

MUHAS CONDUCTS THE 7TH SCIENTIFIC CONFERENCE ADDRESSING HEALTH RESEARCH AND INNOVATION FOR SUSTAINABLE ECONOMIC DEVELOPMENT

Health Research and Innovation for Sustainable Economic Development

DATES: JUNE 27TH - 28TH, 2019 | VENUE: LT4 & LT5, MUHAS
DAR ES SALAAM - TANZANIA



The Permanent Secretary, Ministry of Education, Science and Technology, Dr. Leonard Akwilapo addressing participants during the official opening of the 7th MUHAS Scientific Conference at MUHAS

The Permanent Secretary, Dr. Leonard Akwilapo representing the Minister for the Ministry of Education, Science and Technology officiated the 7th MUHAS Scientific Conference held on the 27th - 28th June, 2019 at Muhimbili University of Health and Allied Sciences.

Speaking during the opening ceremony of the Conference, Dr. Akwilapo commended the management of the Muhimbili University of Health and Allied Sciences (MUHAS) for seeing the need of conducting annually these very important scientific conferences

and for being an institution that has made many significant contributions towards improving the health and lives of the Tanzanian population.

The Permanent Secretary further said that this is achieved through training of appropriately qualified human resource for health, providing quality public services in health issues, and conducting research that is responsive to the needs of the country and the society at large.

This year's conference, just like the previous ones, has drawn together scholars, young scientists, academicians, development partners, policy makers, and other

stakeholders from within and outside the country. The conference provided the opportunity for these scholars to discuss, share and exchange scientific knowledge with the aim of improving human health practices and hence foster the nation's socio-economic development.

Speaking from the government side, Dr. Akwilapo said "we are very glad knowing that this kind of knowledge exchange helps us in making informed decisions that can transform lives of millions of our people".

He further said that the Government

of Tanzania expects that research findings emanating from MUHAS and other research institutions and are disseminated in the MUHAS Annual Scientific Conferences will be translated into products and services that can be commercialized for the benefit of all Tanzanians.

Earlier on, the MUHAS Vice Chancellor, Prof. Andrea Pembe commented that research conducted at MUHAS address priority areas in line with the Tanzania's National Strategy for Growth and Reduction of Poverty (NSGRP) 2005, Tanzania Vision 2025, and global Sustainable Development Goals (SDGs) that oversee the countries' social-economic development.

"Currently our Research priority areas include: HIV and AIDS Tuberculosis, Malaria, Reproductive and Child Health, Non-Communicable Diseases, Injuries, Health Systems Research, Neglected Tropical diseases and Health Professions Education Research" He added.

The Vice Chancellor stated that in this conference, there is a total of 126 presentations to be given over two days. Out of these, 98 will be oral presentations and 38 will be presented as posters.



Participants following the PS speech during the official opening ceremony of the 7th MUHAS Scientific Conference.



Panellists discussing on the topic; From research to local and national impact, opportunities of Muhimbili institutions in shaping the national economic development. From right Prof. M. Janabi, Executive Director, JKCI; Dr. J. Mwaiselage, Executive Director, ORCI; Dr. R. Boniface, Executive Director, MOI; Dr. Edwiga Swai, MNH; Prof. Yunus Mgaya, Director General NIMR (Chairman) and Prof A.R. Kamuhabwa, DVC-ARC, MUHAS



A group photo with the Guest of Honour during the opening of the 7th MUHAS Scientific Conference at MUHAS.

He further commented that this year's conference, the organizing committee has pulled together the best minds in the country to discuss four important health issues of public health importance through satellite sessions. Prof. Pembe said there are four-satellite sessions which brought together scientists, implementing partners, ministerial senior officials, international organizations, and academicians to discuss and find some common grounds regarding translating evidence for practice, to untangle the complex health challenges in the country.

THE DEPUTY MINISTER FOR HEALTH INAUGURATES ANAESTHESIA AND CRITICAL CARE SIMULATION LABORATORY AT MUHAS



The Deputy Minister for Health, Community Development, Gender, Elderly and Children, Dr. Faustine Ndugulile, cuts the ribbon to inaugurate the Anaesthesia and Critical Care Simulation Laboratory

The Deputy Minister for Health, Community Development, Gender, Elderly and Children, Dr. Faustine Ndugulile inaugurated Anaesthesia and Critical Care Simulation Laboratory at the Muhimbili University of Health and Allied Sciences (MUHAS) on the World Health Day.

