



MAKERERE UNIVERSITY



Ugandan Academy
for Health Innovation
and Impact

Sustainable health in the Fourth Industrial Revolution

2019 HEALTH INNOVATIONS CONFERENCE UGANDA

MARCH 19-20

KAMPALA SERENA HOTEL

PROGRAMME BOOKLET



TUESDAY MARCH 19, 2019 — DAY 1

8:00-9:00	Registration		
9:00 -9:10	Welcome and housekeeping		
9:10 - 9:30	Opening of the conference by the Chief Guest		
9:30 -10:50	Keynote session: Harnessing the Fourth Industrial Revolution for Health and what the opportunities for health are <ul style="list-style-type: none"> • Kwame Rugunda, Opportunities for Blockchain (Crypto Savannah) • Steve Ollis (Global Digital Health Forum) • Mike Tartakovsky (National Institute of Allergy and Infectious Diseases (NIAID)) • Brian Woodfall (Janssen) Moderator: Andrew Kambugu/Elly Katabira		
10:50 – 11:15	Tea break		
ROOMS	KATONGA HALL Accelerating innovations (Panel session)	ACWA HALL People Products and processes (Demonstrations, Big Machines)	ADDIS HALL Bioinformatics and Emerging Technologies
11:15 – 13:00	Entrepreneurship in Health Moderator: Kwame Rugunda/ Andrew Kambugu Education in the private health sector Ian Clarke, Clarke Group Chatbox John Mark Bwanika, (TMCG) Entrepreneurship — Natalie Bitature (Simba Group) Lessons learnt in entrepreneurship Nazeem Mohammed (Kampala Pharmaceutical Industries)	Machines for Health Moderator: Eugene Swinnerstone Miheso/ Isaac Lwanga Harnessing robotics for health — Solomon King (Fundi Bots) Safety and efficacy of intravenous treatment regimens for Cryptococcal Meningitis - Philippa Ngaju (UIRI) Pneumonia Jacket — Brian Turyabagye (SkyApps) Neonatal Resuscitator Data Santorino (MUST) AITOPYA: A medical AI service- Jonna Bertfelt (Byon8 AB)	Machine Learning/AI Moderator: Daniel Mutembesa AI Lab – Ocular the Malaria Application Rose Nakasi Using deep learning to improve antimicrobial peptide recognition Dan Veltri (NIAID) Artificial intelligence applications in Health Joyce Nabende (AIR Lab, Makerere) -Omics: Moderator: Daniel Mutembesa Advances in computational metagenomics for understanding the role of the microbiome in human health Mariam Quiñones (NIAID) HIV transmission dynamics and OMICs activities at MRC/UVRI- Deo Ssemwanga (MRC Uganda) Merging AI with Data Science and statistics Agnes Kiragga (IDI)
13:00-14:00	Lunch break – Remember to vote for your favourite poster!		
14:00 - 15:00	Lightening talks on selected posters (Moderator: Dathan Byonanebye)		
15:00-16:30	The Ugandan framework for digital health (Panel session) Moderator: Cissy Kityo/Sylvan Kaboha Pauline Byakika (East African Secretariat) Innovation Governance- Michael Niyitegeka (Clarke University) Intellectual Property Law and what it means for innovation- Bowmans International	Ideas around service delivery to underserved populations in Uganda (round table) Moderator: Alex Muganzi /Steven Okoboi Island population health service delivery- Samuel Katumba (SDI) Healthy Entrepreneurs Health Cooperatives: A low tech solution to ensuring affordable health care for all Ugandans - Britt Cruz (Health Partners)	Virtual Reality (VR) Talks Moderator: Meghan McCarthy/ Phillip Cruz Why now? Darrell Hurt (NIAID) Walking through proteins-applying Virtual Reality to structural biology Phillip Cruz (NIAID) How VR is revolutionizing the learning experience and improving medical diagnoses Steve Garrou - (NIAID)
16:30-17:00	Networking - Arts session- HIV Exhibition and Painting Session		

WEDNESDAY MARCH 20, 2019 — DAY 2

8:00-8:45

Registration

8:45- 9:45

Panel discussion: A shared language – how we can work together across disciplines for innovation

