



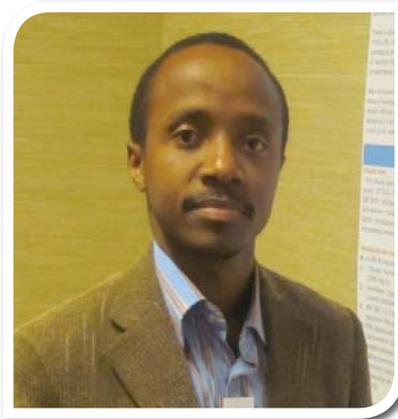
# THRiVE Selects its 2<sup>nd</sup> Cohort of PhD and Post-doctoral Fellows

By Harriet Nambooze

The selection of the 2<sup>nd</sup> Cohort of the THRiVE-2 PhD and Postdoctoral fellows was concluded on 10<sup>th</sup> May 2017 at the International Centre of Insect Physiology and Ecology (icipe) Duduville where the interviews were conducted from 8<sup>th</sup> to 10<sup>th</sup> May 2017. The meticulous 9-member selection committee was composed of one seasoned representative from each of the THRiVE partner institutions and was chaired by Dr. Daniel Masiga. The selection process involved the initial short listing of 24 out of the 107 PhD applications and 12 out of the 33 Postdoctoral applications received. Thirty-three applicants submitted full applications which were then reviewed by 2 or more expert reviewers from all over the world. Eventually 17 PhD and 9 Postdoctoral applicants were invited for the interview. During the interviews, applicants were required to clearly articulate their research projects, the ethics surrounding the studies, their ability to become research leaders among so many other things. To crown the process 9 PhD and 4 Postdoctoral fellows were selected. Below are their profiles and projects.

## Postdoctoral Fellows

**Dr. Jovin Kitau** is a Lecturer at Kilimanjaro Christian Medical University College, (KCMUCo) and a Research Scientist under Pan-African Malaria Vector



Research Consortium, Moshi Site. His research interests are in disease vectors, their behaviour and control, insecticides and repellents. He completed his PhD in Medical Entomology in 2015. Among other things his PhD work reported pyrethroid impregnated blankets to be comparable to bed nets in killing mosquitoes and reducing mosquito bites. Dr. Kitau holds a Master of Science degree in Medical Parasitology and Entomology from KCMUCo and a Bachelor of Science Degree (Zoology major) from the University of Dar Es Salaam.

### Project – Pyrethroid impregnated blankets for control of malaria in humanitarian emergency situations

Control of malaria in refugee-like situations, is complicated by the lack of preparedness and inappropriate housing conditions for insecticide spraying and hanging nets. Jovin will assess the effectiveness of blankets impregnated/treated with

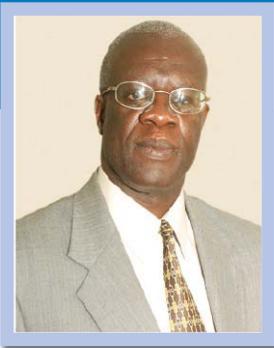
pyrethroid and PBO for control of malaria in Nduta refugee camp. This study is expected to fill in the existing knowledge gap on the epidemiological efficacy of impregnated blankets and therefore advice on the future of malaria control in humanitarian emergency situations.

**Dr. Ireen Kiwelu** is a Principal Research Scientist and Senior Lecturer at Kilimanjaro Christian Medical University College. She is also the head of Kilimanjaro Clinical Research Institute-Biotechnology Research



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Dear Reader,

Recently THRiVE selected very promising upcoming researchers to be sponsored for PhD training and others for post-doctoral placements. This is a good time to reflect

on how we will ensure that they acquire exemplary knowledge, skills and culture of responsible conduct of research. We need to be pro-active in ensuring that none of our trainees or fellows, their supervisors and mentors engage in research misconduct. It is in the interest of everyone in the research industry, users of research and the general public to exercise zero tolerance for research misconduct. Doing otherwise would put at risk the public's acceptance of and confidence in scientific and health research. We have an obligation to protect the integrity of research, lives, health and safety of the public.

As described elsewhere research misconduct encompasses research fraud, fabrication, falsification, or plagiarism in proposing, performing, or reviewing research, or in reporting research results. Unfortunately these acts have been reported against high-profile researchers in prestigious institutions. Some of our academic institutions or research institutes may not have in place the necessary mechanisms for detecting and addressing allegations of misconduct. The DELTAS offers an opportunity to could be a vehicle through which this gap could be addressed. We should not wait to hear of allegations of research misconducts but should act to prevent acts of misconduct occurring. The DELTAS initiatives like THRiVE should take interest to find out the requirements of their different funders so that they can comply. Whatever the case each institution bears the responsibility for prevention, detection (the inquiry and investigation), and adjudication of alleged cases, and taking remedial/corrective actions for research misconduct associated with their own institution. Each institution should have in place clear, transparent, accessible policies and guidelines, and mechanisms to guide researchers, administrators and other stakeholders.

| Name                           | Institution                               |
|--------------------------------|---|
| 1. Professor Wilfred Mbacham   | University of Yaounde I, Cameroon, MARCAD |
| 2. Professor Alison Elliot     | MUII-Plus                                 |
| 3. Professor Hannah Akuffo     | SIDA                                      |
| 4. Professor Njeri Wamae       | Mount Kenya University                    |
| 5. Professor Mukadasi Buyinza  | Makerere University, CARTA                |
| 6. Professor Gibson Kibiki     | East African Community                    |
| 7. Dr. Alponsus Neba           | AAS/AESA (Observer)                       |
| 8. Professor Nelson Sewankambo | Director THRiVE                           |

## THRiVE Selects its 2<sup>nd</sup> Cohort of PhD

Laboratory. Her PhD research focused on the molecular epidemiology of HIV-1 among female bar and hotel workers who represent a high-risk population for HIV-1 infection in Moshi, Tanzania. The research findings revealed that the HIV-1 epidemic in Tanzania is highly diverse, with multiple HIV-1 subtypes.

### Project – Molecular analysis of HIV-1 drug resistance mutations among patients failing first and second-line antiretroviral therapy in Kilimanjaro, Tanzania.

This project will focus on studying HIV-1 viruses in relation to treatment specifically on molecular analysis of HIV-1 drug resistance mutations among patients failing first and second-line antiretroviral therapy in Kilimanjaro, Tanzania.

**Dr. Moses Galukande** is an Associate Professor and Chair of the Department of Surgery in the School



of Medicine, Makerere University College of Health Sciences. He holds a Bachelor of Medicine and Bachelor of Surgery, a Master of Medicine in Surgery and PhD from Makerere University. He is also a recipient of a master of science in health professional education from Maastricht University. His PhD

which was funded by THRiVE was on breast cancer among Uganda women: molecular subtypes, delays in diagnosis, risk factors and survival. His research interests include minimal access surgery, trauma, access to health care and health professions education.