This state-of-the-art simulation laboratory will serve as a Centre of Excellence for students and health providers across Tanzania and the East Africa region—advancing the practice of anaesthesia and critical care and helping the Tanzanian Government deliver on its life-saving policies and investments.

According to the President of the Society of Anaesthesiologists of Tanzania (SATA), Dr. Mpoki Ulisubisya, the Simulation lab is a serious step in training of anaesthesiologists and nurse anaesthetists and equipping them with necessary skills to offer services to patients which has not been around in this country

before.

Addressing the participants, the Deputy Minister said that his ministry together with the President's Office for Regional Administration and Local Government have upgraded 304 health centers in the country to provide critical services such as comprehensive emergency obstetrics care and 67 district hospitals have been constructed.

These upgrades include the procurement of the Universal Anaesthesia Machine (UAM) from Gradian Health Systems—a TFDA-certified anaesthesia machine that can generate its own medical oxygen and work without electricity. To date, more than 200 UAMs have been procured and 160 have already been installed.

Dr. Ndugulile said that all these critical interventions that have been done, will only succeed depending on the availability of skilled workforce who have the

necessary knowledge and skills to provide these essential services. He therefore said that, the Simulation lab came at a good opportune time and commended Gradian Health System for investing on what he called a model of private public partnership.

Speaking earlier, the Deputy Permanent Secretary, Ministry of Education Science and Technology, Prof. James Mdoe, commended MUHAS and Gradian Health Systems for this achievement and said training of health professionals is one of the key priorities in his ministry's policies and program. Health providers need opportunities to practice core clinical competencies in a safe training facility so that they don't encounter unfamiliar scenarios for the first time in the real world, he added.

In his welcoming remarks, the MUHAS Vice Chancellor, Prof. Andrea Pembe said this event marks the beginning of an era



The MUHAS Head of Department of Anaesthesia, Dr. Edwin Lugazia explaining the functions of the Universal Anaesthesia Machine in the Simulation lab

of collaboration among national and international institutions in improving quality of training in health-related field. "This simulation lab is a high-fidelity world class in anaesthesia and critical care expected to expand to include training in other health fields including but not limited to surgery, obstetrics and gynaecology, diagnostic & interventional radiology and emergency medicine", he added.

Speaking in this event, the Chief Executive Officer of Gradian Health Systems, Mr. Stephen Rudo, said Gradian is a nonprofit company that create equipment for anaesthesia, critical care and invest in the community where they have been invited to serve.

Mr. Rudo said most of the equipment in the Simulation lab is from US and Europe but the core curriculum has been revised by the Tanzania lead team of anaesthesiologists. "It totally reflects the challenges that they see every day in providing care in rural settings and it has been accredited by MUHAS", he added.

In giving the vote of thanks, the Chief Medical Officer, Prof.

Mohammad Bakari Kambi said that this event has been a very special way of commemorating the World Health Day where the emphasis is on universal health coverage which can be achieved by improving the primary health care. "And the event today is towards improvement of primary health care", he added.

Prof. Kambi further thanked Gradian Health Systems and urged them to consider establishing a

plant for medical equipment at Mloganzila taking into account, the good relationship they have with MUHAS, the land that is available at Mloganzila and the huge market potential that is available in East and Southern Africa.

The simulation lab is a partnership between MUHAS and Gradian health systems to enhance capacity of Tanzania's anesthesia and critical care workforce in Tanzania and beyond.



A group photo with the Guest of Honour during the inauguration of Anaesthesia and Critical Care Simulation Laboratory at MUHAS.

MUHAS TO COLLABORATE WITH SUZA IN MD AND DDS TRAINING



MUHAS Vice Chancellor, Prof. Andrea Pembe and SUZA Vice Chancellor, Prof. Idris A. Rai signing Memorandum of Understanding during the signing ceremony at MUHAS

Muhimbili University of Health and Allied Sciences (MUHAS) signed Memorandum of understanding with State University of Zanzibar (SUZA) allowing SUZA to use MUHAS Doctor of Medicine (MD) and Doctor of Dental Surgery (DDS) curricula for teaching in their respective undergraduate medical and dental degree programmes.