Moderator: Rossalind P. Ratanshi/Regina Kamoga

9:45-10:45

- HIV exhibition: Sylvia Matovu (**TASO**)
- Pictures of Ageing: Allen Kabagenyi (**Dep't of Population studies, Makerere**)
- Bruno Sserunkuma (Artist, **Margaret Trowell School of Fine ART**)
- Rachel King Social Scientist, (**UCSF**)

Advances in Vaccines for Global Health with Janssen

Moderator: Elly Katabira

Bringing transformational vaccines to the world in areas of high unmet need, the examples of Ebola and HIV vaccines, **Valerie Oriol Mathieu (Janssen)**

Innovation at Janssen across 3Ps – Projects, Programs/Process, and People

Brian Woodfall (Janssen)

Relevance and bringing arts into innovation for health and social change; Round table

Moderator: Rachel King/ Sylvia Matovu

Behold the Art: Changing Minds, Healing Lives - **Katherine Ellington (World House Medicine)**

Student-led innovations to solve health problems among university communities – **Filimin Niyongabo, (Makerere SPH)**

Rolands Tibirusya (Artist)

Bruno Sserunkuma (Artist)

Using Warehouse and Analytics to Advance Scientific Discovery:

Moderator: Mike Tartakovsky

Developing a data warehouse for Rakai Health Services: **Anthony Ndyababo (RHS)**

TB Portals: Leveraging clinical, genomic, and imaging data to advance TB research **Darrell Hurt (NIAID)**

Using analytics for differentiated HIV care **Rosalind Parkes Ratanshi (IDI)**

Updating the Biomedical Data Science Ecosystem at the National Institutes of Health (**NIH – Andrea Norris**)

10:45 – 11:00

Tea break and networking

11:00 – 12:30

Health innovations for global Health security and urbanisation

Moderator: Barbara Castelnuovo

Innovations in KCCA (community refill and ART access) **Joanita Kigozi (IDI)**

Urbanisation and health **Dorothy Baziwe**

Innovations in Global Health Security **Mohammed Lamorde (IDI)**

Medicycles: Using micro-financed motorcycle taxis and cost-sharing to ensure continuity of care in difficult-to-reach areas

Kevin Gibbons (Health Access Connect)

Opportunities for applications and innovations

Moderator: Michael Niyitegeka/Agnes Kiragga

MY cpdz Zimbabwe- Admore Jokwiro (**Zimbabwe Telemedicine Network**)

A College without walls – ECSACOP's Virtual Learning Environment"- (**ECSACOP**)

MDR TB hearing loss app **Charles Batte (Wulira)**

Rapid Interoperability and Big Data Analytics for Health- (**Zenysis**)

A Pap-smear Automated Analysis Tool for Diagnosis and Classification of Cervical Cancer - **Wasswa William (MUST)**

The PRISM project (Moses Kamya)
H3N project (Moses Joloba)

Education and Other Training Resources-Moderator: Daudi Jingo

Skills and Infrastructure development for Bioinformatics Daudi Jingo (**IDI/ Makerere University**)

ACE Mali-An overview- **Aoua Coulibaly**

The Bioinformatics Resources Centers – **Ishwar Chandramouliswaran (NIAID)**

EuPathDB.org & ClinEpiDB.org- Free Web Resources for Research and Education-**Jessica Kissinger (University of Georgia)**

13:00-14:00

Lunch break

Appy Hour: Demonstration of apps

14:00-15:00

Celebrating achievements, learning from challenges

Moderator: Mohamed Larmodé/ Data Santarino

- Bloodless Malaria App - **Brian Gitta (Matibabu)**
- MedTech: Pitfalls to avoid, WinSenga - **Joshua Okello (Andela Uganda)**
- Call For Life, IVR and patient care- **Agnes Bwanika (IDI)**

15:00-17:00

Moderator: Rosalind Parkes-Ratanshi

Address from Andela CTO- **David Blair**

Presentation from Hackathon teams

Prize giving to Hackathon winner – **David Blair (Andela)**

Best abstract and award giving **Clarke Group**

Handover of artwork - **Rolands Tibirusya**

16:30-17:00

Networking - Arts session - HIV Exhibition and Painting Session

FEATURED SPEAKERS



ANDREW KAMBUGU

The Executive Director of IDI, Andrew Kambugu has previously been the Head of IDI's Research Program at Makerere University, College of Health Sciences (MakCHS). Kambugu – an adjunct Assoc. Prof. at the University of Minnesota, USA, is an honorary Senior Lecturer in the Dept. of Medicine MakCHS. He is a medical doctor with a Masters in Internal Medicine – both from Makerere University. He also has specialist training in infectious diseases from the Universities of Utah and Manitoba; and is a Fellow of the Royal College of Physicians, UK.



