump-priming grant have been applied to blood-meal analyses of arthropod disease vectors (David Omondi – icipe PhD student; Claire Mugasa – Makarere/icipe pump-priming 2012), as well highly sensitive arboviral and Plasmodium diagnostics. Most recently, our novel approach to low-parasitemia malaria diagnostics (developed as part of Purity Kipanga’s MSc project) has been used to quantify both over- and under-prescriptions of antimalarial drugs among febrile patients in western Kenya in which malaria could not be detected by microscopy (in review).

Due to our recent successes in developing novel molecular diagnostics, we have embarked on joint (icipe/UVRI) proposal preparations to improve understanding febrile illness epidemiology in the context of the expansive diversity of arthropod vectored pathogen in East Africa. THRiVE’s 2011 pump-priming grant to icipe/UVRI has been instrumental in priming the development of unique, cutting-edge molecular capacity for vectored pathogen surveillance, arthropod vector genetics and blood-meal analyses, as well as febrile illness epidemiology in East Africa.
Collaborative research and training in Anopheles mosquito biology during mini-sabbatical work visits to Imperial College London (ICL) and International Centre for Insect Physiology and Ecology (ICIPE)

By Dr. Dorothy Ndagire, a Young Researcher

After my undergraduate studies in the B.Sc. undergraduate programme of Biochemistry Department at Makerere University in 2003, I undertook the master’s degree course in Molecular Biology and Biotechnology (MMB) which is hosted by the College of Veterinary Medicine, Animal Resources and Biotechnology at the same University. My thesis research in the MMB programme was aimed at identifying conserved membrane proteins of the malaria parasite *Plasmodium falciparum* that could be potential candidates for an anti-malarial vaccine. Equipped with this training, I proceeded to Granada University, Spain in 2006 for further studies under a scholarship from the government of Spain. It is in Spain that I obtained my M. Phil. and PhD education in advanced biology and immunology, respectively.

Through studies at Makerere University and in Spain, I had gained a keen interest in studies associated with the biology of infectious diseases in general. Therefore returned from Spain to Uganda in 2012 and began the tough search for jobs in teaching and research. In the event, I was fortunately introduced to Prof George Christophides of Imperial College, London by my mentor Prof Fred Kironde of Malaria Program, College of Health Sciences, Makerere University (MakCHS). With the support of the two professors, I submitted a few grant proposals to enable me re-enter the academic world in Uganda. The laboratory of Prof George Christophides at ICL is a renowned leader in studies of transmission of the malaria parasite between the vector *Anopheles* mosquito and humans. Indeed, over the past five years, close interactions in mosquito research have been developed between the ICL scientists and the malaria researchers at MakCHS. The two groups are co-operating in studying the molecular interactions between *Anopheles* mosquito and the malaria parasite, towards developing interventions that can block the natural growth of *Plasmodium* sexual stages in the mosquito and transfer of infective parasite stages (sporozoites) to the blood of humans.

With support of an ongoing multilateral grant between ICL and several centers including Makerere University, I was sponsored to go and train for a month in skills of Anopheles research at ICL. Some of the skills I acquired at ICL include: mosquito rearing, infecting mosquitoes through membrane feeding with normal or parasite infected blood, dissection and advanced microscopy of mosquito, gene knock-out experiments, analysis of mosquito nucleic acids for species identification, detection of vector-borne parasites and identification of mosquito blood meal. Upon returning from ICL, I learned that I had been awarded a mini-sabbatical grant from the THRiVE consortium.

With support of the THRiVE grant, I travelled to International Centre for Insect Physiology and Ecology (ICIPE), Nairobi where I spent three weeks studying more cutting-edge skills in molecular entomology.
Collaborative research and training in Anopheles mosquito biology during mini-sabbatical work visits to Imperial College London (ICL) and International Centre for Insect Physiology and Ecology (ICIPE) and working in the laboratory of Dr. Daniel Masiga (Head of Molecular Biology Unit, ICIPE). While in ICIPE, I had hands-on experience with several bench techniques of molecular entomology. Additionally, I developed a proposal that won me extra funding from the Uganda Malaria Clinical Operational and Health Services Research (COHRE) training program of MakCHS. With colleagues at ICIPE and ICL, we are discussing the prospects of applying for grants to support our future research.

Over the past several months, I collected Anopheles gambiae s.l. mosquito specimens from Iganga, close or within the Makerere University-run Demographic Surveillance Site (DSS) in Eastern Uganda. This collection site overlaps to the villages where a bloodstage vaccine clinical trial (GMZ2) has been carried out among resident children by the Malaria Program team of MakCHS.