### Project - Triple negative breast cancer: oncogenesis and prognostic biomarkers study

The study will focus on one of the four breast cancer sub types Triple Negative Breast Cancer (TNBC), the worst breast cancer subtype which is over-represented in Ugandan women (2-3 fold more prevalent) compared to Caucasian women. This study will investigate two broad areas; a) expression of heat shock protein, a protein that shields (chaperones) TNBC from conventional treatment; b) exploration of TNBC gene mutation patterns and scope in Uganda women. The knowledge of the presence of these chaperone proteins will inform the use of targeted therapies that would counteract it so that conventional treatment becomes more effective. The knowledge of gene mutations (gene damage that leads to cancer) will improve our understanding of how TNBC develops, a step in the right direction to designing new and improved interventions for TNBC.

**Dr. Eddie Mujjwiga Wampande** is a Lecturer at Makerere University College of Health Sciences. He holds a Bachelor



of Veterinary Medicine, Masters in Molecular Biology and PhD in Molecular Medical Microbiology (Mycobacteriology). His Postdoctoral work is a follow-up on his PhD research, where he and colleagues described M. tuberculosis Uganda genotype (MTBC Lineage 4 sub lineage) being responsible for 68 % of TB cases for the last 17 years (1992-2009) in Kampala-Uganda, the reasons for this outcome is unknown .

**Project - Human genetic determinant in Mycobacterium tuberculosis complex lineage infections**

Eddie will try to understand why different human beings (ethnic groups) are infected with different tribes (lineages/genotypes) of Mycobacterium tuberculosis (MTB) the causative agent of tuberculosis (TB). To do this he will correlate the different MTB tribes (pathogens) with human ethnic tribe (hosts) and identify the MTB tribes infecting a particular tribe of the human being (Pathogen-host interaction). Such a study will provide an insight in the identification of potential drugs and vaccine candidates that can be corroborate and used in future in the control of TB.

**PhD Fellows**

**Ms. Milugo Theresa Koyi** is a Tutorial fellow at the Technical



University of Kenya and a visiting scholar at the International Centre of Insect Physiology and Ecology (icipe), Kenya. She holds a bachelor's degree in Biochemistry and master degree in Biotechnology from the University of Nairobi, Kenya. She is interested in malaria prevention and control, and drug design and development.

**Project - Evaluating malaria transmission-blocking potential of plant-derived metabolites**

Theresa will screen plants for compounds that can inhibit/hinder development of malaria parasites within the mosquito. Mosquitoes play a role in transmission of malaria thus preventing plasmodium development within the mosquitoes will prevent transmission of malaria from the human host to the vector. It is envisaged that this will reduce malaria burden by lowering the occurrence of new infections.

**Dr. Rune Philemon** is a lecturer at Kilimanjaro Christian Medical University College. He holds a doctor of medicine and master of paediatrics and child health from Kilimanjaro Christian University Medical College. He is interested in Infectious diseases and health systems.



**Project – Influence of previous encounters with PMTCT on adherence to PMTCT breastfeeding recommendations and its challenges among women using option B+ in Moshi, Tanzania**

In the quest to prevent HIV positive mothers from transmitting HIV to their infants, various guidelines have been issued regarding feeding infants born to HIV positive mothers. There is however little monitoring that is being done on how these recommendations have been taken up as most of the focus has been on use of antiretroviral therapy (ART) for prevention of mother-to-child transmission (PMTCT). This study will explore how mothers are abiding to the current recommendations and how previous feeding recommendations and other factors are influencing the adherence. It will focus on HIV positive mothers enrolled in PMTCT in Kilimanjaro, Northern Tanzania.

**Denna Michael Mkwashapi** is a Clinician and Research Scientist at the Tanzania National Institute for Medical Research (NIMR),



Mwanza Centre, Tanzania. He holds a Bachelor of Medicine from University of Dar es Salaam (MD) and Masters in Epidemiology from LSHTM. He is interested in the epidemiology of HIV/AIDS specifically the evaluation of the clinical consequences of the use of ART.

**Project - Assessing the impacts of option B+ on ART use and fertility of HIV infected women in Kisesa, Tanzania**

Denna will assess the impact of Option B+ on ART use, compliance and observe whether

fertility changes in HIV infected women in the Kisesa Health and Demographic Surveillance site HDSS in Tanzania. He will also assess how effective HIV/AIDS medication performs in real life situations.

**Mr. Gerald Mboowa** is a Human Genetics and Genomics research fellow at the Genomics Laboratory,



Department of Molecular Biology and Immunology, School of Biomedical Sciences, Makerere University College of Health Sciences. He holds a bachelor of science in biomedical technology and Master of Science in Immunology and Clinical Microbiology from Makerere University. He also holds a CAfGEN Fellowship in Human Genetics, Genomics, and Bioinformatics from Baylor College of Medicine, Houston, Texas. His interests include utilizing genomics and bioinformatics approaches to understanding the patterns of host genetic determinants of resistance and susceptibility to common infectious diseases. He is also interested in microbial genomics and immunology of infectious diseases especially HIV, Tuberculosis, and their co-morbidities.

**Project - Functional host genetic loci associated with paediatric HIV/Aids disease progression in sub-Saharan Africa populations**

In HIV infection, there are two groups of people- rapid AIDS progressors (develop AIDS in 3 years or less after infection, in absence of HIV treatment) and Long term non-progressors (take more than 10 years to develop

AIDS after infection in absence of HIV treatment). HIV treatment is also called "Treat-For-Life" meaning that when someone tests HIV positive, he/she will be started on this kind of treatment for the rest of their life thereby exposing them to the drugs' dangerous side effects including liver damage; a dangerous experience in children since their body organs/immune system are not well developed yet they have many years ahead of them to live and be productive than their adult counterparts. Gerald wants to come up with a test that uses genes (DNA) to identify a child who when HIV infected will take many years to develop AIDS without treatment such that they will not be exposed to these drugs' effects. This will also help to prioritize HIV treatment to AIDS rapid progressors especially in our resource limited settings where HIV treatment coverage is still low.

**Dr. Imelda Namagembe** is an Obstetrician Gynaecologist at Mulago National Referral



and Teaching Hospital and Honorary Senior Lecturer in Department of Obstetrics and Gynaecology at School of Medicine, Makerere University College of Health Sciences. She holds a Bachelors of Surgery and Masters of Medicine in Obstetrics and Gynaecology from Makerere University and a Masters of Public Health from Case Western Reserve University. She is interested in prevention and treatment of cervical cancer, prevention of obstetric fistulae, treatment and prevention of STIs/ HIV, promoting family planning and addressing issues of gender-based violence.