Speaking during the signing ceremony the MUHAS Vice Chancellor, Prof. Andrea Pembe said that this curriculum implementation should base on building capacity where MUHAS staff will assist in initial implementation of the two curricula that will include orientation on how to use the curriculum. Prof Pembe further added that, to continuously build capacity at SUZA, MUHAS staff will at some stage move to SUZA to aid in a series of training starting from Basic Sciences and slowly moving to clinicals.

He urged the Dean of Schools of Medicine and Dentistry to provide the curriculum to SUZA representatives and to help them when they happen to face challenges during the implementation of the curricula.

The Vice Chancellor from SUZA, Prof. Idris A. Rai conveyed his appreciation to

MUHAS and said that SUZA is very happy to work together with MUHAS on the curriculum implementation and training of staff. He further added that SUZA will be happy working together not only in training but also in research and grant co-application to potential donors. In so doing, it is expected that the capacity for research and grant application at SUZA will be enhanced.

The signing of MoU between the two institutions will enable SUZA to shift from using the curriculum from a collaborator in CUBA that is currently in use to a home-based competence-based curriculum that was developed, used and owned by MUHAS.

The Memorandum of Understanding between these two universities was signed on 7th June, 2019 at Muhimbili University of Health and Allied Sciences.



Vice Chancellors of MUHAS and SUZA holding their Memorandum of understanding after signing ceremony at MUHAS.

MUHAS SIGNS MOU WITH FUDAN UNIVERSITY IN SHANGHAI



The MUHAS DVC-ARC Prof. Appolinary Kamuhabwa (left) shakes hand with President of Fudan University, Prof. XU Ningsheng (right) after signing MOU.

Muhimbili University of Health and Allied Sciences (MUHAS) has established cooperative relations with Fudan University of Shanghai, China to develop academic and cultural interchange through mutual assistance in the area of education and research.

The Memorandum of Understanding (MOU) between these two universities was signed by the President of Fudan University, Prof. XU Ningsheng and MUHAS Deputy Vice Chancellor - Academic, Research and Consultancy, Prof. Appolinary Kamuhabwa on 31st May, 2019 in Shanghai, China.

In this MOU, MUHAS and Fudan University aim to develop activities in academic areas of mutual interest, on the basis of equality and reciprocity. These activities include the establishment of a Fudan-Africa Global Health Joint Center; research collaboration

and/or joint research projects; and promotion of academic faculty visits.

Other activities are organization of lectures and/or symposia; cooperation in education for undergraduate and master students; and the establishment of a formal student exchange agreement, including short-

term academic programs such as summer / winter programs.

Other members who represented MUHAS during the signing ceremony were the Dean, School of Public Health and Social Sciences, Dr. Rose Mpembeni and the Director of Research and Publication, Dr. Bruno Sunguya.



A group photo after the signing ceremony

MUHAS STUDENTS CONDUCT THE 1st STUDENT-LED SYMPOSIUM FOR DEBATE

Castory Munishi, BPharm3



The Guest of Honour in a group picture with panellists, moderator, sponsors and representative of the organizing committee.

Muhimbili University Students' Symposium for Debate (MUSSD), is a student-led symposium that has been initiated with the aim of raising awareness among health professionals, particularly students on topical health issues. This year the symposium focussed on the theme **'Deployment of Artificial Intelligence and related technologies in Tanzania Healthcare'** and it was held on the 24th April 2019 at Muhimbili campus.,

The Symposium was officially opened by the Deputy Vice-Chancellor – Academic Research and Consultancy, Prof. Kamuhabwa who outlined the importance of digital health technology in addressing the healthcare challenges and the role of Artificial Intelligence in that matter. Furthermore, he emphasized the significance of data in ICT for healthcare provision.

The keynote speech was delivered by Frank E Arabi, who defined artificial intelligence and highlighted on its advancements and establishment in Africa. He explained the daily applications of AI and its uses in healthcare, methods of adaptations,

as well as the pros and cons that accompany it. His conclusion touched on the focus areas of the debate.

