

LEAD

ISSUE 5 - 2022

“ There could and should be a better future for those paying the massive burden of tropical diseases.”

125 Campaign: Time to Shift the Power

AN UMBILICAL CORD TO AFRICA

"We know the issues, now it's about solutions. We're hoping to mobilise more women, but also men who are champions."

Emma Orefuwa, Honorary Graduate.

A RESEARCH POWERHOUSE

World-class research is taking place across every area of Liverpool School of Tropical Medicine.

SILVER ATHENA SWAN AWARD

LSTM was awarded the Athena Swan Silver Award for its ongoing work to promote gender equality, one of only 21 institutions in the UK to be awarded.

125
YEARS
1898 - 2023

LSTM
LIVERPOOL SCHOOL
OF TROPICAL MEDICINE



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I would like to extend congratulations on behalf of everyone at LSTM to our graduating Class of 2022, and also our Classes of 2020 and 2021 for whom the COVID-19 pandemic prevented in-person ceremonies. We celebrate all their successes and will continue to follow their futures with keen interest.

This year has been a very busy and productive year for LSTM, and we were delighted to be ranked second for the impact of our research in the latest Research Excellence Framework (REF 2021),

the UK's system for assessing the quality of research in higher education. The results reflect the high-quality work undertaken across the institution, as well as within our numerous partnerships across the world.

Our research informs much of the teaching and education activities within LSTM, and it is important that we can demonstrate the benefit of those endeavours to the populations that we serve. Just one example of how our activities have real-world impact is our work with tsetse flies. Earlier this year the World Health Organization (WHO) declared Uganda free from Gambian sleeping sickness after the scale up of LSTM developed Tiny Targets, a vector control tool designed to reduce the population of the tsetse fly, which carry the disease. You can read full details about the impact of our work on **Pages 6 & 7**.

As we approach our 125th Anniversary in 2023, we are considering LSTM's legacy as an institution whose founding is linked to colonial trade and exploitation, and the shape of the organisation for the future. Following the release of our first Race Equity Action Plan, we are committed to better understanding the experiences of, and acting to, eliminate the barriers that exist for staff, students and partners.

In October we were delighted to announce that we were awarded the Athena Swan Silver charter mark, for our ongoing work to promote gender equality. Earlier in the year we also signed up to an equitable authorship statement, to ensure that our partners, particularly those overseas, are credited for all the work that goes into the research that we carry out.

As a major global research institution, we have the power to tackle systemic injustice and inequity. Our future therefore lies in working through equitable partnerships around the world to tackle the major health challenges facing humanity. That is why we have launched a major 125th Anniversary Campaign, which will support a bold investment in this vision – you can read more about this on pages 2 & 3. I hope all our alumni, friends and supporters will join me in supporting this important initiative.

Professor David Lalloo
Director



Join our alumni and friends community:

Scan to sign up today

Front cover image: Professor Charles Wondji, Professor of Vector Genetics at LSTM and Director of the Centre for Research in Infectious Diseases in Cameroon, delivering the key note address to guests at LSTM's 125 Campaign Launch at the House of Commons.

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CELEBRATING 25 YEARS OF MLW



For over 25 years Malawi Liverpool Wellcome Trust (MLW) has continued to be a vital global partnership hub for LSTM. It is the only Wellcome Trust-funded research programme in a low-income country.

MLW was founded in 1997 with a grant from the Wellcome Trust, under the leadership of LSTM Professor and Honorary Graduate (2019), the late Malcolm Molyneux. MLW is a partnership between the Wellcome Trust, LSTM and the University of Liverpool and the Kamuzu University of Health Sciences to conduct high quality research to benefit health. Initially its focus was on severe malaria in children and HIV, but it has expanded over the last 25 years to include research leadership in Salmonella, meningitis, Rotavirus, Pneumococcus, Tuberculosis, and lung health. This work aims to impact positive health outcomes for communities in Malawi and other sub-Saharan African countries.

MLW has pioneered major interventions and managed large clinical trials, including a four-year trial of a modern rotavirus vaccine in 2011, which cut infant deaths from diarrhoeal disease in Malawi by 39%. Their work on HIV self-testing led to the first demonstration of feasibility and safety of this method, which ultimately influenced international HIV testing guidelines and improved access to HIV care and retroviral therapy worldwide.

MLW aims to expand its current work in six research groups: infection biology, vaccines, population health, experimental & clinical medicine, social science, and maternal, neonatal & child health over the coming years, with most run by resident Malawians, alongside international scientists. CREATOR building, opening in Blantyre in January 2024 aims to support this expansion by increasing research capacity by 30%.

Training and capacity strengthening is at the heart of its mission; it provides training for the next generation of researchers and opinion leaders supports and clinical service provision at the nearby Queen Elizabeth Central Hospital.

