

May 5th 2018

Dear all,

INNAUGURAL WINNERS OF THE DIRECTOR'S RESEARCH & INNOVATION FUND (DRIF)

We are pleased to announce the inaugural winners of IHI's Director's Research & Innovation Fund, which was launched in July 2017. These four winners were selected after a highly competitive evaluation process. We received several high-quality applications, all of which were screened for eligibility then subjected to a rigorous peer-review process meeting international standards. Each application was assessed by an average of six reviewers (minimum of 4 reviewers and maximum of 10 reviewers). For each application, the review panel consisted of internationally recognized scientists from within IHI and at least two experts from other internationally acclaimed institutions (of course we relied mostly on scientists from our collaborating institutions in Africa, Europe and USA). Based on the scientific reviews, 5 finalists were selected for a final face-to-face interview with a panel of 14 experts and members of IHI senior management. These interviews lasted between 45 and 60 minutes, after which the panelists selected the top three candidates for the DRIF Award. Decisions made by the interview committee were considered FINAL, and names of the three selected candidates were forwarded to IHI's Grants & Contracts team for further due diligence processes.

Following this extensive selection process, we are delighted to announce that the **2017/2018 DRIF Fellows** are as follows:

1. **Getrud MOLLEL**, who is investigating postpartum depression among women attending post-natal clinics
2. **Beatrice CHIPWAZA**, who is optimizing molecular tests for arboviruses in human and mosquitoes, and
3. **Techla KAZIMOTO & Tutu MZEE**, who have joined forces to profile antibiotic resistant bacteria from different sources

All the DRIF Fellows have already signed contractual agreements with the institute and will conduct their projects over the next year in line with IHI's regulations governing this fund. Please join us in congratulating all the winners and wishing them a successful year as they continue their research. Finally, I wish to pass our sincere gratitude to all our scientists and collaborators who provide the essential peer-review support for these applications.

IMPORTANT NOTE: Detailed information on all the Fellows and their Projects are provided on the next page. We have also included essential basic information about the DRIF program at the end of this notice

Yours sincerely,



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DRIF 001-2018: Dr. Getrud Mollel

Postpartum depression among women attending post-natal clinics in Tanzania



Getrud Joseph MOLLEL, MD is a clinician and researcher at Ifakara Health Institute with main interest in maternal and child health. She is currently the coordinator for the Maternal and Paediatric HIV unit at the chronic disease clinic of Ifakara and the paediatric malnutrition unit, where she also runs the one-stop clinic. She holds a degree of Doctor of Medicine from Muhimbili University of Health and Allied Sciences (2013).

She has worked with Tanzania Youth Alliance, Comprehensive Community Based Rehabilitation Centre (CCBRT) and the Muhimbili National Hospital. Getrud is also an active member of the Women Medical Doctors professional organisation (MEWATA) since 2012, and has participated in organizing various outreach activities to support work on Female Reproductive Cancers (2013), Sexual and Reproductive Health and Rights Education to school and college students in Iringa and Dar es salaam regions (2013), and Mass screening and Health Education on Breast and Cervical Cancer in Iringa (2015).

Getrud aspires to be a qualified medical researcher, with ability to provide evidence based influence to health systems, policies and planning in Tanzania. Outside her working time, she enjoys listening to music and dancing.

Project Summary: Postpartum depression (PPD) is a major public health problem, a mental disorder that affects women after childbirth, which may have a significant impact on their health and that of their children. Previous studies in sub Saharan Africa have reported a prevalence of between 7% and 64% and HIV-infected mothers are carrying a heavier burden of this problem. While Tanzanian government has made a great effort in improving maternal and child health over the past decade, little has been done to assist women in dealing with mental health problems, largely due to that fact that magnitude of this problem or its drivers are not very well understood in Tanzania.