While my re-entry back to Uganda has been challenging, it has also been gratifying and educative to work with my mentors and peers in obtaining financial aid from THRiVE and COHRE that is supporting my early post-doctoral work. Already, I have obtained some important research findings on Anopheles mosquito ecology in Iganga, which we are putting together for a publication.

I am very grateful to my mentors, George Christophides and Fred Kironde, for guidance. I thank the directors of THRiVE and COHRE for the grant awards that have enabled me return to my country and undertake my postdoctoral training in molecular entomology. I also appreciate the help of my research associates (Lydia Nabyonga and S. Nalwanga) with whom we work in the field and at the lab and learn a great deal from each other.

My Experience on the Multi-Level Statistical Modelling Course at Kilimanjaro Christian Medical College

By Sam Ononge, a THRiVE PhD Fellow, Makerere University College of Health Sciences

The two-week course that ran from January 20th - 31st 2014, attracted professionals from those in their final year of the Masters of Biostatistics course to those pursuing doctoral training. To give an idea about the range of topics that were discussed at the course, here is a summary; Jim Todd started with the review of Linear, Logistic and Poisson regression with understanding of Robust standard errors. He provided a sneak peek view of important assumptions and basic principles which guide regression analysis. He reminded trainees that individualized randomization are sometimes not possible in field experiments for practical or ethical reasons. Therefore, instead of standard individualized randomized clinical trial (RCT), cluster randomized trials (CRT) have been used in practice, treating a cluster as a unit of randomization. In CRT settings, individuals belonging to the same cluster are likely to have similarities due to various factors; for example environment. If resemblance within members in each cluster is ignored in analysis, standard errors are usually underestimated which
My Experience on the Multi-Level Statistical Modelling Course

results in inflation of a type 1 error. That is, one may overestimate the significance of treatment effects or falsely conclude that treatment effects are significant when they are not. We learnt different methodologies of analysis of cluster data, ranging from the use of cluster summaries and use of multi-level models for continuous and binary data. The data sets from ‘Mema kwa Vijana’ study in Mwanza Tanzania, Trachoma study in Ethiopia and several other data sets provided a stimulating practical opportunity to gain experiences. The course coordinators made themselves available during practical sessions to address our queries.

To me, this training being the first multilevel modeling course at KCMC was a success. The course was an eye opener concerning how researchers can error by setting up cluster studies and yet when it comes to analysis, they would not adjust for variability between and within clusters. I learnt about advanced options for analysis of cluster data and techniques to help streamline my data analysis being a cluster randomized study titled, “The effectiveness and safety of self-administered misoprostol for prevention of postpartum haemorrhage, a stepped wedge randomized trial”. The use of several data sets during the practical session assisted me learn how to structure my data analysis.

Time with course-mates was an enriching experience for me. I enjoyed every session especially when discussions were fierce or tough, the course members who- with the exception of myself- were from Tanzania, would switch the discussion to Kiswahili language, to make things easy, but in the process, unintentionally complicating matters for me.

For those interested in cluster randomized trials, I would recommend you to attend this course next time it’s offered. However learn some Kiswahili for navigating your way around Tanzania and remember to enjoy ‘Daladala’ commuter taxi while there; it is a wonderful experience. I would also suggest the course materials to be posted on the THRiVE website, with of course consent from the course coordinators.

I would like to take this opportunity to say “thank you THRiVE” for enabling me to attend the course. Special thanks go to the Course Coordinator; Jim Todd, and his team for the training materials and the assistant course coordinator Seema Vyas who helped out during the sessions. I would like to express my gratitude to KCMC for providing an ideal environment for the training. Special thanks to my colleague Dr. Florida Muro and Vera Wright Mushi, International Students Administrator who enabled me settle in and for her continued support during my stay at KCMC.

Excellent example of Capacity Building and Networking

Manassé Nzayiramahaho, Jean Baptiste Kakoma, Augustine Karemera, Joshua Kiregu, Raoul Rugamba, the University of Rwanda

The University of Rwanda (formerly National University of Rwanda) through its School of Public Health and School of Medicine has been reaping the fruits of THRiVE Project. Of the many contributions that the THRiVE project has made, the greatest has been capacity building of our institution and postgraduate students. This is well reflected in the following few examples of activities:

- Two Biostatistics lecturers hired under THRiVE funds are now providing substantial contribution in research and training. Already, students and other faculty are benefitting from STATA software classes and data analysis support open-sessions for all interested.