In this Symposium, there were two main sessions. The first was a debate session with the motion 'Could AI be the answer to Healthcare



Chief Judge Dr Diana Faini announcing the results of the debate



Attentive Audience at the Muhimbili Students Symposium for Debate.

challenges?’ which was moderated by Dr. Asha Billan. The affirming team composed of Mansweat Christian (HKMU), Furaha Benedict (UDSM) and Heavenlight Chitemo (MUHAS). The opposing team, consisting of Sales Nicco (MUHAS), Innocent Goodluck (HKMU) and Fatma Omar (SUZA).

The second session of the symposium was made of presentations of stakeholders already working with Artificial Intelligence. The first presentation was from eShangazi a chatbot that is on several digital applications like facebook messenger and telegram which provides reproductive health education among adolescents and youth in Tanzania.

The second presentation was also about a chatbot that is on the Daktari Mkononi website a platform that is fully owned by Muhimbili University students which provides health education in Kiwahili to Tanzanians. The last presentation for this session was about Dr. Elsa which is an AI-powered health assistant that supports health providers through decision support, next steps recommendations, and disease outbreak prediction.

The last session, moderated by Haikaeli Gilliard, was a panel

discussion focusing on the symposium’s theme. Martha Mshaka, a computer science lecturer from the University of Dodoma (UDOM), discussed an ongoing program at UDOM in partnership with the Benjamin Mkapa Hospital that uses AI to integrate MRDT and Microscopy for Malaria Diagnosis. Dr. Fabian Mwombeki, a doctor and data scientist from Savanna Informatics, spoke on using AI to augment rather than replace the skills of healthcare professionals.

Agapiti Manday, co-founder and director of research and innovation at DLabs addressed the challenges artificial intelligence faces including poor quality, untimely and incomplete data. He also analyzed available solutions such as realizing data, proper data governance and creation of favorable data policies as well as training people capable of handling data. Jumanne Mtambalike, CEO at Ventures Sahara, redefined artificial intelligence as Augmented Intelligence and emphasized on its ability to increase efficiency rather than replace health personnel altogether. He then spoke on the opportunities present for medical students in augmenting AI in rural health research.

AI’s potential in Academia was discussed by Dr. Bruno Sunguya, Director of Research and Publications at MUHAS. He pointed out that the change in disease patterns demands a change in medical students training. The integration of innovations would be required to create solutions. He challenged the faculty to provide students with platforms such as data labs, infrastructure, and proper policies to guide the ethical conduct of data and technology. He also stated out that his office will be ready to support innovative solutions and techniques in improving Tanzanians’ health and academic training.

The symposium ended with an award session for all debaters. Heavenlight Chitemo (MUHAS) emerged as the winner of the debate. They were awarded by the organizing committee as well as INFINIX company.

Prof. Eligius Lyamuya, the former DVC ARC concluded the debate by thanking debaters, panelists and everyone for participating in the 1st student-led symposium. He commended the organizing team for having the idea of a university debate. Lastly, he urged students to make it an annual event.

THE 13TH WIN AND LEARN UNIVERSITY ACADEMIC EVENT

By: Victor Ruzibukya, MD4



From the left is Dr S. Likindikoki (Judge), Prof B.S Lembariti (Patron), Prof Mohammed Sheikh (Guest of Honour), Prof E. Lyamuya (Chief Judge), Victor Ruzibukya (Chairperson organizing committee) and Dr Doreen Mloka (Judge) together with the Organizing committee members during the opening ceremony of the 13th Win and Learn Event 2019.

The Win and Learn is an academic event that takes place annually at the Muhimbili University of Health and Allied Sciences (MUHAS) with the aim of recognizing, valuing and promoting the works done by students from different health fields during their studies in the various health Universities /Colleges in the country.

This event has taken place annually for the past 12 years consecutively and this year was the 13th year. The event took place successfully on 22nd June, 2019. There were 55 presenters from MUHAS, KIUT, SJUIT, UDSM-MCHAS and HKMU who presented their works in Research category, Poster presentation, Pictorial Presentation, School recognition category, Influential category and Health Innovation Category with around 300 participants.

The 13th Win and Learn Academic event was officially opened by Prof Mohammed Sheikh, Acting Director of Research Coordination and Promotion from Tanzania Commission for Science and Technology (COSTECH). He was inspired by the event as it gathers students from their different disciplines with different academic objectives for a common goal of solving the nation's health problems.