Despite this huge success, there is still a critical need across the region for improved training and clinical research capacity. The average life expectancy in Malawi is 65.6 years (2019) compared to 80.9 in the UK. Since 2018, Malawi has 0.04 doctors and 0.44 nurses per 1,000 population.

This is essential for addressing the many emerging health threats facing Malawi and the world, but also to combat the persistent issue of 'brain drain' in a country with one of the most under-served patient populations in the world. There is a shortage of clinical specialists within Malawi who could provide training supervision, and a shortage of post-graduate training opportunities.

LSTM's 125th Anniversary Campaign aims to support the next phase of MLW's growth by investing in scientific capacity and leadership.

Find out more by visiting lstm.ac.uk/125

125 Campaign:

TIME TO SHIFT THE [POWER]

The Liverpool School of Tropical Medicine was the first of its kind in the world – beginning our fight against disease more than a century ago.

Now, as we approach our 125th Anniversary, we've set a new course for the next 125 years – putting partnerships and equity at the heart of a mission to fight global health inequality.





SCAN QR CODE:
find out more or to
support our campaign.
www.lstmed.ac.uk/125



LSTM was founded by the industrialists who prospered in colonial Britain through the global significance of Liverpool's port. But now our goal is to end health inequality and social injustice by shifting the power.

Our vision is to take LSTM from being a UK organisation, which operates overseas, to a global research institution headquartered in Liverpool. It is a fundamental culture shift for us, and one which requires bold investment.

That is why we are launching our 125 Anniversary Campaign to support the development of scientific and health leadership in Sub-Saharan Africa and Asia.

These regions bear a disproportionately high burden of disease, but scientific priorities have historically been driven by those far removed from the challenges they face. It is time to shift this power.

We will establish a Global Leaders' programme, with new research leadership positions at five key African hubs - in Malawi, Kenya, Cameroon, Zimbabwe and Tanzania. They will become part of a powerful network of multidisciplinary researchers, tackling some of the most pressing global health issues.

We will support a Global Fellowships Programme, where 25 of the most exceptional and promising researchers will access funding, mentoring and development to accelerate their careers.

And, we will fund many more Masters and PhD students - creating the kinds of extraordinary graduates who have already led the development of country strategies for Ebola and COVID-19.

In Liverpool, we will be part of this global research network with a new in-patient clinical trials facility - the largest in the UK - supporting the development of new drugs and vaccines which have global application.

All these initiatives will come together in a new Institute in Resilient Health Systems - a virtual entity designed to drive investment into research that is not just **for** the benefit of low resource countries, but led **by** them.

You can help us to make our vision a reality by supporting the Liverpool School of Tropical Medicine's 125th Anniversary Campaign.

News story:

LSTM celebrates its 125th anniversary by launching a campaign to help build resilience, skills, and capacity in lower income countries at the House of Commons.




SCAN QR CODE
to read more

HONORARY GRADUATE 2022

Emma
Orefuwa

AN UMBILICAL CORD TO AFRICA

A portrait of Emma Orefuwa, a Black woman with long, dark braids, wearing a dark blue or black top. She is looking directly at the camera with a slight smile. The background is dark and out of focus.

When her Master's supervisor suggested that she go to Nigeria, her father's homeland, to conduct research on lymphatic filariasis, London-born Emma Orefuwa was sceptical. However, that supervisor understood the power of connecting with your ancestral country; an understanding that Emma has come to share. It led to her setting up the Pan-African Malaria Control Association (PAMCA), the leading authority on the control and elimination of vector-borne diseases in Africa, and to her being awarded an honorary degree by LSTM.

Family and heritage have played an important role in Emma's education and success. "I've got a Nigerian father, and Nigerians are very big on education. Also, my maternal grandma was a very strong matriarch, very resilient."

"A TURNKEY MOMENT..."

A degree in Biochemical Sciences was followed by a Master's in Biology and Disease of Control Vectors, during which Emma undertook the research in Nigeria that would so radically alter her perspective. She was supervised by Professor Chris Curtis, London School of Hygiene and Tropical Medicine, who became her friend and life-long mentor.

"He inspired me - he was very keen in almost 'repatriating' those of us of African heritage back to our countries of origin to do good... Chris was a very supportive individual and really allowed me to see the potential of myself... PAMCA is a legacy of him - a vision of Africans contributing to addressing their own problems."

An internship at the European Mosquito Control Association led to Emma helping to coordinate their conference in Turin in 2009. It was there that she gravitated towards African entomologist, Professor Charles Mbogo, who was to become her co-founder of PAMCA.

"Meeting Charles was amazing because he was the first African entomologist that I'd come across. Up until then I'd learned about vector-borne diseases from older white men, and it was just amazing to see that we do have African experts."