- Two students obtained THRiVE funding to do their Masters degree in Public Health. After completion, they are now productively contributing to their respective institutions (School of Public Health and Parliament) and the strengthening of the country’s research and health systems in general.

- Two Masters students who obtained THRiVE small grants have completed and defended their dissertations. They are now working on the publication of their works and they are contributing substantially to the improvement of the health system in Rwanda.

- Two PhD students (including one full time staff from University of Rwanda) are currently in the field conducting data collection for their theses; thanks to THRiVE funding.

- One administrative staff granted financial support is now doing his MBA as part of capacity building for Research Administration.

- Five researches supported by THRiVE are now at different stages of completion.

In addition to capacity building, the University of Rwanda is benefiting from networking with the other consortium partners. A joint research project with Gulu University is under development, while lecturers from Gulu University and Makerere University have visited the University of Rwanda to, both teach and provide support as external examiners for our postgraduate classes.

Not forgetting the high speed internet connection that the THRiVE project facilitated. This has completely changed the way our students and staff learn or teach and collaborate with each other and with the outside world of academia and research.

The University of Rwanda is forever grateful to the contribution of this consortium.
Protecting your Assets

Dickson Muyomba, THRiVE IT Officer

Some of the opportunities that are presented by ICTs is the power to inform the world by sharing information through the internet. Everybody can share information and skills as long as they have access to internet. In a research or academic environment information sharing is paramount and can be achieved through various avenues such as websites, collaborative technologies and or in hard copy format. The key asset that gives value to your organization is data and therefore calls for its proper management in terms of access, distribution and destruction. Having data in the wrong hands may cause a financial loss or damage the organization’s reputation. Therefore data/information sharing management processes whether ICT enabled or hard copy need to be guided through a policy framework. The policy provides data and information sharing standards that aim at reducing the risk on organization’s information access, integrity and confidentiality. The opportunity presented in developing your information security policy is that it will make you think holistically about your organization’s security and will help put the organization at a desired level of security.

What does it mean not having an information security policy?
- This means that the organization doesn’t have an effective defense against all attacks on the integrity, availability and confidentiality of its information. While it’s cheaper, faster and sometimes easier to perform an attack, it’s more costly to recover from any form of attack.
- It also means that in case of any compromise/breach, the organization cannot continue to operate since there is no counter-measure.
- Unauthorized access to data will harm relationships with the organization’s clients or partners who will question the capability of the organization to protect its confidential information.

To appreciate the value of information security policy, one needs to understand the consequences that result from information security being compromised. An organization without data protection policy is prone to any form of attack either internal or external. While having an information security in place may not guarantee safety of the data, without one an organization will struggle with the complexity of the physical, technical and personal components of information security. Security of information is everyone’s concern in the organization and therefore should be clearly understood at all levels of command. As a result of the global trends relating to data breach, there is need to continuously revise the policy to keep the pace of the changing approaches to data breach.

PhD Studies Creating Platform for Formation of Networks

Moses Galukande, a THRiVE PhD Fellow, Makerere University College of Health Sciences

When we first started out on the PhD journey, (referring to THRiVE Fellows 2011) some expectations were made clear by our sponsors, that we should eventually become independent researchers, I soon figured out it meant creating one’s own network of collaborators and identify feasible sources of funding, not to mention putting together well thought through and well written grant applications on a regular basis. Of course, this is only one facet of the whole mission of doing a PhD.

This expectation colored the lens through which I looked at this work before me, now close to 3 years, and on the home stretch. Worth mentioning and the purpose of this article is a collaborative grant to investigate breast cancer survival in 4 countries: Uganda, Nigeria, Republic of South Africa and Namibia that came through.

This grant was a direct result of a PhD related 3 weeks course I attended in Lyon (France) in 2011. During the course I talked about breast cancer in Uganda after which a few ‘people’ picked interest. We wrote a 1 million dollar grant and behold it worked. Valerie McCormack (IARC) leads the team and Isabel do Santos (LSHTM); I will work as the country PI for Uganda. This was an

A holistic approach to information security
THiRiVE Cross Visits Facilitate Peer Learning

By Amina Farah – Kilimanjaro Christian Medical College

With increasing funding for research for African universities there is a need to develop and modernize systems of managing research grants in African institutions. Currently, the systems in place in KCMC are only partially electronic and do not have the capacity to manage multiple grants or to produce rapid projections or donor reports. There is a need to learn ‘best practice’ using modern management tools in place in LSHTM.