**Project - Improving maternal outcomes using confidential enquiry into deaths as an add on to maternal death surveillance in a busy African Hospital: A case study of Mulago Hospital, Uganda**

Her research will focus on improving maternal outcomes using confidential enquiry into deaths as an add on to maternal death surveillance at Mulago National Referral and Teaching Hospital. The overall goal of the research is to reduce the number of women who die from pregnancy related complications through strengthening confidential enquiry into maternal deaths.

**Dr. Peace Bagasha** is a Clinical Lecturer in the Makerere University College of Health Sciences



Palliative Care Unit. She has a clinical fellowship in Kidney disease from McMaster University in Canada. Peace is an avid educator and has participated in curriculum development in Rwanda and mentors and supervises multiple postgraduate and undergraduate students. Her dream is to set up a specialized kidney disease training center in Uganda as there is currently none in East Africa.

**Project - How does conservative management compare to hemodialysis in terms of impact on the quality of life of patients with end stage kidney disease in a resource limited settings?**

She will study the quality of life and components that impact it, in patients with end stage kidney disease. She will compare patients

who are on kidney replacement therapy like hemodialysis with those not on replacement therapy in a resource limited setting.

**Dr. Clara Wekesa** is a project leader with the Medical Research Council, Uganda



Virus Research Institute. She has a bachelor of medicine and surgery degree and master of medicine (internal medicine) from Makerere University. She is interested in non-communicable diseases and their interplay with infectious agents.

**Project - Non-invasive assessment of liver fibrosis among HIV-infected persons in urban Uganda: Prevalence and associated factors**

With the ever increasing access and use of anti-retroviral therapy, persons with HIV/AIDS are increasing prone to non-HIV related morbidity and mortality, such as liver disease. Clara PhD research will focus on the evaluation of scar tissue formation (fibrosis) in the liver using a non-invasive technique, Fibroscan technology, among HIV-infected persons attending an urban clinic in Kampala, Uganda. She will also be interested in determining what factors influence this scar tissue formation such as viral hepatitis and the effect of long term exposure to HIV/AIDS, use and exposure to toxic substances such as tobacco, alcohol and toxins in stored foods as well as in-built body mechanisms that instigate formation of scar tissue in the liver. The expectation is that the findings will lead to further work on intervention

methods to prevent liver disease, their cost effectiveness and acceptability in this population. A comparative group of non-HIV infected persons will also be recruited to provide information on possible differences in disease burden and influencing factors.

**Mr. Martin Mbonye** is a project leader of the Social Science program at Medical Research Council, Uganda Virus Research



Institute. He holds a bachelor's degree in Social Work and Social Administration and a Masters of Sociology from Makerere University. He has been involved in HIV/AIDS research for the last 10 years and has been a project leader on various social science studies at the MRC sites in Masaka and Jinja. He is interested in male treatment seeking with particular interest in vulnerable men.

**Project - Men and HIV prevention: Investigating the role of masculinity in the Health seeking habits of male partners of female sex workers in**

Martin will explore how masculinity (defined as the social manifestation of being a man) influences health seeking habits of male partners of female sex workers in Kampala, Uganda. Societal norms often dictate what is required to be perceived as being a good and strong man. Sometimes men in trying to fit within their ascribed roles are exposed to high risk of HIV infection. This work will employ an ethnographic approach which involves spending extended periods in the setting and attempting to see the world from

the point of view of the research participant.

**Dr. Ruby Mcharo** is a study physician and research scientist at the National Institute for



Medical Research- Mbeya Medical Research Center (NIMR-MMRC), Tanzania. She also regularly lectures at the University of Nottingham. Dr. Mcharo studied Medicine at Muhimbili University of Health and Allied Sciences before pursuing a Masters' in Public Health-International Health at the University of Nottingham, UK. She is an expert in human cohort studies and clinical management of HIV infected patients. Dr. Mcharo has been working with NIMR-MMRC since 2011 where she leads the clinical research activities of the DFG funded "HIV and HPV interaction" study. She also leads the NIMR-MMRC contribution to the collaborative setup of the National Cervical Carcinoma Screening Project in the Southern Highlands of Tanzania.

**Project - The gateway to intervene - Understanding HIV and other Sexually Transmitted Infections and sexual behaviour among young adults attending universities in Mbeya region, Tanzania.**

Ruby will study the prevalence of potential sexually transmitted infections and sexual behaviour among 18-24 year old university students in Mbeya, Tanzania.

# THRiVE-2 /CARTA /MUII collaborations in Research Administration

Shem Wakaindha, Harriet Nambooze and Dickson Muyomba

Many times different grants in the region/Africa are won and executed by institutional PIs around Africa with little or no collaborations. And yet when some of these grants are compared, we tend to notice similarities in some key research components during the grants management process. Results in these similar aspects might even be reported differently in the findings of the research by these programs situated in the same region

It is with such precedence that some funders of research have started encouraging networking between the different programs being funded on the continent and beyond. It's no wonder that the DELTAS funding this time round is emphasizing aspects of collaboration as a critical step towards the development of research and human capital in and for Africa, to meet the needs of the continent as well as contribute to global welfare.

As members of the DELTAS-funded THRiVE-2

program, we picked up on the collaboration message that was being stressed at different DELTAs program networking meetings.

Recently in mid-February 2017, Harriet Nambooze and Shem Wakaindha were approached by one of the CARTA consortia members to train their fellows in Grants Management issues during a *Joint Advanced Seminar 4*. This was honored and executed on 21<sup>st</sup> March 2017. This not only gave us an opportunity to register an important milestone for the collaboration agenda but a learning experience for us to evaluate and compare the THRiVE-2 fellowship management to that of CARTA consortium so as to enhance the support initiatives planned for our recruited fellows.

In the same regard, THRiVE-2 continued to strengthen collaborations with other DELTAS programs such as Makerere University UVRI Infection and Immunity (MUII) plus, a Ugandan based DELTAS consortium that has tapped into

THRiVE-2's state-of-the-art ICT infrastructure and technical expertise to organize what has been branded as expert seminars between Makerere University and Cambridge University. After a long process of preparation and testing of the technology, the MUII consortium managed to conduct a successful expert seminar between Makerere University in Uganda and the University of Cambridge in UK on March 9<sup>th</sup>, 2017. During this seminar, a two-hour video conferencing talk was offered by Dr. Pete Bull from the UK to First Year students at Makerere University's College of Health Sciences. THRiVE-2 will continue organizing many more expert seminars throughout the year and is at the center of offering all the support required to ensure successful video conferencing sessions.