The two bonded over their shared concerns, but also optimism, for the future of science and control of vector-borne diseases in Africa.

"It was clear that African expertise wasn't being showcased. There was a power imbalance in terms of Africans having the voice to discuss the innovations and solutions they thought were necessary for combating vector-borne diseases in their continent, Charles had been thinking about the need to encourage more Africans to be involved in research. That's basically how the Pan-African Mosquito Control Association came about."

Today, PAMCA is a non-profit membership organisation headquartered in Kenya. It is a collective of vector biologists, public health professionals, policymakers, NGOs, industry and civil society members who have an interest in combatting vector-borne diseases on the continent. As well as chapters in 19 countries, PAMCA also has four Regional Centres of Excellence (RCE) - hubs of expertise which allow countries to utilise infrastructure, knowledge and resources to tackle disease through capacity building and knowledge transfer.

Current programmes include evidence generation to inform National Malaria Control Programme strategies in Burkina Faso, Cameroon and Tanzania, and training staff to identify a new malaria vector, carry out surveillance and collect data at the invitation of the Djibouti government. Africa CDC and WHO are also on board. PAMCA is growing - both in numbers and influence - and Emma is obviously proud of the organisation and her contribution to its success.

"In 2018 there was a lady who took a bus for three days from Tanzania to Zimbabwe just to attend our conference. Just listening to her story made me proud that we have created a platform that people feel they need to be at, that they value, and that they feel seen. Our hope is to get as many African countries as possible signing up to our shared vision in order to promote South-South collaboration, and really harmonise efforts across the continent."

PAMCA AND LSTM

LSTM has been part of PAMCA's work for several years, sharing its commitment to generating high-quality evidence and capacity strengthening. For example, Professor Charles Wondji currently heads PAMCA's Central Africa RCE, Dr Tony Nolan has helped run their innovative Gene Drive programme since 2017, and the Department of Vector Biology is a key partner. Emma hopes that the relationship can develop further.

"There have been lots of programmes with LSTM. We'd like to be able to scale these programmes across the continent, to tap into LSTM's expertise. It's a good example of a North-South collaboration that is a win-win - mutually beneficial, respectful and has lasting impact."

WOMEN IN VECTOR CONTROL

This new programme is based on PAMCA members' own experiences of sexism, discrimination and sexual harassment - both professionally and in the home. Emma explains.

"We kept talking about women not being visible, being overlooked for positions, and living in a very patriarchal space, and this translates to society as a whole. There's much talk about eliminating vector-borne diseases, but it's not going to work if half the population aren't involved. And how do we encourage women to pursue the sciences?"

A two-day workshop involving women from 25 countries generated a list of problems but also recommendations which Emma hopes will translate into action and policy change.

"We know the issues, now it's about solutions. We're hoping to mobilise more women, but also men who are champions. We've launched a mentorship programme and started training. One idea is getting donors involved in an accountability mechanism."

This programme is still in its infancy but is already being described by those involved as 'transformational', providing a community for sharing, networking and giving women opportunities to advance their careers in vector control.

A MESSAGE FOR LSTM GRADUATES

What advice does Emma have for those embarking on their own careers?

"Think about everybody who has a stake. Why are you doing this, what are you doing, who does it serve? Are those people involved in the co-development of any activities? We often specialise in one area and become slightly myopic in our vision and what we think will make an impact. Everybody has a skill, everyone has a worth, and it really does take a village, so think outside the box."

This need for meaningful connectivity ties back to that early advice from her Master's supervisor:

"When I'm working on African initiatives there's a different level of drive. It's not just a job. It's serving your own people, your community, and that's where the passion comes from. There's been many difficult junctures with PAMCA, but what's kept me going is that connectivity, almost an umbilical cord to the continent. And that is something that really should be capitalised on more by those of us working in the UK."

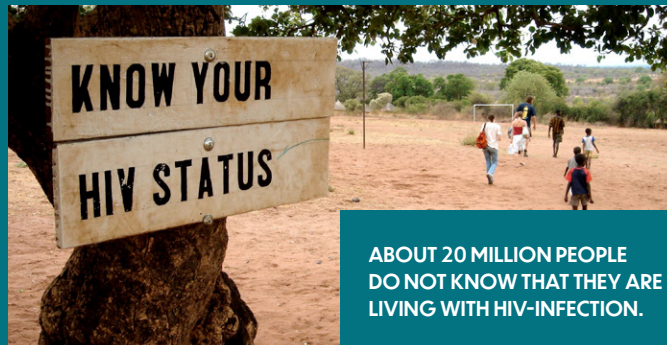
A RESEARCH POWERHOUSE

World-class research is taking place across every area of Liverpool School of Tropical Medicine, (The Research Excellence Framework 2021).