I visited the THiRiVE team of Professor David Mabey and Frankie Liew in London School of Hygiene and Tropical Medicine (LSHTM) in December 2013. I had a particular emphasis on finding out how project management, financial reporting and forward planning were done in LSHTM, and understanding the LSHTM systems of accounting. I worked with Frankie Liew on financial planning and keeping basic accounts for projects in LSHTM. The financial planning was particularly useful as I learnt how the administrator can review past costs from different projects, and to use these to predict future costs for Project Investigators to plan their projects.

My visit to LSHTM was instrumental in helping me gain some new skills through meeting skilled administrators working in LSHTM. The administrators there had lots of knowledge about how to manage projects, which will be useful in my work. They had views on grants management, which will ensure that I can better plan the resources for new grant applications, and for existing projects. However, from a personal perspective, I have seen that research in Uganda. IARC being a global champion for cancer control, this is not only an opportunity to cement old relations between institutions but also create new energy and enthusiasm to tackle the tasks that lay before us and in my case breast cancer trends reversal. I am glad THiRiVE was established and is facilitating development of new networks for PhD trainees.
management is an important career, and I can strategize my own career development through greater collaboration with administrators in LSHTM and other THRiVE institutions.

The difference I have seen in LSHTM is they have a lot of resources; human and financial infrastructure in place to assist researchers in applying for grants, implementing grants and reporting on grant expenditures and findings while at KCMC it is not that well developed. In fact, in many parts of Africa, the ‘professional research manager’ does not exist - or is only just starting to emerge. In many instances, it is academics with an interest in the field who have taken on the role of research manager.

My work as a research administrator at KCMC gave me an opportunity to work with LSHTM Senior Researchers to create a Network for London School Staff Based in Tanzania (Overseas). I will be networking with them to know what projects, research and capacity building is happening in Tanzania. In the future I will help to develop a stable data base of their work in terms of research and findings.

Therefore there is an opportunity of learning through knowledge transfer and extending of our collaboration with facilitation of the THRiVE Consortium.

**THRiVE Mini-Sabbatical Experience brings new dimensions to research administration**

*Harriet Nambooze*

When THRiVE governance made a decision to allow senior research administrators at THRiVE institutions to apply for THRiVE mini sabbatical grants I never imagined that I would be privileged to be one of the recipients of such a grant. I have been part of the THRiVE management since its inception and I am well aware of the rigorous processes that applications for THRiVE grants are subjected to. THRiVE is governed through three technical committees namely Steering Committee, PhD and Postdoctoral Committee and Education and Small Grants Committee. For the network to effectively function as a true network, THRiVE made a deliberate move to have the committees chaired by different individuals from partner institutions. All committees have representation from each of the different THRiVE institutions. It is these committees that vet applications that are submitted for the different categories of THRiVE grants.

The mini sabbatical grant, upon which Regina Namirembe and I visited the London School of Hygiene and Tropical Medicine (LSHTM) and University of Cambridge (UC) from 16th to 24th March 2014, was premised on the need for us to interact and learn from experienced research administrators at both institutions. The visit could not have come at a more opportune time as the Makerere University College
of Health Sciences strives to operationalize its Research Support Centre (RSC). Our dream is to replicate at MakCHS the lessons learnt during the mini-sabbatical from LSHTM and UC.

At both institutions, we had the pleasure of holding discussions with research administrators at the departmental and central levels. This helped us appreciate the way the department administrators and staff in central research office interact to ensure effective and efficient research administration and management. In both cases the interaction was mainly through elaborate management systems that link human resources and payroll, financial management, procurement and grants management. While LSHTM uses AGRESSO, UC uses CUFS (Cambridge University Financial System) supplied by Oracle. A glaring lesson for us was that departmental administrators are very instrumental in ensuring the smooth operation of the system provided they have access to the financial management system used by the central office. The systems allow administrators to have limited access to the system to check the transactions that have been posted on their respective programmes and also check out the balances on their projects any time without relying on the very busy finance office which is very crucial in monitoring of project budgets. The administrators have a network which enables them to share ideas and best practices.

Other salient issues that are pertinent to research administration and management that we want to pay attention to in our quest to improve the face of research administration in our institution include ensuring that Principal Investigators do not sign off contracts as doing so, makes them liable; the use of simple spreadsheets to keep track of income, expenses, reporting dates etc; developing checklists for commonly done tasks; drawing up reference points for quick review of compliance issues; keeping within the budget allocated to a particular activity, timely reporting and ensuring that back up documents are in place to justify payments. Of crucial importance is the need to communicate what we are doing through newsletters, blogs, websites, presentations and scientific conferences.