We believe that to advance the science, technology and innovation agenda, collaboration through research support efforts like the ones above are critical.

## Data and In

by Dickson Muyomba

As we embrace the rapid technological advances around the world, we also need to be aware of the security gaps across the technological infrastructure. In the THRiVE consortium, we pay much attention to information security and we believe you should be aware of the latest security threats and how you can mitigate the occurrence or respond in case they occur.

Hard-to-detect Malware infections

A number of organisations have been infected by malware that is nearly invisible. It can remain undetected for long periods of time on the organisational network or personal computers. The malware is designed to use legitimate administrator and security tools to inject malicious code into computer memory and transfer personal data to servers controlled by the attacker.

Protection against malware can be addressed in two ways; personal vigilance and protective tools. Be aware of emails that ask for your passwords and these can be disguised as coming from a familiar company or a personal friend. The most popular way of



# Information Security Alerts

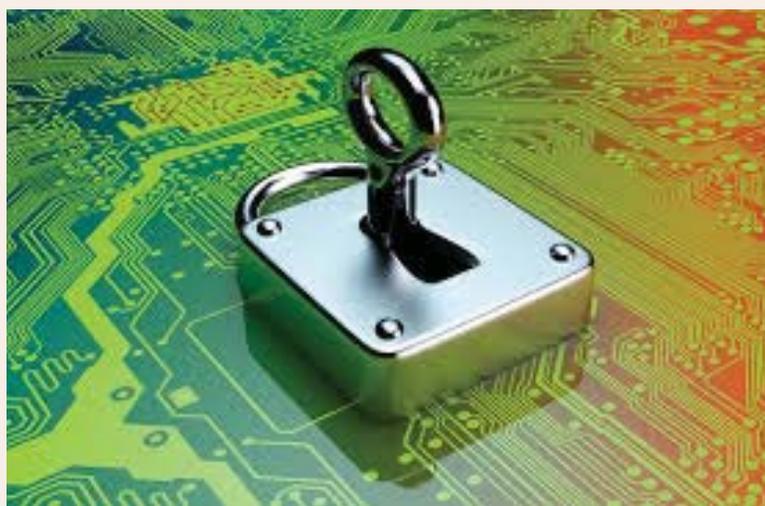
spreading malware is through unsolicited email and downloading from legitimate or illegitimate sites. The use of robust antivirus software package is also primary component of defences that every personal and business computer system should have.

**Ransomware**  
Ransomware is a type of malicious software that perpetually blocks access to the victims' data by encrypting entire computer drive and demands for a ransom to be paid before a decryption key is provided. The number of companies experiencing ransomware events, in which attackers hold an organization's data hostage until the ransom is paid, have tripled according to the December 2016 Kaspersky Security Bulletin. How to recover is by not paying the ransom because there's no way to get the decryption key to unlock your files. Disconnect your PC from the

internet, reformat the hard drive and reinstall your files from a backup. Back up your files regularly and keep your anti-virus software up to date.

Source: <https://www.shredit.co.uk>

As the number of information security incidents increase, it's no longer a question of 'if you are going to have a security event, but when'. Therefore, our institutions need to develop a game plan to contain any form of attack. Developing an effective recovery plan to fully restore the system should be given high priority in the institutional risk management plan. The recovery plan may be as simple as restoring data from a backup. THRiVE has developed a data and information security policy (accessible on the THRiVE website: [www.thrive.or.ug](http://www.thrive.or.ug)) upon which institutions can build recovery plan.



*Securing your data is of utmost importance in this era of ransomware*

## The India Alliance Annual Meeting

*Dinah Amongin,*

*THRiVE-2 PhD fellow*

It was a great experience representing THRiVE-2 Consortium at the India Alliance Annual Meeting held from 18-20th May 2017, at the Novotel Airport Hotel, Hyderabad India.

Arriving in Hyderabad was a very unique experience. The hot weather was totally in contrast to the heavy rains in Kampala at the time. The three days provided a great platform to understand what a rich network of researchers India Alliance has established. Topics ranged from public health, non-communicable diseases, molecular-level research among others. The diverse backgrounds of the researchers provided an excellent ground for interaction. I was able to develop important networks for my research and I am confident these networks shall lead to a lot of future collaborative work.

This meeting also pointed out the importance of establishing good mentor-mentee relationships in ensuring success of fellows. It was noted that these soft skills need to be developed and deliberate efforts need to be made in helping both parties

realize how to go about it. Public engagement was another key area of major interest. The meeting discussed how to facilitate communication of research findings to the public and thereby garner more participation of the public. It is not enough to publish our work in journals but rather ensure this information gets out of the journals. We need to realise that this process is not a waste of time and it needs concerted efforts from us the scientists. Some of the channels include working with and through journalists. We have to make deliberate efforts to reach the public through journalists and develop the skill to present research findings in lay language. The people concerned with policies and allocation for budgets need these research findings to guide decision making. Another approach discussed was use of artists through their channels.

All in all, the meeting was a great success and these networking opportunities between Africa and India researchers need to be fostered. My colleagues, especially those doing laboratory-based work, need an opportunity to network with the India Alliance fellows.

# Sharing Technical Resources within THRiVE-2 Consortium

*Shem Wakaindha, Dickson Muyomba and David Kitunzi*

In early April 2017, THRiVE-2 held a finance training at Imperial Resort Beach in Entebbe, Uganda that was attended by at least 2 finance officers from the THRiVE-2 African Partner Institutions (APIs). In attendance was one of the AESA finance officers; Isabel Imbuye who provided guidance on financial compliance to the grant terms and conditions. During the deliberations it was noted that some individuals faced challenges / delays while inputting data into the donor reporting template which was partly attributed to lack of computerized accounting software usage at some APIs. These were given a timeline to upgrade from manual accounting systems to computerized systems.

It's worth noting that some institutions like Gulu University had procured the QuickBooks accounting software though not in use and given the timeline set, by the funder, called on the support skills of personnel at Makerere University, a partner and lead institute in the THRiVE-2 consortium. It was in late April 2017 when the Co-Applicant (Prof. Emilio Ovuga) at Gulu University invited the three authors of this article to roll out the financial management software to the Gulu University community from 17th May to 20th May 2017.

An assessment of Gulu University's ICT

infrastructure was performed to ensure system availability, data security and that backup procedures are in place before rolling out the financial system. We knew that once installed and the responsible officials trained on the system's usage, it would not only benefit the THRiVE program but the university community at large. We ensured that we worked with the University's finance and ICT administration to ease the integration process within the university's structure while ensuring sustainability through continuous technical support.

The entire process took us about 4 days of intense work and registered a lot of successes though not without some challenges such as; the system being accessed via a wireless link which provided low access speeds, some finance offices didn't have network connection hence couldn't access the system within their offices and the software rolled out at the time had less licenses compared to the number of users.