In his speech, Prof. Sheikh acknowledged the work done by the

students in organizing the event, the patron, Prof. Bakari Lembariti and the University for guidance and support. Furthermore, The Acting Director said that COSTECH will continue to support these events and be part in promoting research and innovation in our country.

The winners of this year's event as per different categories were Moshi Moshi Shaban (UDSM-MCHAS) for research; Dr. Nakiganda Mkasa (Agha Khan) for paper of interest; Heaven Chitemo (MUHAS) for case presentation; Heaven Chitemo (MUHAS) for poster presentation; Seif Alute (MUHAS) for pictorial presentation; Mbwana Mohammed

(MUHAS) for health influential and James Magoma (St. Joseph) for innovation.

Furthermore, Also there was a category of School recognition from different Schools at MUHAS in which Juma Issa won for the School of Medicine; Mary Spicar Kilapilo, from the School of Pharmacy; Raban Rutta Mpinzile from the School of Nursing; Maua Sima from School of Public Health and Social Sciences and Salles Nicco from the School of Dentistry.

The event was closed by the MUHAS Deputy Vice Chancellor - Academic, Research and Consultancy, Prof. Appolinary Kamuhabwa, on behalf of the Vice-Chancellor. The DV-ARC acknowledged the organizing committee for their commitment in organizing the event and the patron for being consistent and providing good guidance for making the event successful. He also acknowledged the support from MUHAS, MNH, MOI, TFDA, APHFTA, SAVANNAH TECH Company, various academicians and clinicians.

In his speech, Prof. Kamuhabwa appreciated the attendance from other universities and participation from the postgraduates. He also assured that the University will continue to support this event. The Guest of Honor, officially closed the event followed by giving awards to the winners.



Speaking is Prof Lyamuya (Chief Judge) on his left is Prof Appolinary Kamuhabwa (DVC-ARC MUHAS and Guest of Honour) and on the right is Dr Ally Albeity (Judge) during closing ceremony of the 13th Win and Learn event and awards giving.

THE ACTING VC OFFICIATES TECHNICAL CONSULTATIONS ON THE OPERATIONALIZATION OF THE INTELLECTUAL PROPERTY UNIT AT MUHAS

The Acting MUHAS Vice Chancellor, Prof. David Urassa officiated the opening of a two-day Technical Consultations on the Operationalization of the Intellectual Property Unit on 23rd May, 2019 at Muhimbili University of Health and Allied Sciences (MUHAS).

Speaking at the meeting Prof. Urassa said that MUHAS generates a substantial amount of new knowledge each year through the wealth of research done by students, research fellows, faculty and visiting scientists. "These vast treasures of knowledge constitute the Intellectual Property (IP) output of our University", he added.

As a result, he said, it is important for the University to set defined policy and guidelines that will govern the processes of generation and dissemination of created knowledge for public use through technology transfer.

Prof. Urassa further said that in 2011, the University published its first Intellectual Property Policy and Guidelines and the document was later reviewed. It put forward contemporary recommendations regarding IP procedures at MUHAS. "We are now happy to initiate the operationalization of our Intellectual



The Acting VC, Prof. David Urassa officiating the Technical Consultations on the Operationalization of the Intellectual Property.

Property Unit (IPU)", he added.

Moreover, Acting Vice Chancellor appreciated the World Intellectual Property Organization (WIPO) for their support and the Directorate of Research and Publications for their commitment and dedication towards the success of IPU.

He also acknowledged the joint effort of WIPO, the Swedish Patent and Registration Office

(PRV) and Swedish International Development Cooperation Agency (SIDA) for supporting the Advanced International Training on Intellectual Property Rights in the Global Economy for the Least Developed Countries. "It is through the product of this collaboration, that today we have Dr. Nahya implementing this 'project for a change' which on our side is operationalization of our Intellectual Property Unit (IPU), at MUHAS" he added.

This workshop brought IP stakeholders from government, institutions of higher learning as well as other observers. It focused on the importance of intellectual property (IP) for University based interventions and innovations. The workshop also served as a platform for the promotion of University entrepreneurship, establishing standards for determining intellectual property (IP) ownership and the rights and obligations of the University with respect to inventions, discoveries and works created at the University. The workshop also focused on setting up of organizational structure through which intellectual property Unit (IPU) is identified, protected and made available to the public through business and for community development.