We were intrigued by the systems that are in place to enhance the partnerships between university researchers and industry in the quest to commercialize outputs arising out of university research through intellectual property protection, licencing and business start-ups. UC’s Cambridge Enterprise oversees the licensing of inventions, help innovators find funding opportunities to develop their products and also enables the university faculty to share knowledge with government, industry and private sector through consultancy services. In addition, it supports start-ups in their early stages of development to enable them develop innovative technologies that can benefit society.

On other fronts, LSHTM is organizing a scientific meeting in Zimbabwe in March 2015 and the plan is to invite all THRiVE PhD fellows to present their findings. The Bloomsbury Global Health Centre will put at its disposal resources to mentor fellows who want to apply for the Wellcome Trust fellowships. At the University of Cambridge, CAPREx has extended an invitation to 4 research administrators from THRiVE to participate in the May RAM training at Makerere University. In addition, PhD scholarships will be availed to African students to study at Cambridge.

We are grateful to F. Liew, D. Mabey, S. Sheddy, T. Hurst, S. Marinova, Y. Fernandez, S. Saculu, S. Berhe and L. Bradshaw (LSHTM) and P. Essah, J. Mackay, D. West-Lewis, G. Arnold, D. Dunne and J. Wood (UC) for having spared the time to be with us. The lessons learnt during our experience at LSHTM and UC will forever guide our mission of building the capacity of research administration at MakCHS. We will always treasure our experience at the LSHTM and UC as we strive to advance in our careers as research administrators.
Laboratory Dynamism in a Multidisciplinary Funding Environment

By Dennison Kizito

Vocational health training in East Africa would be superb and sustainable if all the stake holders involved in teaching, research and support were fully exposed and trained in all aspects pertaining to the current demands of grant funders as well as research scientists and future developments in health science.

In most East African teaching and research laboratories there is an urgent need to equip laboratory managers with advanced practical techniques, tools and tips to manage dynamic environments and lead their teams to success. Most of the laboratory managers in the developing world face the challenges of managing large, multidisciplinary teams of research scientists with different funding sources, increasing number of clinical trials, good clinical laboratory practices and accreditation demands as well as the increasing numbers of students at various levels.

Thus, there is a need to strengthen the role of laboratory managers in the dynamic research laboratories in the developing world by equipping them with additional skills and knowledge related to laboratory management and finance administration as well as modern molecular and immunological techniques applied in health research.

As a way of understanding the dynamics involved in laboratory sector research and multidisciplinary funding or grants in the developing world related to developed world, I undertook a mini-sabbatical training at the London School of Hygiene and Tropical Medicine (LSHTM), UK from 4th November to 21st December 2013. I assessed how research laboratories are run in the developed world compared to the developing world in the era of a dynamic multidisciplinary funding with regard to laboratory management and finance administration, laboratory asset management, health and safety and skills enhancement in immunity and infection.

In order to realize the above and with the help of Prof Hazel Dockrell I came up with a planned programme on how to achieve the above stated objectives. We identified the departments and key personnel at the School to interview and for shadowing during their routine work.

A number of methods were employed to obtain the relevant information needed and these included attending lectures for selected modules in the MSc Immunology of Infectious Diseases course, shadowing experienced laboratory staff, observation and interviewing, attending immunological seminars, working visit to the Jenner Institute laboratories and the Center for Clinical Vaccines and Vaccinology at Oxford University and attending the British Society for Immunology (BSI) congress in Liverpool.

This kind of self-tailored training stimulated my thinking and gave me the opportunity to broaden my understanding of the roles of laboratory managers in the changing multidisciplinary set ups in the developing world. Further still, this training indicated to me how laboratory management is still inadequate in our research laboratories and largely depends on inexperienced and inadequately exposed laboratory managers. Hence, for the region to progress in vocational and health training there is a need to: involve laboratory managers in the budgetary and planning process, empower them to manage their facilities, maintain role models and provide well-furnished and facilitated laboratories. Moreover, a similar well-coordinated training programme at regional or institutional levels should be established to strengthen laboratory management and administration in the developing world.