Depression among HIV-infected individuals negatively affects psychological well-being and quality of life and undermines HIV treatment through associations with poor adherence to antiretroviral therapy (ART). For pregnant women and new mothers this may increase the risk of mother to child transmission (MCTC) of HIV. **This project will quantify the magnitude and risk factors associated with PPD in our community, and it will help identify solutions for preventing and controlling this problem.**



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DRIF 002-2018; Dr. Beatrice Chipwaza

Optimization of molecular tests for detection of arboviruses in human and mosquitoes



Beatrice CHIPWAZA, Msc, PhD is a veterinarian with MSc in molecular biology from Vrije Universiteit Brussels. She has a PhD in life sciences specialized in Health and Medical Biosciences, from Nelson Mandela African Institution of Science and Technology. She joined Ifakara Health Institute (IHI) in 2008 where she has been working as a research scientist. Her PhD research focused on etiologies of non-malaria febrile illnesses in central Tanzania, specifically arboviruses (dengue and Chikungunya) and bacterial zoonoses (leptospirosis and brucellosis).

She is also a lecturer at St. Francis University College of Health and Allied Sciences, Ifakara. Her main research interest is in arboviruses. Beatrice likes to understand the prevalence status and genotypes of arboviruses circulating in Tanzania. To facilitate this, she is currently establishing molecular techniques at IHI, Ifakara for detection of arboviruses in human and mosquitoes. Moreover, she will determine the prevalence of dengue, chikungunya and ZIKA viruses in febrile patients and mosquitoes in Kilombero valley, Tanzania.

Project Summary: Several arboviruses are transmitted to humans by bites of infected *Aedes* mosquitoes. Diseases caused by arboviruses include dengue fever, chikungunya, Zika, and Rift Valley fever. Arboviruses cause significant public health threat globally with increasing geographic range and severity, and the incidence in the tropical and subtropical countries has been rising dramatically.

Despite that diseases such as dengue and Chikungunya virus infections have been reported in few regions in Northern and Central Tanzania, the prevalence status including the genotypes of arboviruses that circulate in several regions of Tanzania is not known. In addition, the capacity for diagnosis of arboviruses pose a challenge. Very few laboratories such as National Health Laboratory have the capacity for detecting and genotyping arboviruses.

The proposed research aims to optimize molecular tests for detection of arboviruses strains/serotypes in human and mosquitoes, at IHI laboratory, Ifakara. In addition, this research aim to study the prevalence of DENV, CHIK and Zika viruses in febrile patients and mosquitoes in Kilombero valley. These techniques will be available as a service for surveillance and case detection and preparedness for possible future epidemics. Furthermore, information on status of arbovirus diseases in Kilombero will assist physicians in the routine management of febrile cases.



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DRIF 003-2018: Theckla Kazimoto & Tutu Mzee (Joint Fellowship)
Profile of Antibiotic Resistant Bacteria from Different sources


Theckla KAZIMOTO, Msc is a laboratory scientist with an MSc degree in Biomedical Science (Major in medical microbiology) from the University of Wales Institute Cardiff, UK, and an Advanced Diploma in Laboratory Sciences (medical microbiology and immunology specialties) from the University of Dar es Salaam, Tanzania. Theckla is an experienced microbiologist who started-off her career with the National Institute for Medical Research working at the Central Tuberculosis Laboratory Reference with responsibilities of carrying out diagnostic and research work on Tuberculosis and related infectious conditions. She has been involved in the national surveillance programmes and interventions to improve laboratory diagnostics. She has participated in the initiation of National HIV and Quality Assurance Laboratory in the country. Since 2010 she joined Ifakara Health Institute, where she also contributed to successful setup and execution of the TB laboratory, a core facility for TB research and clinical trials at IHI. Theckla's has coordinated a number of research projects as well core microbiological investigations with a number of publications.

Since 2012-2016 she was the Tanzanian coordinator and investigator for the Africa-German consortium study titled, "*Infection Biology and Epidemiology of Staphylococci and Staphylococcal diseases in Sub-Saharan Africa*". She is currently pursuing her PhD in phenotypic and genotypic characterization algorithm of *Staphylococcus aureus* with the University of Saarland, Germany.