We suggested a couple of solutions such as; the procurement of more licenses to cover the wider community, development and implementation of an access policy and data backup policy among others.

Many times collaborations are

emphasized as North to South and between funded programs by the same donor. This in essence is very important in reporting different program and finance milestones however this should be

matched with even better collaborations between partners and members in the same consortium such as the case scenario above in order to attain greater and sustainable objectives.

## THRiVE Growing Internationally-recognised Research Leaders



David Meya, a THRiVE Postdoctoral fellow has been awarded the Honored International Academician award from the University of Minnesota GPS Alliance for his contribution to the University of Minnesota's international research and education mission for over a decade through his research collaborations, mentorship of students, and hosting of visiting scholars. Dr. David Meya is Senior Lecturer, College of Health Sciences at Makerere University and Adjunct Associate Professor in the Division of Infectious Diseases and International Medicine at the University of Minnesota,

He has proven to be a brilliant researcher and outstanding teacher and continues to play a fundamental role in the success of Uganda as a hub of innovation, research, and learning for the Academic Health Center.

Throughout his career, Dr. Meya has distinguished himself through his ongoing dual commitment to translational research and health education. His current research focus is centered on HIV Immune Reconstitution Inflammatory Syndrome (IRIS) and cryptococcal meningitis, including epidemiological, basic science, and clinical interventional studies in Uganda, which he has conducted through strong collaborations with researchers from the University of Minnesota.

Since the Uganda Hub was formalized in 2015, Dr. Meya has shaped Hub priorities by serving as a co-chair for the MN-Uganda Partnership Group, and by facilitating stakeholder

## THRiVE Growing Internationally-recognised Research Leaders

input from Ugandan institutions. His advocacy and commitment have resulted in improved engagement and collaboration between UMN and MU, a significant factor in the Hub's success.

As a research mentor, Dr. Meya is involved in HIV, infectious diseases, and immunology training programs for graduate students from both Makerere and Minnesota. He also provides mentorship and supervision as part of formal global health research programs sponsored by the University of Minnesota and funded through the Fogarty Center of NIH and the Doris Duke Foundation.

Dr. Meya has recently applied his experiences and vision in global health research toward shaping the Uganda Research Training Collaborative (URTC), an innovative new pilot program for students in the University of Minnesota's Academic Health Center and Makerere University. The URTC has the potential to be a catalyst for future collaborations between students and mentors while equipping students in both countries with skills and experience in global health research. Dr. Meya has been a champion for this program by recruiting mentors, developing research tools, and connecting teams with local resources.

Dr. David Meya consistently demonstrates a commitment to the global community through innovative and important research, and his dedication to the next generation of researchers, regardless of home institution, is unmatched. We thank Dr. Meya for his contributions and partnership, and congratulate him on this award.

# THRiVE-2 PhD Fellows at icipe



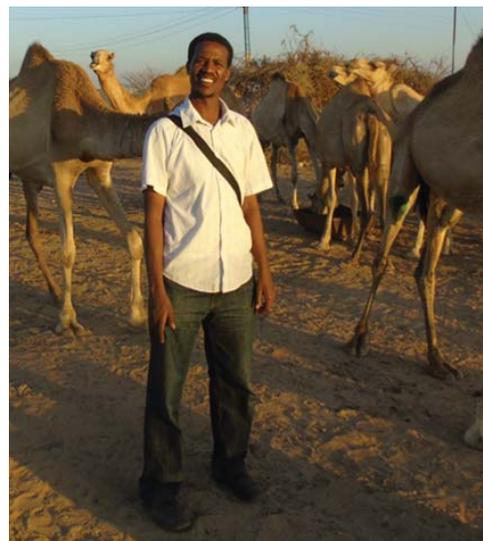
**Caroline Tigoi:** Caroline Tigoi is a graduate of Jomo Kenyatta University of Agriculture and Technology with an MSc in Medical Virology. She was recently awarded a THRiVE PhD fellowship to conduct research at the International Centre of Insect Physiology and Ecology (icipe). Caroline's main interest is in emerging infectious diseases with a focus on causative factors, transmission probabilities, host factors and inter-epidemic behaviors of these diseases.

From January 2006 to August 2009, Caroline worked at KEMRI/Wellcome Trust, Kilifi, Kenya as an Assistant Research Officer managing large field-based epidemiological studies in Kilifi district on nasopharyngeal colonization of *Streptococcus pneumoniae*. She subsequently worked at icipe as a Project Manager/Research Assistant on the epidemiology of arboviral infections in Kenya, working with a consortium of institutions from human health, veterinary, wildlife and vector sciences in a one health approach, to improve the prediction, preparedness and prevention of emerging arboviruses that cause outbreaks of devastating impacts, e.g. Rift Valley Fever and Dengue Fever. Caroline has published 10 papers, two as first author.

Caroline's THRiVE PhD project will focus on understanding tick-borne zoonotic disease epidemiology within nomadic

pastoral systems in Isiolo, Tana River, West Pokot and Garissa counties of Kenya. This will contribute to the development of possible disease control strategies within these regions and development of possible outbreak control interventions. The project will also provide Caroline with training in a number of laboratory techniques, including cell culture, neutralization assays, DNA barcoding and Next-Generation Sequencing. She will be based at icipe, Nairobi, in the Human Health Theme within the Martin Lucher Emerging Infectious Diseases Laboratory (MLEID), under the supervision of Drs Rosemary Sang and David Tchouassi. Caroline will be supported by mentors from the University of Cambridge: Professor James Wood and Dr Barbara Blacklaws of the Department of Veterinary Medicine. She will visit Cambridge at the beginning of her 3rd year to perform sequencing, analyze sequence data, and other data analysis, as well as spend time with her mentors as she writes up her thesis and manuscripts.

The THRiVE PhD fellowship provides Caroline with an opportunity to advance her career and build connections and collaborations that will be useful throughout her career. Caroline is very excited about the opportunity and is prepared to network widely with scientists that are working in her area of research.



*Dr Joel Ltiltan Bargul (PhD) THRiVE-2 Postdoctoral Fellow at icipe*

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# THRiVE-2 PhD Fellows at icipe

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Born in a Kenyan nomadic pastoralist family, Joel Ltilitan Bargul beat odds to attend school. In the story below, we read about Joel's academic journey, his ongoing research on camel trypanosomiasis and his dream of setting up an animal diseases diagnosis centre within his community.

Joel was born in a small village called Laisamis, in Marsabit County, about 400 km north of Nairobi, Kenya among the traditional nomadic pastoralist Rendille community. As a little boy in the 1980s his family were constantly on the move, spending several weeks 'on the road' searching for pasture. Like the rest of nomadic pastoralist families, his early life was dominated by looking after the family livestock - goats, sheep, cattle, and camels.