This mini-sabbatical training work was supported by Training Health Researchers into Vocational Excellence in East Africa (THRIVE). Special thanks to Professor Hazel Dockrell (immediate supervisor at the LSHTM), and Professor Alison Elliott (immediate supervisor at MRC/UVRI Co-infections studies programme, Entebbe) and Professor Helen McShane, Jenner Institute Laboratories University of Oxford. I would like to thank Ms. Carolyne Stanley, Ms. Deborah Coles, Mr. Andy Davis and Mr. Michael Smith, Drs Steve Smith, Greg Bancroft, John Rayes, and all the faculty at the Department of Immunology and Infectious Diseases at LSHTM, Mr Simon Kenridge and Ms. Samantha Vermaak from Center for Clinical Vaccinology and Tropical Medicine University of Oxford, Dr Iman Satti, Ms. Stephanie Harris, Ms. Lisa Stockdale and Dr Zita-Rose from Jenner Institute Laboratories, University of Oxford and my colleagues at MRC/UVRI Co-Infection Studies Programme Immunology Laboratory in Entebbe-Uganda.
The fourth Research Methods course was held in Mwanza in February 2014. Originally set up in 2011 as an introduction to research for the 15 THRiVE PhD fellows, the first course was three weeks long and included sessions on Epidemiology, Questionnaire Design and Statistical Analysis, which are needed for PhD students and others new to epidemiological research, as well as introductory sessions on Qualitative analysis, Laboratory management and Clinical Trials to cover the diversity of research proposed by the THRiVE fellows. The course used materials from LSHTM, adapted by Jim Todd (LSHTM). The value of the course to the THRiVE fellows went beyond the introduction to research methods, as it helped to bond the group, and provided peer support through a network of researchers to whom they could direct questions, and find solutions to their research problems.

THRiVE has continued to fund a shorter 2-week course in Mwanza every year. In 2014 there were 17 participants (see photo), with several new PhD candidates from various institutions, MSc students keen to learn how to approach their research projects, and new scientists working at NIMR (National Institute for Medical Research), and MITU (Mwanza Intervention Trials Unit) in Mwanza.

**Sustaining the course after 2015**

The success of the course illustrates how THRiVE funding has produced innovative ways of teaching and developing research in East African institutions; but how can it be made sustainable after 2015? LSHTM and its two partners, Makerere University and KCMC, plan to expand the African DTM&H course into a fully fledged, LSHTM accredited MSc course available to clinicians eager to learn how to do high quality research (see previous newsletter). Since the MSc course will include a research project, it will need to include an introduction to research methods, and to help students identify potential project supervisors across East Africa. The Mwanza Research Methods course is ideally placed to meet these needs, and fees paid by MSc students could make it sustainable in the long term. If it were part of an LSHTM-accredited MSc course, it would have the potential to attract fee-paying international students, in the same way as the African DTM&H course.

Prof. Alison Grant (LSHTM) visited Mwanza in February to assess the quality of the course, with a view to seeking LSHTM accreditation. Her report described the content as ‘very good, clear and practically-oriented’. She was enthusiastic about the use of Epi-Info for questionnaire development and analysis, and was ‘very impressed’ by the course. She agreed that the lecture room and environment in MITU is pleasant and suitable for students to work in small groups, as well as to listen to more formal teaching. In discussions between Alison and the Directors of NIMR and MITU, it was agreed that we would explore how the Mwanza Research Methods course could be accredited as a Masters level course by LSHTM, while making it available at an affordable rate to new researchers from East Africa.

While there is still a lot of work to be done, we feel positive about the future. The fees from students from developed countries undertaking an MSc at LSHTM would provide financial security to the course. The course has proved useful for Tanzanian PhD students and for those undertaking masters level research and we can develop it to become a resource for East Africa. If this does come about, this will be the first course organised and run by an African institution that is accredited by LSHTM as part of its masters program. Truly an innovative short course supported by THRiVE.
Faculty of Medicine at Gulu University has been struggling to adopt, integrate and implement ICT in its operations since its establishment in 2004. However, THRiVE funded ICTs has eased the challenges evident through significant increased of ICT usage. In August 2012 the project established a new multimedia laboratory. This has boosted availability of facility and confidence of faculty and students that allowed them to vigorously engage in meaningful teaching, learning and most importantly research. The idea was to make Faculty of Medicine at Gulu catch up with the rest of the world by harnessing ICTs’ potentials to aid teaching, learning and research. Innovative ICT solutions is part of THRiVE strategy to increase lecturers and students capacity to meet the substantial need for qualified healthcare professional while at the same time improving the quality of teaching, learning and research outputs. The ICT support extended to Gulu University Faculty of Medicine emanated from THRiVE’s major priority of strengthening the research institutional environment in the consortium.