A group photo during the closing of the Technical Consultations on the Operationalization of the Intellectual Property

OHCEA EVALUATES DIPLOMA TUTORS IN COURSE DELIVERY

By: Dr. Deodatus Kakoko (MUHAS) and Dr. Claudius Luziga (SUA)



A group photo with the guest of honor after the closing ceremony

“Since the inauguration of One Health Central and Eastern Africa (OHCEA) in Tanzania on 17th October 2010, OHCEA has contributed significantly in developing One Health Workforce (OHW) capacity in the country. Initial efforts were on One Health (OH) capacity building and strengthening which focused at postgraduate and undergraduate levels. However, in 2016 OHCEA Tanzania added on board One Health Workforce training at diploma and certificate levels in Tanzania. This cadre constitutes the majority of the workforce working as first responders at grassroots level for the human, animal and environmental health sectors.

During the closing ceremony of a One-week training the Principal Investigators - Professors Japhet Killewo and Robinson Mdegela expressed that success in evaluation of tutors in course delivery is a result of some four steps by OHCEA-Tanzania which the professors narrated during the closing ceremony. They stated that the first step started by engaging OHCEA Universities as well as relevant ministries and authorities responsible for diploma training in Clinical Medicine, Environmental Health as well as Animal

Health and Production. The professors added that the second step involved the identification of technical and soft skills required for OH in certificate and diploma curricula.

Teams of experts that also consisted of education professionals from NACTE were formed and they went through certificate and diploma curricula and eye-marked the topics and sub-topics where OH contents could be incorporated. The professors also stated that during the third step, training was conducted for some tutors who teach Clinical Medicine, Environmental Health as well as Animal Health and Production at certificate and diploma levels. This training was conducted at the two OHCEA Universities in Tanzania namely Muhimbili University of Health and Allied Sciences (MUHAS) and Sokoine University of Agriculture (SUA) and generic OH topics were covered.

Following training of tutors, the last step was evaluation of tutors' skills and knowledge required in delivering OH concept and practices at diploma and certificate levels. This activity was carried out for six days involving a total of 213 students from Sokoine

University of Agriculture (SUA); Muhimbili Institute of Allied Health Sciences (IAHS); Mweka Wildlife; Pasiansi Wildlife; Kilosa Clinical Officers Training College (COTC); the Livestock Training Agency (LITA)-Morogoro and Public Health Nursing College (PHN)-Morogoro.

Tutors who were previously trained in OH concepts and practices at MUHAS and SUA were invited to facilitate sessions and conduct peer evaluation. The task to evaluate delivery was carried-out by a team of 11 persons from SUA, MUHAS, the Ministry of Agriculture, Livestock and Fisheries (MALF) as well as the Ministry of Health, Community Development, Gender, Elderly and Children (MoHCDGEC). Evaluators and tutors provided constructive feedback to individuals who had facilitated the sessions to diploma and certificate students.

Accordingly, evaluators were generally impressed with the competencies of tutors in delivering OH concepts and practices to diploma and certificate students. This was attested by the fact that there was incremental

change of knowledge on the side of students. Whereas the mean score during pre-test was twenty-three percent (23%), the post-test mean score was seventy-percent (73%). Besides, there were, however, areas that needed improvements in tutors' delivery of OH concepts and practices to diploma and certificate students.

The workshop was closed by the Director of the Disaster Management Department at the Prime Minister's Office Colonel Jimmy Mwatema. Importantly, he expressed that he was also happy to hear that this particular training evaluation was considered a “flagship” activity for Tanzania since it was a high impact activity for Tanzania. In his speech, the guest of honor urged tutors who had received training and who had participated in evaluation to be the catalyst to spearhead OH approach in the teaching of students at certificate and diploma levels. Tutors were also given a task of engaging fellow tutors to teach using the One Health approach. He finally awarded certificates to tutors and students who attended the training.



Students in classroom at SUA for post evaluation exercise

DEVELOPING ARTIFICIAL INTELLIGENCE BASED SOLUTIONS TO SOLVE HEALTHCARE CHALLENGES BY MUHAS STUDENTS

By: Castory Munishi, BPharm³

As a follow up of the 1st Muhimbili University Students Symposium for Debate (MUSSD) which took place on 24th April 2019 with the theme "Deployment of Artificial Intelligence and related technologies in Tanzania Healthcare," the 7th MUHAS Annual Scientific conference, witnessed students working with the DRP office at the Muhimbili University who organized the first hackathon on Artificial Intelligence and Machine Learning to equip students with skills to work and develop AI and ML solutions in healthcare.