Combined with herding livestock, school was irregular. Joel, however, performed well at primary school and subsequently joined high school. In 2003, he joined Jomo Kenyatta University of Agriculture and Technology (JKUAT, Nairobi) to undertake a BSc in Biochemistry and Molecular Biology. After graduating top of the class in 2007 with first class honours, Joel received the Vice Chancellor's scholarship award which enabled him to pursue a master's degree. This was a significant turning point because he gained clarity in his career and how his work could directly benefit his pastoralist community. In line with his livestock-keeping background, he chose a project on tsetse fly biology, studying flies that transmit Animal African Trypanosomiasis, arguably the most important livestock disease on the continent, and a huge problem in his village in Laisamis.

In order to gain further insights into the disease transmission dynamics, he then studied the biology of trypanosomes,

the pathogens that cause sleeping sickness in humans, and African Animal Trypanosomiasis. He enrolled for PhD at the University of Wuerzburg in January 2011, with funding from a collaborative DFG (German Research Foundation) grant between Drs Dan Masiga and Francis McOdimba at icipe, and Prof. Markus Engstler at Wuerzburg. Joel adapted specific assays for studying biophysics of swimming in trypanosomes. Trypanosomes are always in continuous motion as swimming has been shown to be essential for their survival. By employing high-speed video microscopy, he and his collaborators characterized the swimming behaviour of trypanosome species isolated directly from the bloodstream. Joel and colleagues reported for the first time that trypanosome morphology and motility is a species-specific adaptation in the mammalian host (Bargul et al. 2016, <https://doi.org/10.1371/journal.ppat.1005448>). The findings illustrated mechanisms for differential dissemination of these parasites in the vertebrate host. Further, knowledge generated from this study could guide the design of new approaches for trypanosomiasis control through disruption of parasite swimming. A figure from this paper was selected as the cover photo of the Journal PLoS Pathogens in February 2016 and as "The Image of the Day" on 23rd April 2016 by BPoD (Biomedical Picture of the Day) that is managed by UK MRC Clinical Sciences Centre.

After graduating with a degree of Doctor of Science (Magna cum laude) in Molecular Parasitology and Infection Biology in 2015, Joel returned to teaching at the JKUAT as a Lecturer. Joel is delighted

to have been awarded a postdoctoral fellowship funded by THRiVE-2, to investigate camel trypanosomiasis and zoonotic pathogens in northern Kenya and the role of haematophagous biting flies in disease transmission. The THRiVE-2 fellowship is a unique opportunity to further his research, and receive excellent mentorship from Dr. Dan Masiga, the current head of Animal Health Theme at icipe, Nairobi, and Prof. Mark Carrington, Deputy Head of the Department of Biochemistry, University of Cambridge, UK. Both Mark and Dan have extensive research experience, spanning nearly three decades, working in the field of African trypanosomiasis. Joel, therefore stands to benefit significantly from their mentorship. In addition, the fellowship contributes to capacity building of early-career researchers by providing the necessary research and grant-writing skills through support in training, hence promoting quality research that stimulates research collaborations.

A challenge that Joel would like to address is the lack of good diagnosis of livestock diseases in Laisamis, his home. Often, when animals fall sick, farmers purchase drugs over the counter without a diagnosis of the disease they are treating. Frequently, the treated animals do not survive. Joel's vision is to help establish a diagnosis facility in Laisamis, so that farmers can obtain the correct diagnosis and advice on treatment to minimise livestock losses. Joel's dream is to continue developing his own ability as a scientist, while nurturing the diagnosis centre towards safeguarding the livelihoods of people in his community. Joel believes this is in line with the one-health paradigm.

# My mentorship journey at Ngozi Girls high school on the South Coast of Kenya

**Stella Kepha**

Mentorship at all levels of life is very key to a successful and balanced life, this was modelled well in the traditional African societies where most skills were learnt through apprenticeship. As Prof. Sewankambo put it many of us did not have career mentorship during our early school years. I agree with his observation, although I went to a national school, there were no career mentorship programmes. During my four years in the school, we did not have any professionals invited to talk to us. I developed a love for biology from my holiday coach, who taught it so well and pushed me to think about cell biology. "There are still things about the cell organelles that are not known", she would often tell me as she marked my work. I did not have a close relationship with her but she is the reason I studied Biology during my undergraduate studies. She provided a model that I admired and wanted to be. I went into parasitology because I admired the professor who taught Parasitology, in addition to the fact that parasitology was presented as addressing practical health problems that were common in my population. My formative years in my academic life were guided and informed by role models rather than mentors, people I admired but had no interaction with, but based on their achievement and how they conducted themselves I wanted to emulate. However am who I am because of Prof. Simon Brooker, my PhD Northern mentor, who was based in Kenya during the first two years of the PhD. He provided excellent mentorship during my PhD. Simon taught me how to write in simple but fluent and clear English. He taught me how to pay keen attention to detail in everything I do, an example is when writing manuscripts, he looked at my references how I had written them out, so this made me pay attention to

every aspect of the manuscript, not just the Science and the analysis. Simon taught me how to strike a conversation with peers and possible collaborators; key is to read widely in subjects that I have interest in and current affairs and be quick to share what you are doing and are able to



*Handing over the books and best performance badges to the head teacher*

do. Last but not least he was quick to pat me on the back whenever I did something well, and he told me off whenever I dropped the ball. Based on my experience I was keen to provide mentorship, rather than a role model for the THRiVE mentorship programme, which is one of the deliverables for my THRiVE-post doctoral fellowship. My fellowship is embedded in the TUMIKIA trial, a large cluster trial that is being implemented in Kwale County on the South Coast of Kenya. Historically Kwale is one of the worst performing regions in terms of education in Kenya. With the help of my colleagues many of whom are from Kwale we identified Ngozi girl's high school. This school is located in Vanga location that is on the border of Kenya and Tanzania. Last year the school had a low mean score of D. My aim, is for the school to have a mean score of C+ so that most of the girls are eligible for Diploma and Degree courses. While thinking through the mentorship there were several things on my mind. One, high school drop out rates of girls who get married very young. I wanted the girls to listen to individuals who were born and brought up in Kwale who have

been to school, finished and are now professionals to get inspired to stay in school. Secondly, the level of poverty in Kwale is relatively high, with about 60% of the county being quite dry during most of the year, therefore a common reason for girls not finishing school is poverty. I thought the girls seeing people who grew up in a similar background to where they come from and have made it through school, would motivate them to work hard. Lastly, in Kenya there is a common stereotype that inhabitants from Coastal regions are slow and lazy which is not true. This stereotype is easier addressed by somebody from the region rather than somebody from upcountry to encourage the girls not to fall victim of such stereotype, but to believe that they too can make it in life.