MIKE TARTAKOVSKY

Michael Tartakovsky is the Chief Information Officer and Director of the Office of Cyber Infrastructure and Computational Biology (OCICB) for the National Institute of Allergy and Infectious Diseases (NIAID), National Institutes of Health (NIH). In these roles he provides strategic leadership and technical direction for information and information technologies initiatives to support and enable NIAID biomedical research mission. Since 2003, Mr Tartakovsky has led his office in delivering to NIAID state-of-the-art Scientific Computing Infrastructure, Custom Software Applications, Bioinformatics tools, and Data Analytics.



DAVID BLAIR

David is the Chief Technology Officer at Andela, responsible for setting technical product strategy and driving execution on its delivery. In his role, he leads technology product, and engineering. Prior to Andela, David led product at Sonian and LogMeIn where he drove product strategy, engineering, and delivery of a portfolio of SaaS applications for SMB IT Professionals. The products he managed are used for remote access, computer management, hosted VPN, data backup, file sync & share, cloud app monitoring, and mobile remote access.



ELLY KATABIRA

Elly is the co-founder of The AIDS Support Organization (TASO), where he has served as Medical Advisor since 1987. He is a retired professor of internal medicine and served on the faculty of medicine at Makerere University. Katabira is the co-chair of the advisory board of The Ugandan Academy and has been working in the field of HIV as a clinician, an educator and a researcher since the 1980s. He has worked with a number of organizations including WHO and UNAIDS. His research interests are in clinical trials, operational research and ART implementation studies and published over 150 papers in peer-reviewed journals and over 250 abstracts at international conferences



ROSALIND P. RATANSI

Rosalind, the director of The Ugandan Academy is a clinical academic with a research interest in sustaining HIV and STI care using innovation in Africa. She trained as a Clinical Lecturer in Genito-urinary Medicine at St Mary's Hospital, Imperial College, London and holds an Honorary Contract at Cambridge University Foundation Hospital. She has over 13 years' experience working in Uganda and completed her PhD from the Liverpool School of Tropical Medicine in the prevention of cryptococcal disease in HIV positive Ugandan adults in 2009.



MARIAM QUIÑONES

Quiñones currently serves as Head of the Science Support Section in the Bioinformatics and Computational Biosciences Branch, Office of Cyber Infrastructure and Computational Biology at the National Institute of Allergy and Infectious Diseases. For over 12 years, she has collaborated with many researchers providing them with expertise and solutions in genomics and NGS data analysis and has contributed to the development of resources for genomics and microbiome research. Prior to joining NIH, she conducted doctoral research under the guidance of Dr Matthew K. Waldor in the areas of microbiology and infectious diseases which produced several scientific publications.



ALEX MUGANZI

Alex Muganzi is the head of the outreach programme at IDI and he also represents Africa on the International AIDS Society (IAS) Governing Council (GC)/board both as a GC member as well as representing Africa region on the IAS executive Committee. He is also a member of the Finance Sub Committee of the IAS.

He has also represented the IAS on the ICASA (International Conference on HIV/AIDS and STIs in Africa) international conference Steering committee for both ICASA 2011 and ICASA 2013.

ISHWAR

CHANDRAMOULISWARAN

Ishwar is a Bioinformatics Program Officer leading the efforts in NIAID's Office of Data Science & Emerging Technologies. His focus is to coordinate and develop innovative programs supporting open and collaborative team science to accelerate research in the allergy and infectious diseases informatics/data science community. Ishwar is one of the authors of the landmark Science publication on the sequence of the human genome and holds patents in gene discovery. His career has spanned from basic scientific research in genome sequence analysis to genomic product development and related services.