In our first independent submission to REF, LSTM has been recognised for the outstanding impact of our work, ranking 2nd overall in the UK for impact across all disciplines. The Research Excellence Framework (REF) is the system for assessing the quality of research in UK higher education institutions.

Global scale-up of HIV self-testing

About 20 million people do not know that they are living with HIV-infection. If the disease is to be treated and eradicated, it is essential that infected people know their HIV status so that they can make informed decisions about their health needs. LSTM are working with the WHO on a Self-Testing in Africa (STAR) initiative which aims to stimulate the market for HIV self-test kits in Southern Africa. LSTM staff developed and rigorously evaluated delivery models in Malawi and a total of 88 countries now have HIV self-testing policies, and rapid scale-up has increased testing coverage among vulnerable, underserved and key populations worldwide.



**ABOUT 20 MILLION PEOPLE
DO NOT KNOW THAT THEY ARE
LIVING WITH HIV-INFECTION.**



**32,000,000 PREGNANCIES
AT RISK ANNUALLY.**

Treatment and control of malaria in pregnancy

Malaria in pregnancy is a leading cause of adverse pregnancy outcomes. Research led by LSTM contributed directly to improved World Health Organisation (WHO) and endemic country policies and practices in sub-Saharan Africa and Asia-Pacific. Specifically, ministries of health in 36 African nations are now implementing a more effective malaria prevention strategy improving the outcome of approximately 32,000,000 pregnancies at risk annually and thereby the lives of mothers and their infants.

Health Systems and Workforce Strengthening Unit

Not all impactful research looks at disease. LSTM's Health Systems and Workforce Strengthening Unit has been engaged in several projects which seek to strengthen health systems and make best use of available human resources.

While efforts are in place to address the global shortage of health workers, improving health workforce performance has been neglected. PERFORM2Scale sought to address this problem by scaling-up a previously successful management strengthening intervention (MSI) in Ghana, Malawi and Uganda - over five years. In Uganda, the team successfully integrated the MSI into the new nationwide Quality Improvement Framework which will have huge impact on the quality of health services throughout Uganda. The team learned an enormous amount about the facilitators and obstacles to successful scale-up which can be applied in other contexts.

Reducing malaria prevalence in Africa using innovative bed nets

Insecticide-treated nets (ITNs) are the main malaria prevention tool in Africa, but their efficacy is being impacted by mosquitos' resistance to the chemical used - pyrethroid. LSTM research which pinpointed the underlying molecular mechanisms of resistance has led to new classes of ITNs that can control resistant mosquito populations. By 2020, 13 of the 23 malaria-endemic countries in



Africa included these new classes of nets in their national distribution campaigns, protecting more than 35,000,000 people. A large-scale trial in Uganda found that use of this new net class reduced malaria prevalence by 27%.

ELIMINATING GAMBIAN SLEEPING SICKNESS AS A PUBLIC HEALTH PROBLEM



Uganda eliminates Gambian sleeping sickness as a public health problem, alongside Liverpool School of Tropical Medicine's Tiny Targets programme.

The Ministry of Health in Uganda and partners, including LSTM, are celebrating the elimination of Gambian sleeping sickness following the recent announcement from the World Health Organisation (WHO).

The milestone was marked with a ceremony in Kampala, Uganda, on the 21st October. The elimination of Gambian HAT (gHAT) has been achieved through an integrated approach with screening, treatment and vector control. The medical efforts have been implemented through the Ministry of Health, with support from *Medecins Sans Frontières* (MSF), Foundation for Innovative New Diagnostics (FIND) and WHO. Vector control has been implemented through the Coordinating Office for Control of Trypanosomiasis in Uganda (COCTU) with support from LSTM.

Until recently, vector control for Gambian HAT was not widely used because the available tools were very costly and logistically demanding to deploy, this all changed with the development of Tiny Targets. An international team of researchers from multiple research institutions across Europe investigated the host-seeking behaviour of riverine tsetse, the vectors of gHAT. They discovered that in contrast to other tsetse species, smaller sized targets were more efficient at attracting riverine flies. Tiny Targets were first introduced in Uganda in 2011 in small scale trials, before being scaled-up to a full control programme in partnership with COCTU in 2014. The project covered 2,500km² in five districts in northwest Uganda, and there was further scale-up from 2017 with expansion to two additional districts.

The partnership between LSTM and COCTU on the Tiny Targets programme has made a significant contribution to the sleeping sickness elimination efforts.

Vector Biologist and Programme Manager, Andrew Hope, explains:

WE SAW AN 80% REDUCTION IN THE NUMBER OF TSETSE FLIES, ONCE TINY TARGETS HAD BEEN INTRODUCED. OUR MODELLING WORK SHOWS THAT TINY TARGETS HAVE REDUCED gHAT INCIDENCE BY 25% IN NORTHWEST UGANDA."