With the support of field officers in the TUMIKIA project we made our first visit on 4th February; we were 14 professionals. We had a meeting with the whole school of approximately five hundred girls. Seven of us shared our life story with emphasis on what it has taken for us achieve the milestones that we have. One particular story that

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## ***My mentorship journey at Ngozi Girls high school on the South Coast of Kenya***

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*A teacher by profession encourages the girls to go into teaching*

touched my heart was by Janet Nyarinda who is a clinical officer. She lost both her parents while she was still in Primary, and this forced her to live with her grandmother. She knew she had to be the best in her class to secure training bursary to pay for secondary education. Once she got the bursary she then had to have good grades to ensure she did not lose the bursary. Many of the children of Ngozi girl's high school have part of the school fees supplemented by county government bursary, it was a good encouragement for them to appreciate that hard work pays.

This large group meeting did not feel like a good approach to use, I wanted to provide an accountability platform. For the next meeting on 25th March 2017 we divided the form four girls into groups of 6-10 girls and they sat with a professional with whom they discussed their target. We encouraged each girl to tell us what career they hope to pursue and grade they would like to attain. Using their career choices we guided the girls on what subjects they should work harder on. During this smaller meeting the girls

openly shared their struggles and challenges and why they think their performance is not very good. Overall the biggest challenge was Maths and Chemistry which was based on perception that the subjects were difficult. To address this challenge, we had a group discussion, to try and demystify the perceived difficulty, with emphasis that mathematics is compulsory and it shows up gain in their later academic life. We then raised money to buy study books for maths and chemistry. In

total, we bought 25 books which we delivered to the school on May 25th 2017.

To further encourage girls to excel in Mathematics and Chemistry, we bought badges that will be given to the best student in maths and science (lumps Chemistry, Biology and Physics) for each of the four forms. The head-teacher also agreed to give the best performance in maths and chemistry special privileges (no cleaning duties and queuing for



*A laboratory science trained professional tell the girls the grades they need to pursue a health science related course*



*One of the young professional shares a light moment with the Ngozi girl's students*

teacher with an impressive track record' dedicating 5  
 head-teacher who is a seasoned mathematics  
 the teachers as well to do an extra mile with the  
 in the girls to work hard. This has also encouraged  
 and a positive attitude towards school and a resolve  
 positive. We have seen an improvement in the grades  
 in meeting in the small groups and the response is  
 work hard in maths and science. We had a follow-  
 food at the dining hall) to encourage the students

hours every day to help the Form Four pupils with the  
 unique mathematical challenges they have in their  
 groups.

The next visit is on 8th July where in addition to our  
 follow-up visit with each girl we will also plant trees  
 to commemorate Mandela day to beautify the school  
 compound while also teaching the girls about how  
 we can create a favourable environment.

## icipe hosts THRiVE-2 AGM “out of town”

By Dan Masiga, Faith Kyengo,  
 Sarah Ireri and Annah Njui

THRiVE held its annual general meeting (AGM) during which scientific and administrative progress is discussed. The last AGM hosted by icipe took place in 2012. Alongside the AGM this year convened by icipe, the second batch of interviews for THRiVE PhD and Postdoctoral fellowship candidates were held, leading to the award of nine and four fellowships, respectively. The PhD and Postdoctoral interviews were held from Monday, 8<sup>th</sup> to Wednesday, 10<sup>th</sup> May at the icipe campus, Kasarani, Nairobi. The THRiVE team at icipe then hosted the AGM from Thursday, 11<sup>th</sup> to Saturday, 13<sup>th</sup> May at the Sagana

Getaway Resort in Murang'a County, about 80 km north of Nairobi.

When planning for this year's AGM started in February, the grand idea was to do things differently. A suggestion was floated for the interviews to be hosted at icipe while the AGM itself would be held out of town. It seemed like a great suggestion at the time; a chance to show off a more rural side of Kenya to the participants. The choice of Sagana town was thought to be of particular interest to the THRiVE partners from the UK, as it was in a small lodge that bears the name of the town, on the slopes of Mt. Kenya, where Queen Elizabeth II was informed of her succession to the throne in 1952.

As the planning for the AGM

progressed, in the thick of balancing complex itineraries, it seemed less a grand idea to have two venues, and more a grand folly. The choice of venue for the AGM at Sagana proved to be worthwhile despite the challenges faced. This was especially due to the praises by the AGM participants who relished the ability to take long walks around the dam after a long day in sessions; and some bird watchers who were excited by the aves sighted at the venue.

The major challenge faced during the organization of the meeting was travel logistics. The Secretariat was the first to arrive on the 4<sup>th</sup> of May from Makerere University for a partner institution site visit, conveniently arranged

## icipe hosts THRiVE-2 AGM

just before the AGM. They were followed by the interviewees who arrived at all hours of the day and night between Sunday and the wee hours of Wednesday morning. Officially, all AGM participants, including the interviewees, were supposed to arrive at icipe by 12.30 pm on Wednesday in order to have lunch and depart by 2.00 pm. Unsurprisingly, the reality was quite different. Some arrived as late as Thursday morning, which was the first day of the AGM. The departures on the other hand did not paint any prettier a picture. There were all sorts of last minute changes to itineraries, which necessitated arranging for transport at short notice.

The long road to the successful meeting included several bumps along the way such as: a last minute change in venue for the AGM after a disappointing site visit to the originally proposed hotel, the challenge of kindling previously unexplored artistic capabilities when brainstorming for ideas on the designs of the branded items, and the artful balance that was deciding on a budget for the cocktail receptions that would leave everyone happy without breaking the bank.

THRiVE's vision is that Africa will lead research that impacts health in the region, therefore, it was aptly designed to have those involved in the nitty gritty of making and implementing health policies give the opening remarks. To that end, the Murang'a County Director of Health, Dr. Winnie Kanyi, and the Deputy Director of the Neglected Tropical Diseases Unit in the Ministry of Health, Dr. Kefa Bota, were invited to address the meeting. They both expressed excitement at the research being carried out by THRiVE fellows and the Consortium institutions and spoke of the efforts on their ends to improve healthcare for Kenyans, with a county (regional) focus.

The keynote address was given by Prof. Marleen Temmerman, the current chair of the Department of Obstetrics and Gynaecology and the Director of the Centre of Excellence in Women and Child Health at the Aga Khan University. She spoke about how her passion for child, maternal and reproductive health has led her along an amazing journey which included time at a busy STD clinic in Nairobi in the 70s, a university professorship in Belgium, serving as a politician on the Senate in Belgium, to her current role at the Aga Khan University in Nairobi. It was a very appropriate keynote for all present, and particularly the scholars at the early stages of their research careers.