FEATURED SPEAKERS



KWAME RUGUNDA

Kwame is a technology entrepreneur with an interest in emerging technologies, particular those designed to address the challenges of global development. An Electrical Engineer and Mathematician by training, he worked in telecommunications, broadcasting and civic technology, and has consulted for governments, the United Nations and several private and non-profit organizations throughout East Africa. Had an early exposure to the 4th industrial revolution due to interest in technology and innovation, with a particular interest in blockchain and its application.



CISSY KITYO

Cissy is a Ugandan physician, epidemiologist, and medical researcher. She is the Executive Director of the Joint Clinical Research Centre, a government-owned medical research institution in Uganda, specializing in HIV/AIDS treatment and management. She also sits on the advisory board of the Ugandan Academy at IDI. She is among the pioneers of Antiretroviral Therapy (ART) use in sub-Saharan Africa. She has been one of the proponents and movers of scaling up treatment in Uganda. She is part of the team that planned and wrote Uganda's first strategic plan for a national ARV policy and program to increase access to care and ARVs.



IAN CLARKE

Ian Clarke is a physician, entrepreneur, philanthropist, and politician in Uganda. He is the Chairman of the Ugandan Healthcare Federation, and a board member of the Private Sector Foundation Uganda. In 1996 he set up International Medical Centre which has since grown to the organization International Medical Group, the largest private healthcare organization in Uganda. He is the owner and Executive Chairman of Clarke Group, Ltd. which has interests in education, hospitality and agribusiness. He has extensive experience in establishing start-up businesses and growing them to a corporate level.



JOANITA KIGOZI

Joanita Kigozi is the Deputy Head, Outreach Department Infectious Diseases Institute. She is a physician and Infectious Diseases Specialist with over 10 years' experience implementing large scale HIV related Health Systems Strengthening Interventions in Uganda, at senior management level. She provides senior technical assistance, and program management oversight for CDC/PEPFAR funded programs that are implemented in nineteen districts across the country with over 300,000 patients in care. She is also the project Manager for the IDI - Kampala Region HIV project.



MICHAEL NIYITEGEKA

Michael is an Adjunct Lecturer with the ESAMI Business School and a Board member of, Uganda Youth Forum and AIESEC Uganda. He was a member of the ICT Technical Working Group of the Presidential Investor Round Table and is a member of several technology innovation review panels both locally and internationally. He is a Rotarian and is passionate about mentoring the next generation of technology business leaders. He has been listed among the thought leaders, influential people in the ICT Sector. At Clarke International University, School of Business and Applied Technology he is the Director of the Lift256 Tech Academy that working with young emerging software developers to become world class developers.



STEVE OLLIS

As Senior Digital Health Advisor, MCSP/JSI co-chair Global Digital Health Network Steve serves as Senior Digital Health Advisor for John Snow Inc. and for USAID's flagship Maternal and Child Survival Program. He is currently serving as co-chair of the Global Digital Health Network, a 3500+ member convening organization, dedicated to improving the sharing of best practices in digital health to ministries donors and implementing partners. He has served as COO developing digital health solutions to improve the quality of care provided by front line health workers. Steve has led the development and implementation of digital health solutions in 10 countries.



BRIAN WOODFALL

Woodfall is the senior director at Johnson & Johnson and vice president, Global Clinical Devt, Tibotec, Head of the medical dept. As a co-founder of Spectrum Health Care Ltd. in Vancouver, BC, he was instrumental in the conception, funding, implementation and day-to-day management of an integrated multi-disciplinary clinic dealing with HIV disease. In 2003, Brian joined the pharmaceutical industry at Tibotec, a Johnson & Johnson company specializing in the discovery and development of innovative HIV/AIDS drugs and superior anti-infectives for diseases of high unmet medical need.

PAULINE BYAKIKA

Byakika holds a Doctor of Philosophy (PhD) in Clinical Pharmacology obtained from the Trinity College Dublin, in Dublin, Ireland and her PhD thesis analyses the drug-to-drug interactions between antimalarials and Anti-retroviral drugs. She has concurrently taught at Makerere University College of Health Sciences, which uses Mulago Hospital as its teaching hospital. She has risen through the ranks, over the years, from research associate, assistant lecturer, lecturer, senior lecturer, to her current rank of Associate Professor, as of August 2018. She has also worked at the University's Infectious Diseases Institute.