Gulu University has enormously benefited from THRiVE ICT support which will go along way in complementing the traditional teaching, learning and research; the presence of ICT in the institution has offered faculty and students a convenient and faster access to various valuable educational resources. The ICT solution has also provided better platform that earnest access to the Internet, scholarly journals and eBooks by lecturers, students and the wider community in Northern Uganda and internationally.

Among the benefits realised, the following areas have been outstanding as narrated by randomly selected medical students in a simple interview after obtaining their consent by the medical librarian:

“due to the availability of new computers at Faculty of Medicine, I am able to access many medical sites for latest medical literature, download journals, eBooks, reports, study questions and dissertations. I also use the computer and Internet to communicate with fellow students and lecturers”. (Emmanuel Candia [MBChB II] personal communication, December 13, 2013).

“the benefits I get from using the new computers are countless: the one I can say is that I am able to access eBooks; the computers

From Left to right; David Masete, Annie Weber and Walter Yagos engaged in a discussion
Gulu University Reaping from THRiVE ICT Initiative

have improves learning and understanding of many students through learning videos obtained from the Internet, more importantly the computers brought by THRiVE are significantly helping students who cannot acquire or buy their own laptops”. (Ambrose Otim [MBChB III] personal communication, December 13, 2013).

“the benefits I get from using the new computers is that doing research is easier since sources of information are quick to get and available in large numbers…all these have expanded my field of knowledge and learning because of the learning tools provided over the Internet. Also, we have been able to download surgical procedure from the Internet which has given us practical appreciations and perfections in clinical years”. (Ivan Opoka Latim [MBChB III] personal communication, December 13, 2013).

We have benefited a great deal from THRiVE support but there are challenges which require more efforts if we want to reap maximum benefit from the opportunity before us. There still exist power outages, slow Internet speed, and inability to access the multimedia lab 24/7. From August 2012 to date, we have learnt lessons that we can share. Information and communication technologies offer the best solution for under-resourced institution such as Gulu University. ICT “knows” no borders, it facilitate faculty, students and researcher to access resources easily, faster and sometimes “freely” from all over the world.

Sustainability: Supports that THRiVE provided does not operate in isolation. Issues such as power supply, Internet bandwidth, ICT policy and maintenance is the primary responsibility of the benefiting institutions. This is a business continuity plan to ensure there is continuity in services.
Staff members (teaching or research staff) from any of the African THRiVE Institutions (i.e. Gulu University, Kilimanjaro Christian Medical College, Makerere University, National University of Rwanda, National Institute of Medical Research -Mwanza, Uganda Virus Research Institute and International Centre of Insect Physiology and Ecology) are invited to apply for a Pump-Priming grant to enable a THRiVE staff member to conduct preliminary research to obtain data for writing a joint research proposal with at least one THRiVE member from another institution. The main objectives of the grants are to:

- Foster collaboration between THRiVE institutes and staff
- Encourage sharing of specialised tools and expertise within the THRiVE network
- Encourage the production and submission of joint proposals for research funding
- Provide resources to develop new research ideas and proposals for funding.

There are five (5) grants (a maximum of £10,000 each), and there is a requirement that at least two THRiVE institutions are involved. Research, travel and some investigator costs (up to 20%) may be requested. Any grant awarded will be managed by the accounts office of the applicant's local institution.

**Application Requirements**

In order to apply, THRiVE staff members need to submit the following documents:

- A one-page CV outlining the research interests and previous grants held
- Applications for Pump-Priming grants should be ~2-4 pages, and include a brief summary/background, proposed approach/methods, expected outputs and impact, a description of the expectations for fundraising, up to 10 key references.
- The name(s) and one-page CV of the proposed collaborator(s) from the different THRiVE institution(s)
- A summary budget and Gantt chart
- Priority will be given to projects that demonstrate ability to complete within the allocated time.

Applications can be submitted as email attachment to the THRiVE email: info@thrive.or.ug.

**Closing date for applications**

11 May 2014 at 5:00pm local time

All data collection and interim report must be completed by June 30 2015 after which date no costs may be incurred on the grant.

**Review and Selection of Applications**

Eligible proposals will be submitted to a review panel of two reviewers appointed by ESGC. Based on the recommendations from the reviewers a final recommendation will be made to the THRiVE Steering Committee for funding. Applicants will be informed by email by Friday 27 June 2014.

**Consolidating institutional resources to strengthen Research and Innovations Management Support systems at Makerere University College of Health Sciences: Building on what is available**

*By Achilles Katamba, THRiVE M & E Officer*

Lack of adequate, effective and efficient research and innovations management (RIM) support systems continue to limit the impact of health research on African socio-economic development. Funders are supporting a number of capacity building initiatives or projects in developing country settings and some are supporting components of the RIM enterprise. Knowing who supports what and consolidating resources for the establishment of a centralized institutional RIM support system will go a long way to strengthen systems for research and innovations for improved research governance.