The Tiny Targets team deployed these targets twice a year along the riverbanks, with a density of 20 targets, per kilometre. At some stages in the project the team was putting up about 35,000 targets a year, which was a huge logistical operation.

Andrew Hope thinks these efforts were well worth it: "I think this announcement is really important, it's an incredible achievement for Uganda. The Ministry of Health and COCTU should be very proud of this success. It is also a wonderful moment for my colleagues at LSTM who have been part of this work and I particularly congratulate Professor Steve Torr who has led the programme at LSTM for most of the last decade."

Professor Torr added: "Other countries using Tiny Targets have also eliminated gHAT as a public health problem (Cote d'Ivoire) or are on track to do so (Chad, Guinea, DRC). Looking ahead, we are working with many partners to achieve WHO's goal of eliminating transmission of gHAT by 2030."

The announcement by WHO follows decades of work to eliminate the disease. Large numbers of gHAT cases were recorded at the beginning of the 21st century and WHO prioritised the control and elimination of gHAT in countries where the disease was endemic. Case numbers decreased, eventually falling below 1000 annually for the first time in 2018.



SCAN QR CODE:
To read more about
LSTM's research impact.

HONORARY GRADUATE 2022

Dr Sam
Kariuki

PhD, 1997 - LSTM

STUDYING DRUG-RESISTANT PATHOGENS OF PANDEMIC POTENTIAL

When most people in the global north fall ill with what is often referred to as 'a stomach bug' they feel rotten for a few days but quickly return to health without requiring antibiotic treatment. This is not the case in many parts of sub-Saharan Africa, including Kenya, where a bout of something like non-typhoidal Salmonella can be fatal, especially among young children. The question that challenged the young Sam Kariuki was why this was the case – was there something different about food-borne diseases in Kenya?

This fascination with diseases and how they are transmitted and treated has been a life's work for Sam which has led to him being awarded an honorary degree by LSTM. He came to epidemiology by way of a degree in Veterinary Medicine and a Master's in Pharmacology and Toxicology, both from the University of Nairobi. Early plans to study human medicine were abandoned with the realisation that, "I never like to work at night, and in veterinary medicine nobody would wake me up to go and do clinical duties at night." Plans to become a vet also disappeared with the realisation that he really wanted to focus on research.

This early exposure to both human and animal medicine gave rise to an understanding in Sam that the two were inextricably linked and fuelled a curiosity to explore that connection. This was at a time when the concept of One Health (the recognition that the health of humans, animals, plants, and the wider environment are interdependent) was not widely held.

He was also driven by a desire to understand how medicines work, what is happening when they do not work, and how we can intervene. His interest in antimicrobial resistance (AMR) – when the organisms that cause infection evolve to survive antibiotic treatments – was also born. It is an area of study that has been brought into sharp focus by COVID-19.

"Probably the scariest things facing us are diseases emanating from the animals we interact with. In my institution [KEMRI] we have put an emphasis on pathogen discovery... to be able to detect early and understand the pathogens of pandemic potential."



ACADEMIC SUCCESS

After securing a post at the Centre for Microbiology Research at KEMRI (Kenya Medical Research Institute) Sam worked with a team looking at AMR and secondary infections in HIV. After three years he had impressed his supervisor enough to receive a call to follow him to LSTM to undertake a PhD.

So began a relationship which benefitted – and continues to benefit – both parties, but which has had an even greater impact on the people of Kenya and the surrounding region.

Throughout his academic career, Sam has been fascinated by technology and its potential to help tackle certain diseases, particularly those he saw at home in Kenya. He says of his PhD studies:

“I really wanted to work towards understanding how enteric bacteria, especially *Salmonella*, were causing such severe disease in young children yet in the western world they were just causing self-limiting diarrhoeal disease.”

His work to address this question – utilising PCR technology and whole genome sequencing – revealed that Kenya was actually dealing with a very specific strain of *Salmonella typhimurium* (ST313) that was different from that which causes disease in developed countries. His paper was published in the *Journal of Medical Microbiology* and through that study Sam was awarded the Pfizer Award for the Best African Scientist of the Year in 2012. It was the first of many awards and accolades.

Around this time Sam was also successful in securing funding from the Wellcome Trust for a post-doctoral fellowship on invasive non-typhoidal salmonellosis, which is endemic in sub-Saharan Africa. Sam hypothesised that person-to-person, rather than zoonotic transmission (from animals), was playing a major role in the disease's transmission and, despite scepticism from some scientists, this has proven to be correct.

Since then, his work and reputation have blossomed. Sam has researched and published extensively on the epidemiology and genomics of AMR and the surveillance of food-borne enteric pathogens. This work has contributed extensively to policy change in the treatment and management of those infections and in understanding AMR. His work has undoubtedly helped prevent much illness and saved many lives.