The event took place at Buni Innovation Hub, Dar es Salaam, from June 15 to June 16 2019 for thirty hours continuously. It paired medical students, from Muhimbili University of Health and Allied Sciences, with computer science students from the University of Dar es Salaam to create innovative solutions for selected problems facing healthcare provision in Tanzania.

During the first day of the event, speeches by Davis David, CEO at PARROT AI; and Dr. Paschal Rugajo, a specialist medical doctor and trainer at Muhimbili National Hospital, described artificial intelligence and machine learning, explained on the existing relationship between AI and Healthcare and stressed on the importance of solution-based approaches.

A total of seven teams were created. They were allowed to work on previously drafted material or formulate new solutions during the hackathon itself. The teams then selected a problem, brainstormed questions and developed solutions with the help of the data scientists, medical personnel and



Dr Paschal Rugajo, Head of Department of Internal Medicine MUHAS, mentoring the teams who are idealizing to improve the national electronic medical record to make it a good data source for machine learning during a co-creation session of the hackathon

mentors. In the process, their work was demonstrated to mentors for input and guidance. Teams were equipped with skills in design thinking and prototyping.

The seven teams were trained on several aspects of developing an idea and turn it into an innovative solution. They were first trained on team building and design thinking by Emmanuel Senzighe from Sahara Sparks. Then, they were trained on the Lean Model Canvas by Abbey Sykes from Sahara Sparks. Emmanuel Senzighe chipped in again and trained the teams on pitching.

The seven pitches presented during a pitch war at the end of the 24-hour hackathon covered a wide range of issues affecting healthcare, including creating diagnostic tools for Common Mental Health Disorders, integrating AI based

e-prescription in the already present pharmacy systems, embedding AI into the current diagnostic systems present in Tanzania and developing an integrated, flexible e-National Medical Records system that can collect, organize and provide patient information.

Two teams were selected as winners to represent the other teams in the 7th MUHAS Scientific Conference. Team Polaroids created Philo as a mental health companion targeting distress patients. They were particularly focused on making it simple enough for the target population. The second winning Team Think Tank which is looking forward to create an AI powered efficient medical diagnosis tool.

These winning teams had a chance to present their ideas to stakeholders on the digital health satellite session at the 7th MUHAS Annual Scientific Conference which took place on June 28th, 2019. Their presentations were great and very interactive as the audience had a chance to ask questions and give views on how the teams can improve their ideas to move forward in order to make them a reality.

Digital solutions applications in healthcare are growing rapidly. The new generation of health care personnel needs to be well aware of these solutions and most importantly be part of the developers of these solutions as they are the ones who deeply understand healthcare. This is a great start for the university as it has started to prepare a way to have researchers and experts who will be approaching health challenges by using digital solutions. The future is exciting.



Steven Reuben, a computer science student from the University of Dar es Salaam pitching the idea of developing an Artificial Intelligence powered software for medical diagnosis.

MUHAS HOSTS IMPLEMENTATION SCIENCE AND MENTAL HEALTH EVIDENCE BASED INTERVENTION SHORT COURSE



Prof. Victor Mwasapa (standing), a facilitator from Malawi speaking during one of the sessions in SHARP training course.

The Muhimbili University of Health and Allied Health Sciences (MUHAS) hosted a Sub-Saharan African Regional Partnership (SHARP) short training course entitled: Implementation Science and Mental Health Evidence Based Interventions. The course was held from 24th to 28th of June, 2019.

SHARP is a partnership of MUHAS, University of North Carolina at Chapel Hill, USA, UNC Project-Malawi and Malawi College of Medicine, to implement a project titled, Sub-Saharan African Regional Partnership (SHARP) project for Mental Health Capacity Building.

Among other things, the project supports capacity building for Tanzanian policy makers, health planners and service providers in implementation science focusing on mental health and other co-morbidities. The SHARP Principal Investigator for MUHAS is Prof. Sylvia Kaaya.