Like many academic institutions in developing countries, Makerere University College of Health Sciences (MakCHS) is involved in implementing a number of capacity building initiatives including: Training Health Researchers into Vocational Excellence in East Africa (THRiVE) funded by the Wellcome Trust (WT); Medical Education for Equitable Services for all Ugandans (MESAU) funded by National Institutes of Health (NIH) OGAC and HRSA; Africa Research Initiative and Support Network (ARISE) funded by the Netherlands Organization for Scientific Research; Makerere University & Swedish International Development collaboration (Sida) funded by Sweden etc. We consolidated resources from some capacity building projects putting into consideration funders' requirements to develop a centralized RIM support mechanism at MakCHS. Although in this article we focus...
Consolidating institutional resources to strengthen Research and Innovations Management Support systems at Makerere University College of Health Sciences: Building on what is available

On MakCHS, most activities were jointly implemented with network institutions which provided opportunity for mentorship between staff of partner institutions. In order to inform strategic planning for the RIM enterprise, we: i) visited academic institutions in developed and developing countries to benchmark with the well-functioning RIM support systems and ii) conducted a needs assessment to determine capacity gaps in research administration and management which culminated in the development of 5-year strategic plan for RIM support systems at MakCHS. We managed to: a) establish a Grants and Contract Management office (Picture of Grants office webpage); b) expanded ICT infrastructure; c) design an electronic ethical and scientific review support system; d) develop policies/guidelines; e) establish an innovations & knowledge translation office; f) conduct research support training, etc.

A number of challenges still preclude the establishment of a one-stop RIM support center whose components are geographically scattered on two main campuses (college campus and University main campus) making it difficult to work in harmony and causing unnecessary delays in processing requests or applications. This situation has limited opportunities to add important RIM services that do not exist at MakCHS for example monitoring and ensuring research integrity/compliance; legal services and intellectual property management. To address this challenge we have engaged and received support from NIH, ARISE project and the WT to develop the one-stop RIM support center. Proper costing of what it takes to support research and innovations projects and services is a major challenge at MakCHS and yet such costing is needed to inform the development of a business plan to ensure sustainability. We plan to conduct a costing workshop using the Essence Good Practice guidelines to improve research costing in low- and middle-income countries. We hope that the Essence Secretariat will help identify the potential facilitators for the workshop.

There is an obvious need to always assess the existing institutional resources, prioritize what needs to be done while avoiding duplication in order to justify request for additional resources.

A screen shot of the Grants and Contracts Office of MakCHS


24. Agnes Nyabigambo. Determinants of Utilization of a No-Cost HIV Transition Clinic: A Cross Sectional Study of Young Adults Living with HIV/AIDS. Accepted for publication in the journal “Adolescent Health, Medicine and Therapeutics. Accepted for publication in *Adolescent Health, Medicine and Therapeutics.*


Submitted Manuscripts


4. K. Amone-P’Olak, Jan Stochl, Peter B Jones, Richard Meiser-Stedman, Tim J Croudace, Emilio Ovuga Categories of War Events, Age at Abduction, Duration in Captivity and Depression in a Ugandan Cohort of War-affected Youth – The WAYS Study Social Psychology and Psychiatric Epidemiology SPPE-D-13-00348


10. Kalemera Ssenyondo E, Fuual J, Jombwe J, Galukande M. To drain or not to drain after thyroid surgery: a randomized controlled trial at a tertiary Hospital in East Africa. African Health Sciences

11. Asiimwe SL, Wangoda R, Kwizera A, Makobore P, Galukande M. Acid-Base disorders as predictors of early outcomes in major Trauma in a resource limited setting. PMJ.


27. Reginald Kavishe, Sungwa Matondo; Godfrey Temba; Michael Alfrangis; Deus Ishengoma; Cally Roper. High level of sulphadoxine-pyrimethamine resistance in Tanzania. Submitted to PLoS pathogens.


29. Nabyonga Lydia, Stratton Bonaventure, Namusoke Marium, Nalwanga Sylvia, Buwembo William, Fred Kironde. Anopheles gambiae s.l.; species, knockdown resistance and molecular form identification in Iganga and Bugiri districts of South Eastern Uganda: Preliminary findings. Submitted to Journal of Malaria Research and Treatment