Today, Sam is the Director of Research and Development and Acting Director General at KEMRI, a Fellow of the African Academy of Sciences, an honorary faculty member at the Wellcome Sanger Institute, and a visiting Professor of Tropical Microbiology at the University of Oxford. He is also a World Health Organization consultant providing technical advice around food safety, AMR and infectious disease surveillance.

MENTORING THE NEXT GENERATION

Despite these accolades and titles, Sam remains committed to the science and to the young scientists in his charge. He says:

“My motivation was always my desire to be able to mentor young people and to be able to form a core group of scientists that research on antimicrobial resistance and enteric diseases epidemiology. It inspires me that they will probably become a mentor to someone else, and be able to build that critical mass of scientists and really help the country realise its potential in research, but also be a resource for the region.”

Over the years, many students and junior staff passed through his lab at KEMRI; a facility that the World Health Organization recognises as a centre of excellence. Almost all have gone on to join institutions, either in Kenya or abroad, where they are carrying the scientific baton.

AN ENDURING RELATIONSHIP

Sam's time as a PhD student at LSTM was one which he recognises as providing the foundations for his future success.

“That was the beginning of my post-doctoral and research career journey – the genesis of me being more independent in my research. I think my career pathway wouldn't have happened if I hadn't had a proper grounding at my post-graduate level.”

It also proved to be just the beginning. Before leaving LSTM, Sam and LSTM mentor, the late Professor Tony Hart, secured funding to conduct what proved to be a highly-successful enteric diseases One Health programme in Kenya to better understand livestock and human interactions. That work continues today with funding from the UK Department of Health and is still building capacity in epidemiology and surveillance of AMR.

Looking to future collaborations with LSTM, Sam hopes that some of the technologies and expertise developed at the School can be transferred to the field in Kenya, improving disease diagnostics, surveillance and management. He also has hopes for the young scientists in both institutions:

“We are looking towards the kind of collaboration where we host the students from LSTM and some of our students can spend time in Liverpool – that would really be enriching for our young scientists in terms of experience and outlook in a global sense.”

And his advice for those young researchers?

“If you get the opportunity then come into settings like ours and see field conditions as they are. Understand where diseases originate and how they get transmitted. You can never, ever learn that from books or from lectures. And that enrichment sticks with you forever and it keeps you motivated to be able to do the best research.”

INVESTING IN EARLY CAREER RESEARCHERS

Forming a critical part of LSTM's ambitious 125 Campaign (see pages 2 & 3), LSTM aims to support the most exceptional and promising researchers who have the potential to become leaders in their field. Through this support we will be able to provide funding, mentoring and development to accelerate their careers and support cutting-edge scientific research, with genuine impact for their communities and regions.

Dr Tinashe Nyazika (PhD, Clinical Sciences, 2020)

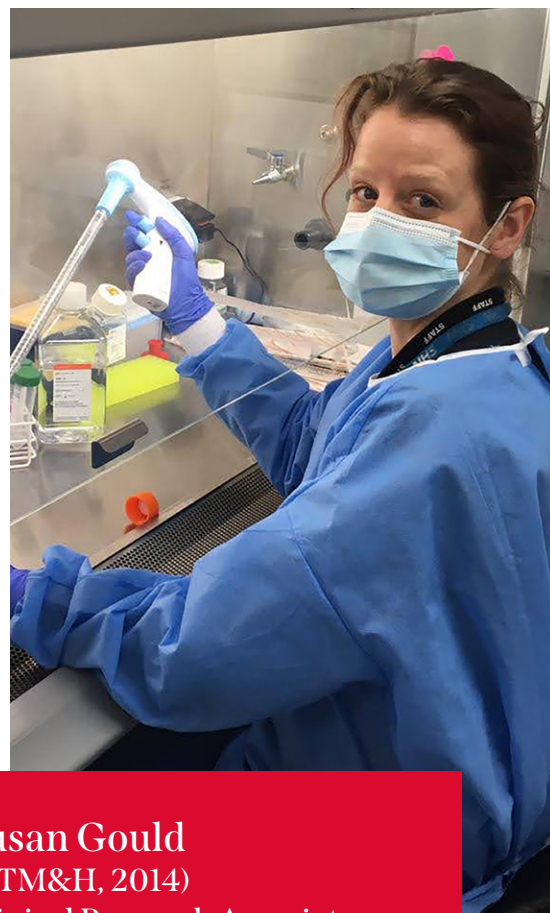
Tinashe is a medical microbiologist with major interests in host-pathogen interaction, HIV/AIDS and mucosal and viral immunology and biomarker discover. He has strong interests in diagnostic and research skills and a solid understanding of experimental research methods), analyses, and manuscript writing..