This short course was facilitated by

Prof. Victor Mwasapa from Malawi, Dr. Doroth Mushy from MUHAS, Francis August from MUHAS, Kazione Kulisewa from University of Malawi, Mitch Matoga from University of Malawi, Christopher Alikiba from University of North Carolina USA, Germana Leyna from MUHAS and Prof. Sylvia Kaaya from

MUHAS.

The African Center in Public Health and Herbal Medicine (ACEPHM) in Malawi provided additional funding to support the participation of Malawian and Tanzanian researchers, policy makers and service providers.



Facilitators and participants of the Implementation Science and Mental Health Evidence Based Intervention Short Course

PLASTIC MOVEMENTS CONDUCTED IN JUNE BY BSc. ENVIRONMENTAL HEALTH STUDENTS

By: Edson Protas, BSc EHS 1



Beach clean up on JUNE 15 the main aim was to clean Coco beach where environmental health students attended under sponsoring of REDBULL, AFYA PAL and NIPE FAGIO.

Environmental health students from Muhimbili University of Health and Allied Sciences joined forces with other non-governmental organizations in supporting the nationwide plastic banning campaign since 1st June 2019. They volunteered themselves in supporting this movement by participating in the two events which include the plastic movement from Namanga to Coco beach via Kimweri road and Coco beach cleaning.

The event managed to give public awareness about plastics effects in public health and in the environment and emphasizing on the use of alternative carrier bags which are biodegradable and environmentally friendly as ordered by the government. This movement was successful

During this exercise more than 200 people got the messages about plastics through posters and songs that discouraged the use of plastic carrier bags. Many thanks

to NIPE FAGIO for their energy and effort in supporting this event.

The activity also involved beach cleaning at Coco beach as motivation to all Tanzanians to conserve the beach against plastic pollution so as to save marine life and promoting health of beach users. A total of 25

bags full of plastics bottles and marine debris were collected. This indicates how dirty the beach was thus hence the need to inspire people to change their habits of polluting the beach through reducing the flow of plastics on the beach. "Healthy environment creates a healthy human being"



Plastic movement on JUNE 1 where environmental health students joined forces with nipie fagio by peacefull movement from Namanga to Coco beach

SICKLE CELL DAY



The principal investigator of the Sickle Cell Programme, Prof. Julie Makani speaking on advances made by the sickle cell programme during the commemoration of Sickle Cell Day.



The Guest of Honor, Regional Medical Officer, Dr. Yudas Ndugile giving his speech during the commemoration of Sickle Cell Day.



Invited Sickle Cell patients and relatives listening to the introductory speech on commemoration of Sickle Cell Day



Members of the Sickle Cell Community listening the Guest of Honour's speech during the commemoration of sickle cell day

PROF. KARIM MANJI WINNER OF THE 2019 ROYAL COLLEGE OF PHYSICIANS' INTERNATIONAL AWARD FOR EXCELLENCE IN PATIENT CARE



Prof. Karim Manji being congratulated after receiving the Excellence in Patient Care Award

education, policy, clinical practice and research.

Prof. Manji was recognized for his significant contribution towards improvements in patient care and health outcomes in the country through Zinc therapeutic dose trial.

The University is proud of this achievement for Prof. Karim Manji, for MUHAS and the Nation as the whole. The MUHAS Management and Community congratulate Prof. Karim Manji for this well deserving award.

A Professor in Pediatrics from the Department of Pediatrics and Child Health at Muhimbili University of Health and Allied Sciences (MUHAS), Prof. Karim Manji, won the International Award of the Royal College of Physicians' (RCP's) Excellence in Patient Care Awards 2019.

The Royal College of Physicians' Excellence in Patient Care Awards aim to recognise, celebrate and promote the work that physicians do to improve patient care through



Prof. Karim Manji presenting his Excellence in Patient Care Award to the MUHAS Vice Chancellor Prof. Andrea Pembe after returning to the University from UK where he was awarded

Muhimbili University of Health and Allied Sciences
P.O.Box 65001, Dar es Salaam - Tanzania
General Line: +255 022 2150302-6, Direct Line: +255 022 2151596
E-mail: vc@muhan.tz, Web: www.muhas.ac.tz

Editorial Team

Prof. F. Kahabuka,
Dr. M. Mwangi,
Hellen Mtui
Neema Edwin