



# MMUST NEWS

A Weekly Digital Publication of Masinde Muliro University of Science and Technology

# Post

Vol.2 Issue 3: 27<sup>th</sup> January-2<sup>nd</sup> February 2019

## MMUST in the Dwell for Green Energy



**Inside: Feature Story on University Departments**

**UPCOMING EVENTS**



- Career Week
- National Youth Summit- February 2019



# Editorial



Dear MMUST Community,  
We keep on with our quest of highlighting events and activities taking place at the University. The Editorial Team's aim is to give a platform to showcase your skills, collaborations, researches, conferences and just about everything that is beneficial to the University. We continue to urge you to take advantage of this platform.

We are particularly grateful to the School of Natural Sciences (SONAS) for keeping us abreast with happenings in their School. Thank you also to individual staff who circulate these publications far and wide.

As always, let us tell our own stories.

**Nashilluh Brendah Kabindio**

**Chief Editor/Ag. Public Relations Officer**



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**Writer**



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**Writer**



**Simon Mwema**  
**Photography**

# MMUST Buildings to be Solar Energy Powered

**Mary Wangari Wambugu**

**O**n Tuesday 29<sup>th</sup> January 2019, Masinde Muliro University of Science and Technology signed a Memorandum of Understanding with Cleaner Future Oy, a company that is based in Finland. Cleaner Future Oy, is an organization dedicated to providing renewable solar energy system with reliability and superior power quality which reduces the cost of electricity and the use of fossil fuels.

This collaboration includes the first phase of a project towards saving energy in MMUST. This activity will start by powering the new Administration's block wholly, using solar energy, followed by other upcoming buildings in the future. This will significantly cut down electricity bills for the University in the medium to long term plan. The technology supplied by Cleaner Future Oy partners is cutting edge and a first in the world. Not only is the source of energy clean, but the energy their technology produces is also clean in the sense that it corrects harmonics and other noise introduced into the system by computers and other electronic equipment. A clean waveform directly results in significant savings and efficiency.

The group took an extensive tour of the new office building to get an in depth understanding of the installed electrical. This will enable the technical team come up with the least disruptive strategy for augmenting the building's system with smart solar power

The key areas of collaboration between the two institutions will be centred around; renewable power generation, electrical power quality improvement,

renewable energy storage implementation, creation of an innovative business model on installation and utilization of renewables, and added value via power quality enhancement, joint fundraising for installation and operation of a showcase solar energy system on selected MMUST buildings, research facilitation through data acquired from installed systems for post graduate students, training workshops for solar energy systems, demonstration facility for the installed system at MMUST, highlighting the great advantages of renewable (solar), in line with Kenya's Big 4 Agenda, and enhancement of international and local linkages in renewable energy research and utilization.

Mr. Joni Lepisto, the company's CEO, first visited MMUST on December 5<sup>th</sup> 2018 where he paid a courtesy call to the Vice Chancellor, Prof. Joseph Bosire and the Deputy Vice Chancellor Planning, Research and Innovation, Prof Egara Kabaji. Thereafter, a series of meetings and communication followed between the Cleaner Future's and a team that was led by the Chairperson of MMUST Greening Initiative, Dr James Owuor. The University's team comprised of; Dr. Catherine Aurah, the Director of International Relations and Academic Linkages, Dr. Ferdinand Nyongesa of Electrical and Communication Engineering Department, Dr. Consolata Ngala, the Associate Dean in the School of Postgraduate Studies and Mr. Patrick Imbalo of the Finance department.



## Program out to give Students International Professional Experience

### Mary Wangari Wambugu

Masinde Muliro University of Science and Technology hosted Ms. Julie Briand Robinson, Cooperation Attaché from the Embassy of France in Kenya, on Wednesday 30<sup>th</sup> January, 2019. The visit by the French official was mainly to strengthen bilateral agreements between Kenya and France through a program that was recently introduced to Kenya by the French Ministry of Education called *Assistants De Langue*, meaning language assistants. This program includes Kenyan Bachelors students who will be invited to teach English in primary and secondary schools in France for seven months, from October 2019. This Program was designed to give students the opportunity to discover a new region and culture by working alongside an English teacher in a French school environment. The program is neither aimed at experienced teachers nor whether students intend to become language teachers but it is a fantastic opportunity to gain seven months of international professional experience supported by the French Minister of Education. The program will be beneficial at the University as it touches on the Directorate of TVET, Career Services, the School of Open Learning and Continuing Education (SOLACE), and the Department of Language and Literature Education. MMUST, being a TVET University, offers about 36 short courses, French being one of them. French has also been incorporated in other long-term courses such as Journalism,

Engineering, Criminology, Disaster Management, among others. This incorporation serves as an added advantage to students who may go to international levels. Collaboration between MMUST and the French Embassy, through French programs, started in November 2009. The collaboration was later reinforced by the visit of the then Ambassador of France to Kenya, Her Excellency, Elisabeth Barbier in 2010. The French Embassy has been very supportive to MMUST mainly through scholarships to French lecturers and students, academic trips, trainings and workshops.