WHAT ARE YOU CURRENTLY RESEARCHING?

I am a Postdoc for the Liverpool Vaccine group and currently I am the lead microbiologist in largest controlled human infection challenge model (CHIM) in the UK. Our work involves investigating the effect of the 13-valent pneumococcal conjugate vaccine and the 23-valent pneumococcal polysaccharide vaccine on pneumococcal colonisation.

WHAT ATTRACTED YOU TO THIS AREA OF RESEARCH?

It's the love for translational science, the cutting-edge science we are doing as a group and the unique controlled human infection challenge model work, we are doing which helps to accelerates the finding of newer vaccines in a shorter time. The other thing was the comradeship within our team.



Susan Gould (DTM&H, 2014) Clinical Research Associate

Susan's background is in clinical medicine, most recently working as a registrar in infectious diseases and medical microbiology in Liverpool. After completing a MBChB at The University of Edinburgh, Susan worked in Scotland for a few years before gradually moving further south.

Susan is currently a Medical student funded by the HPRU-EZI and the READ-It group. Her work mostly centres around the transmission of HCIDs in particular aerobiology.

WHAT ARE YOU CURRENTLY RESEARCHING?

I worked on the clinical teams caring for patients with Monkeypox within the HCID network in 2018 and 2021. The previous experience in COVID investigations enabled a rapid response to investigating environmental contamination in rooms occupied by patients with monkeypox in May 2022. We adapted our covid protocols for monkeypox and successfully applied for grants from the TPI.

WHAT IMPACT WILL YOUR RESEARCH HAVE?

My research will provide and increased understanding of routes of transmission for pathogens can contribute to evidence base from which guidelines for infection prevention and control (IPC) can draw. Effective IPC can help reduce transmission. Understanding what may increase or decrease risk in healthcare settings permits delivery of care while protecting healthcare workers. The findings from our environmental sampling work are applicable to a variety of different settings.

IN OCTOBER 2022, LSTM WAS AWARDED THE ATHENA SWAN SILVER AWARD FOR ITS ONGOING WORK TO PROMOTE GENDER EQUALITY, ONE OF ONLY 21 INSTITUTIONS IN THE UK TO BE AWARDED.

The Athena Swan Charter is a framework that is used across the globe, to support and transform gender equality in higher education (HE) and research. The charter was originally set up in 2005 to recognise the advancement of careers for women, in science, technology, engineering, maths and medicine (STEMM) roles. It now addresses broad gender and intersecting equality, and their impact on individual and institutional success.

LSTM AWARDED SILVER ATHENA SWAN AWARD

DR EVE WORRALL,
SENIOR LECTURER IN
HEALTH ECONOMICS
AND ATHENA SWAN
LEAD AT LSTM



Key successes that contributed to the school winning the award include: increases in numbers of senior female staff; a new anonymous reporting mechanism for bullying and harassment; reductions in our gender pay gap and fixed-term contract use and increased staff retention; greater staff satisfaction with work-life balance and flexibility; an enhanced package of COVID-19 support; career development, especially benefiting female early career researchers; gender equity and improved transparency in promotion and progression; and, gender benchmarks achieved in education.

"Receiving an Athena Swan Silver award is hugely important for LSTM as it recognises our commitment to gender equality. These awards don't come easily, producing a high-quality submission requires qualitative and quantitative analysis of five years' worth of data, and an openness to honest, critical self-reflection across the whole organisation. This marks a major milestone for LSTM, and I see it as part of wider culture change – that willingness to face up to challenging issues which were previously not given the credence that they perhaps should have been; its relatively new for LSTM and it is really difficult work."

Our silver submission was also assessed on the action plan that we developed, based on our analysis and self-reflection, for the next five years. The plan lays out actions to address the gender imbalance in senior level roles (63% of LSTM staff are female, yet only 40% of our senior leaders are) and in our management, committees, and the board of trustees. There is also a focus on making sure that we build awareness and trust in systems and processes to deal with bullying, harassment and discrimination and create a culture where these behaviours are not tolerated. We also have actions to enhance the collection and use of data and information on gender, ethnicity, and other characteristics to help us track our progress and feed into future action planning; to understand and address the barriers to men and women's progression at key career points and to build a more inclusive workplace.

Ultimately the silver award is a key milestone along the path towards creating a better and stronger institution, which benefits from the talents of all individuals, regardless of their gender. I am confident that LSTM will maintain and even accelerate progress as we work towards a Gold award in the coming years.



5 MINUTES WITH EDD CRITTENDEN



Edd Crittenden is LSTM's Animal Technician and Herpetologist at the Centre for Snakebite Research and Interventions (CSRI) and Named Animal Care and Welfare Officer (NACWO).