Key issues discussed during the meeting revolved around personal experiences of THRiVE PhD and Postdoctoral fellows; supervision and mentorship of the fellows; new health research areas for the incoming PhD and Postdoctoral fellows largely in the areas of: infectious and neglected tropical diseases, non-communicable diseases, and maternal/ neonatal and reproductive health. The THRiVE Consortium Advisory Board as well as the THRiVE Steering Committee Meetings were also held during breaks from the main sessions. In the midst of all these engagements, participants found time to forge new networks that we hope will be productive.

At the end of the hectic week, everyone was glad to be back at icipe while on their way to their final destinations. A quick trip to Maasai Market organized for some of the participants from the UK rounded off what can only be called a successful meeting. Kudos to the organizing committee and all others who assisted with ensuring the meeting progressed flawlessly!

## Mwanza research methods course still going strong in THRiVE 2!

**By Gerry Mshana**

The Mwanza research methods course run annually by the National Institute for Medical Research (NIMR) in Mwanza, Tanzania continues to be popular among early career researchers in the East African region. The course was designed to cater for the needs of researchers in the early stages of their careers. It complements what is offered in formal training institutions (such as universities) by focussing on both theoretical and practical training covering the key stages in research process i.e. project design, implementation and analysis of data.

Since its inception in 2011, the course has been delivered consistently with the same high quality. The course tutors are expert researchers at NIMR and the London School of Hygiene and Tropical Medicine who ensure quality teaching and suggest practical solutions to problems that the participants present from their projects. The costs for attending the course have also been kept down in order to give an opportunity to as many participants as possible to attend from the different countries in the East African region and beyond.

The course was one of the highlight achievements of THRiVE 1 having trained 123 researchers between 2011 and 2016. Course graduates have utilised the knowledge in different ways – some to complement their post graduate training at Masters, PhD and post-doctoral levels, others for conducting their routine tasks. Efforts to establish alumni of the course are underway to enhance networking – another objective of THRiVE.

This year the course was ran from the 27<sup>th</sup> of February to the 3<sup>rd</sup> of March 2017. Demand for the course is increasing – evident by the record number of applications received for this year’s course! A total of 84 applications were received – unfortunately we could only accommodate 41 out the total! The participants came from a diverse range of countries: 9 from Uganda; and one each from Kenya, Malawi, Zambia and Ethiopia. Out of these, 11 were PhD students some from the recently recruited THRIVE cohort and others with different sources of sponsorship.

Due to the increasing demand for the course, NIMR Mwanza is considering running it twice a year. Discussions with some universities in the east African region and the UK to explore the possibility of accrediting the course as a module within their curricular are ongoing.



*Mwanza research methods course class of 2017*



*Course participants deeply engaged in a practical session*

## Providing all round oversight to partner institutions through monitoring and evaluation site visits

*By Regina Namirembe*

As was stipulated in THRiVE-2 proposal that THRiVE secretariat will undertake annual monitoring and evaluation site visits to all partner institutions, this year’s site visits kicked off in March 2017. The site visits aimed at getting a better understanding of THRiVE-2 activities that have taken place at partner institutions since THRiVE-2 inception in March 2016. The other issues that were looked at included; leadership and governance framework at each institution, financial performance and management, planned activities in year 2 and challenges faced during year one and how the institutions addressed them. The site visits were further used as a platform to review and discuss THRiVE Online Monitoring and Evaluation tool and the Online PhD Supervision and Mentorship tool. This was very

beneficial as feedback on improving the tools was received first hand from partner institutions. After each visit, the comments and suggestions made would be incorporated in the tools and by the end of the visits, we had final versions of the tools.

Below are some of the salient issues that emerged from each of the partner institution visited;

- Gulu University site visit took place on 23<sup>rd</sup> March 2017 and among the salient issues discussed was the change of leadership following Prof. Ovuga’s retirement. Prof. Elizabeth Opiyo was brought on board and has actively participated in THRiVE activities. The other activities



*Discussions during the site visit to KCMUCo.*

## Providing all round oversight to partner institutions through monitoring and evaluation site visits



*Discussions during the site visit to NIMR, Mwanza*

that Gulu engaged in included; participation in the Year One PhD/ Post-doctoral review process and later on in the interviews held in November 2016 in Entebbe. They also participated in the M&E inception meeting held in August 2016 and also the team participated in the finance training held in Nairobi in June 2016.

- Icipe site visit took place on 5<sup>th</sup> May 2017 and their activities in Year One included; Procurement of various equipment including; Real-Time PCR, Tissue lyser/ disruptor, DNA/RNA/Protein Quantification System and Gel Imaging, documentation system. The team also supported 12 candidates who applied for Year One PhD/Post-doctoral fellowship although they were unsuccessful. They have continued to support them in their search for funding to undertake their PhDs and Post docs. Recruitment of master's research fellows and intern was also done. The intern who was recruited secured a PhD opportunity in the University of California commencing September 2017.
- UVRI site visit took place on 5<sup>th</sup> June 2017 and their activities in Year One included; recruitment of

two Msc fellows, advertised for interns though their recruitment is pending aligning them with the UVRI interns. The issue of having Dr. Jonathan Kayondo who was on the implementation team of THRiVE -1 join the implementation team of THRiVE-2 was discussed. This will augment THRiVE-2 implementing team given his experience.

- KCMU College site visit took place on 27<sup>th</sup> June 2017 and their activities in year one included; supporting researchers through two trainings in manuscript writing, one for post graduates and another one for undergraduates. They also held a workshop to help the institution set up a research agenda and later on research groups were formulated with different themes. In preparation for THRiVE PhD/ Post doc applications, the team supported KCMUCo applicants for the year one intake and two were successful. Two Msc fellows were awarded the research fellowship and the intern was also recruited. The foundation of the Institute of Public Health Building was laid in November

2016 and this will contribute to research capacity at the College. Construction is proceeding well.

- NIMR site visit took place on 28<sup>th</sup> June 2017 and their activities included; Mwanza Research Methods Course, development of course outline and modules for two new courses i.e. East African Clinical Trials Course and East African Qualitative Research Methods course. These two courses will be conducted in year two of THRiVE. Recruited two masters research fellows and two interns. Through THRiVE recruitment process, NIMR was able to identify a third well-qualified intern who was also taken on but supported from another project. NIMR also procured equipment including 2 fluorescent microscopes and micro centrifuge.

Having done all the site visits, there is clear evidence that institutions are doing a lot more than what is usually reported. Making site visits an integral part of THRiVE is highly appreciated by all partner institutions. The visits provided opportunity for learning from each other and strengthened the network through the spirit of togetherness.