An international campaign, under the Assistants de Langue program, was started to recruit at least 70 Kenyan students for the positions. The deadline for students' applications is on Monday 11, 2019 and applications must be done online through <http://www.ciep.fr>. As from 2020, assistants of French language will also be invited to teach French in Kenyan schools.

The Attaché was received by; Prof. Joseph Bosire, the acting Vice Chancellor, Dr. Catherine Aurah, the Director of International Relations and Academic Linkages, Dr. Samuel Waweru, the Director, TVET, Dr. Teresa Okoth, the Director, Career Services, Ms. Rose Auma, the Chairperson, Department of Language and Literature Education and Prof. Muteba Kazadi from the French Department.

# Feature Story: University Departments

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### BIOLOGICAL SCIENCES DEPARTMENT

## WORKSHOP TACKLES NEW APPROACHES OF MONITORING AND COMBATING DRUG RESISTANT INFECTIONS

By Sandra Dorcas Awuor

# A

A Workshop on harnessing Whole Genome Sequencing (WGS) to strengthen sub-typing and antibiotic resistance monitoring of *E.Coli* in developing countries was held at Masinde Muliro University of Science and Technology (MMUST) from 28<sup>th</sup> January to 1<sup>st</sup> February, 2019.

The Workshop brought together a team of researchers and scientists from partnering institutions such as Kenya Medical Research Institute (KEMRI), University of Pretoria, South Africa, University of Cambridge in the United Kingdom and University of Malawi. MMUST, through the Department of Biological Sciences', Dr. Anthony Sifuna and the Dean School of Natural Sciences (SONAS), Prof. William Shivoga, both emphasized on the immense advantage the Workshop would have in the development of a research and training consortium to support the detection and surveillance of antibiotic resistance and sub-typing of pathogenic bacteria, using molecular biology and bio-informatics based tools. The partnership will equip researchers with necessary skills for analyzing and interpretation of Whole Genome Sequencing (WGS) data. WGS has already shown the potential to unravel the complex epidemiology of infections, including sub-typing and emerging anti-microbial resistant

microbes. With the falling costs of WGS, the methodology has had a major impact on the understanding of the underlying epidemiology and pathogenicity of bacteria that are a threat to public health. This, therefore, allows for a much more specific linkage of isolates among human cases and environmental isolates to provide strong hypotheses concerning the source of illness and evolution of antibiotic resistance.

The Workshop tackled new approaches of monitoring and combating drug resistant infections, new software tool for drug resistance prediction in *Mycobacterium tuberculosis* using Next Generation Sequencing (NGS), working with NGS in early days and exploiting NGS data to generate new antibacterial, antibiotic resistance research in Kenya/East Africa, an overview of WGS applications in the South African region and working with selected *E.coli* genome on Artemis, UGENE and ACT.

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# Feature Story: University Departments

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At the end of the Workshop, the participants praised MMUST for successful organization and hosting of this first workshop of its kind in the region. It was decided that a Regional Hub of Bioinformatics will be established at MMUST in collaboration with the University of Cambridge (UK), University of Pretoria (SA), University of Malawi, Kenya Medical Research Institute (KEMRI). The Regional Hub will spearhead research, training and student exchange programs and development of Bioinformatics infrastructure at the University.

Other key areas of agreement identified include possible areas of research, that is,

research in enteric, water and sanitation, antimicrobial resistance and gene response to disease prevention. In addition, technology development of rapid bacterial analysis to reduce turnaround time in monitoring and early diagnosis would be explored to look at the possible application of Nanopore application, development of a concept on local challenges for possible research funding and development of a Google group/web-notice board/ portal by MMUST to host and deposit link in training and further mentoring.



The team of researchers when they paid a courtesy call to the Ag. Vice Chancellor, Prof. Joseph Bosire



Dr. Anthony Sifuna giving a presentation

***Focus on University Departments is a series of articles mainly dedicated to giving Departments at the University a platform and a voice to tell of their story and what they are doing to impact the society. We invite Departments to send to us their articles, accompanied with photos, in order to be featured in subsequent issues. Alternatively, the Editorial Team is available to visit your Departments for a comprehensive and guided take on your operations. Feel free to contact us via [pr@mmust.ac.ke](mailto:pr@mmust.ac.ke).***

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**KEYNOTE SPEAKERS**



**MR. TIM BERGMEIER**  
DIRECTOR IN-PLACE (ASIA)  
QUANTUMT  
Title : " Artificial Intelligence for Educators:  
Using technology to produce work  
ready Graduates "



**DATIN PADUKA IR. DR. SITI HAMISAH TAPSIR**  
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DEPARTMENT OF HIGHER EDUCATION  
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**BOOK OF ABSTRACTS:**  
ISBN: 978-955-3605-32-0

**CONFERENCE PROCEEDINGS:**  
DOI PREFIX: 10.17501/  
ISSN 2630-7413

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# KRU CHAMPIONSHIP



**MMUST**

**CUEA**

**KAKAMEGA SHOWGROUND**

**SATURDAY, 9<sup>TH</sup> FEB 2019 | 1600HRS**







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*Post*

A publication of Masinde Muliro  
University of Science and Technology

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