Tutu MZEE, Msc is a Research Scientist at Ifakara Health Institute, with an MSc in Biotechnology (Major Molecular biology) from the Nottingham Trent University UK, and a BSc in Bioinformatics from the Free University Berlin, Germany. She has worked as a biomedical researcher for many projects including the RTS's children malaria vaccine. Since 2013 she has participated in the *Infection Biology and Epidemiology of Staphylococci and Staphylococcal Diseases in sub-Saharan Africa*, a multicentre study investigating the epidemiology of community acquired *Staphylococcal* diseases in Africa. Tutu is also working as a Quality Assurance Officer at the institute, where her responsibilities include ensuring all projects running at the institute produce quality and integral data. Furthermore, she is one of the facilitators for the Master in Public health Research offered by the Institute.

She is currently enrolled at the University of Dar es Salaam pursuing her PhD in molecular epidemiology of antibiotic resistant *Staphylococcus aureus* in livestock and their human contacts to examine bacteria host jump, resistance acquisition and adaptation through genetic characterization means.

Project Summary: Antimicrobial resistance is a complex problem contributed by multiple factors. The apparent growth of antibiotic resistance rapidly occurring in bacterial clones ask for research and concerted



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interventions to prevent their further emergence and transmission especially in tropical countries where they lead to a large number of bacterial infections. It is necessary to critically examine the distribution patterns of antibiotic resistance not only in bacterial strains of clinical importance but also those found in the environment sources that will allow getting knowledge on their associations. **This study is a cross sectional study aiming to: 1) establish a profile of antibiotic resistant bacterial strains from different sources, humans versus environment with specific genomic characterization of *Staphylococcus aureus*, and 2) establish a link between antibiotic resistant bacteria found in environmental sources and those causing diseases affecting public health.** The study will derive a dataset on the profile of antibiotic resistant bacteria in human recovered from invasive and non-invasive (nosocomial versus community) infections as well as from their associated environmental sources. Furthermore, genotypic characterisation of *S aureus* will provide information to interpret a link of the antibiotic resistance between human and environment. The study will thus provide baseline data that can be used to guide rationalized antibiotics therapy and improve infection control measures, and surveillance systems counteracting the problem of antimicrobial resistance.

MORE ABOUT DIRECTOR'S RESEARCH AND INNOVATION FUND

The purpose of the Director's Research and Innovation Fund (DRIF) is to support specific short projects relevant to Ifakara Health Institute's scientific strategy, for a period of between 6 and 12 months. Eligible projects may include: collection of essential data necessary to support a specific new application for external research funds, contributions towards salaries of competitive researchers recruited to establish a new research program, supplementary funding for completion of post-graduate research projects (including laboratory and field studies) or creation of research partnerships and facilitating writing initiatives to develop specific grant proposals for funding.

This funding will NOT be available for supporting salaries between projects without clear scientific objectives and deliverables for the duration of the funding. Individual awards may not exceed 40,000 USD/Year, including research and personnel costs.

The funding is open only to IHI researchers (including full-time staff, students and collaborators based at IHI). Applications can be submitted at any time during the year, evaluations will take place only twice each year. To qualify for the funding, all applicants are required to:

- 1) Outline a clear plan of research activities intended to be accomplished during the funding period. A reasonable level of flexibility is allowed, but applicants must state clear milestones and deliverables to be evaluated at the end of the funding period. Please attach your CV with the application
- 2) Demonstrate relevance of their research to the strategic plan of their respective departments and the institute,
- 3) Demonstrate that they have actively engaged with other scientists, relevant department heads, and IHI grants & contracts office during the preparation of the proposal.
- 4) Provide evidence of past scientific productivity, measured by various indicators, including but not limited to papers published, grant applications made and/or won, and intellectual property rights e.g. patents obtained
- 5) A clear plan of sustainability beyond the funding period.

Applicants should submit an application form, fully completed, to the Research Division at this email: research@ihi.or.tz. The application form can be requested from department heads or research division administrator, Ms. Shekha Salum (ssalum@ihi.or.tz)



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