FEATURED SPEAKERS



DARRELL E. HURT

Darrell E. Hurt leads the Bioinformatics and Computational Biosciences Branch as the Chief of a group of about 50 researchers and software developers in the Office of Cyber Infrastructure and Computational Biology at the National Institute of Allergy and Infectious Diseases. His scientific expertise includes molecular simulations and scientific 3D modeling. His graduate and postdoctoral work at Cornell University and elsewhere at NIH focused on X-ray crystallography. His doctoral work was recognized with the Pauling Award from the American Crystallographic Association and he is the author of several scientific research articles.



DANIEL VELTRI

Veltri is a Computational Genomics Specialist with Medical Science & Computing and a contractor with the Bioinformatics and Computational Biosciences Branch in the Office of Cyber Infrastructure and Computational Biology at the National Institute of Allergy and Infectious Diseases. His main research interest is on using machine learning to improve our understanding of genomic and proteomic data. His graduate work at George Mason University focused on the computational prediction of antimicrobial peptides and he has recently applied deep learning to build state-of-the-art classification models.



ANTHONY NDYANABO

Anthony Ndyababo is a graduate of statistical computing, with a Masters in computer science from Makerere University. He has immense data management experience having worked with the Rakai Health Sciences program for over 18 years. He has co-authored publications in HIV research. He is currently collaborating with the NIH OCIB on the construction of the datawarehouse project for RHSP to better manage and visualize data for analysis and publication.



AOUA COULIBALY

Aoua Coulibaly is the Bioinformatics Consultant in support of the African Center of Excellence (ACE) in Bioinformatics program and the International Center for Excellence in Research in Mali. She is currently a Ph.D. student in bioinformatics at the University of Cape Town under the Developing Excellence in Leadership and Genetic Training for Malaria Elimination in Sub-Saharan Africa (DELGEME) fellowship. The aim of Ms. Coulibaly's project is to develop new methods to discriminate the *P. falciparum* populations from West Africa.



MEGHAN MCCARTHY

Meghan McCarthy, M.S., Ph.D., is Program Lead for 3D Printing and Biovisualization in the Office of Cyber Infrastructure and Computational Biology at the National Institute of Allergy and Infectious Diseases (NIAID). Her work encompasses a range of projects related to development and adoption of 3D printing and VR/AR for bioscientific and medical applications, including enhanced 3D visualization of molecular models, medical imaging data, and large-scale, multidimensional datasets. In 2018, she led the launch of NIAID's Biovisualization Lab, a central resource providing VR/AR hardware and software, technical support, and scientific consultation to NIAID researchers and staff.



PHILLIP CRUZ

Phillip Cruz is a Computational Structural Biologist in the Bioinformatics and Computational Biosciences Branch within the Office of Cyber Infrastructure and Computational Biology at the National Institute of Allergy and Infectious Diseases. His graduate and postdoctoral work at the University of California, Irvine and University of California, Berkeley, respectively, applied the techniques of NMR spectroscopy to the three dimensional structural determination of biological molecules. His current interest is in using computational methods, including virtual and augmented reality, to study biomolecular structures and functions.



TIBIRUSYA ROLANDS

Tibirusya Rolands is an artist with diverse abilities and influences. A painter, Author of portraits and landscapes, an Innovator, Philanthropist and an Artist—visual advocate for change. A Graduate of BIFA (Bachelor of Industrials and fine arts CEDAT Makerere university, currently Global ambassador of the Great African Art Banner. Through his painting visually advocates for social change. Tibirusya hopes to transform mindsets, advocate for marginalized groups and bring about behavioral change in society.

In recent past received the prestigious Young Achiever Award in the category of Art, Fashion and Design with an outstanding impact of interactive art reach project to schools and communities across Africa.

STEVE GARROU

Steve Garrou, Enduvo, Chairman and CEO - 25-year career leading and growing global technology businesses, investing in and advising young companies and volunteering with children-centered organizations. Current and former executive positions include: Advisory Board Xaptum, Advisory Board Highland Ridge Capital (sold to Chicago Corporation), Industry Partner Hyde Park Angels, Former EVP Westcon-Comstor, and Former VP CenturyLink.





BRIAN TURABAGYE

SOLOMON KING

CHARLES BATTE

BRIAN GITTA

PHILIPPA N. MAKOBORE

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