Edd provides specialist care for one of the largest and most diverse collections of venomous snakes in Europe.

I do what I do because...

I have always had a passion and drive to work with animals. My main interest is in the cognitive abilities of animals not seen as 'intelligent', behaviour, and welfare. The work I do in CSRI allows me to enhance and constantly learn more about the animals in my care, as well have an impact to the wider world of snakebite envenoming.

How do you want to see the sector change in the next five years?

It is important that we see more collaborations in different areas of science to achieve a common goal, especially with partners that are sometimes overlooked due to lack of experience, or the institution isn't as recognised on the international stage.

Your proudest achievement at work was...

Either my first venom extraction or getting my NACWO certification, both at age 22! NACWO was a career goal for me and to be offered the position for the institution was a big sense of pride in my work and abilities. Venom extraction, I think that speaks for itself!

The biggest challenge facing global health is...

Access to the appropriate care facilities and medication in more remote areas. Within snakebite it's not uncommon for victims to spend hours travelling to health clinics that don't hold the antivenom.

At work I'm always learning that...

Animals will always impress you. Even if you've spent countless hours around them, you'll still be learning more about them daily. My understanding of snake behaviour is constantly evolving, seeing the individual personalities, routines, and behaviour traits in animals is always a highpoint of my career.

If I could go back 10 years and meet my former self, I'd tell them:

Not to put as much pressure on yourself to go the traditional route into academia. Experience in the right fields can be more valuable to future possibilities. You'll always be learning more and never know it all, embrace that and keep chasing more knowledge and information that interests you.

What is the best part of your job?

Seeing the impact of my work and skills being translated into publications which can go onto helping steer public health decisions in countries where it matters. It's also nice to see my work in talks, I've got pretty good at identifying my dissection style from pictures.

**"YOU'LL ALWAYS
BE LEARNING
MORE AND
NEVER KNOW
IT ALL."**

What makes you smile?

Finishing a tour of the Herpetarium with people who were terrified of the snakes before coming in and them leaving with a new sense of understanding about the animals they never had before. Doesn't stop the fear, but the right information can do wonders to overcoming the unknown elements.

Finally, what is your prediction for the future of global health in the years to come?

New technology will have a big impact on the Neglected Tropical Diseases (NTD's) fields. Things like drones, 3D printing, and cheaper more accessible technology will help us get a better understanding of the world we live in and how we can progress to minimise the impacts of NTDs on communities.

ALUMNI SPOTLIGHT



Whitney Mwangi

(MSc Global Health, 2021)

Tell us about your time at LSTM

“My long-term career goal was to attain a MSc in Global Health and Public Policy. LSTM's MSc Global Health curriculum offered an opportunity to venture into both areas in a way that can advance my professional and educational objectives. It was, a perfect fit. Being part of the programme exceeded my expectations as I had to unlearn several practices, especially social determinants for health, global diplomacy, community mobilisation, and how they all tie into policy-making. The quality of my work has improved overall since I now understand the foundational principles of addressing global health issues and how to apply them.”



What three words do you most associate with your experience of LSTM?

Foundational, Fruitful and Transformative.

Giri Shan Rajahram

(DTM&H 2017)

Tell us about your time at LSTM

“While studying at this world-class institution I was able to gain the skills necessary to address a locally relevant niche in training and scientific knowledge while fully embracing the experience and expertise of world-renowned experts and opinion leaders. Building upon my previous professional and academic knowledge, I was able to leverage peer learning with rich contextual experience, a paradigm shift in understanding perspectives of health systems outside my country. Some of the friendships built at LSTM have lasted well beyond the course, professionally and socially.”

What was your fondest memory from your time in Liverpool?

The charming city and its wonderfully generous people. The passionate fans of Liverpool Football Club, appreciating its legacy. Following the journey of the Beatles from Penny Lane through the Cavern Club and Strawberry Fields.

Dr Sarah Rylance

(PhD, 2020)

Tell us about your time at LSTM

“I first studied at LSTM in 2004, taking the Professional Diploma in Tropical Medicine and Hygiene. 13 years later I returned, seeking a new challenge and a pathway to develop my career in global health, having spent a number of years working clinically. I signed up for a PhD as part of the Doctoral Training Programme, exploring lung health in Malawi, including both epidemiological and clinical research.

I gained valuable experience in research design, developed my communication skills through scientific writing and oral presentations, and strengthened my professional networks. I was awarded my Doctorate in 2020. Following an introduction to the Non Communicable Disease Department at WHO Headquarters, I am proud to say I have relocated to Geneva and now work as the Medical Officer for Chronic Respiratory Diseases. Moving from Blantyre, Malawi to Geneva, in the midst of COVID, seemed like madness, but je ne regrette rien. The opportunity to impact global respiratory health in my daily work is a true privilege.”



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