CEDAT
Newsletter
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# Vice Chancellor asks UCC to establish research fund, radio


*UCC Executive Director, Eng. Irene Kaggwa Ssewankambo, ICT Minister, Hon. Judith Nabakooba, Makerere Vice Chancellor, Prof. Barnabas Nawangwe, CEDAT Principal, Prof. Henry Alinaitwe and guests in group photo at the UCC Conference*

The Vice Chancellor Makerere University, Prof. Barnabas Nawangwe has urged the ICT minister, Hon. Judith Nabakooba and the Executive Director of Uganda Communications Commission, Irene Kaggwa Sewankambo to establish an ICT research fund to help improve the quality of ICT in the country.

Prof. Nawangwe was speaking at the opening of the two-day National communications Conference on March 3, 2021. The conference was opened by Hon. Judith Nabakooba.

The Vice chancellor said researchers are ready to partner with the government in innovations. “We have a formidable force of researchers at Makerere University who are willing to partner with government to conduct research to improve whatever you (government) are doing at a low cost,” he said.

Prof. Nawangwe said universities have researchers that the government can tap into at low costs, rather than hiring consultants from abroad.

The vice Chancellor also asked UCC to give the university licences for a television and radio.

Organized under the theme ‘Connectivity, Resilience and Innovation in the COVID-19 era’, the conference put focus on challenges and opportunities presented by the COVID-19 pandemic, the 4th industrial revolution, Artificial Intelligence, 5G cellular networks, internet of things among others things.

Prof. Nawangwe said the university would be able to pay for the licence of the radio that the university

previously had.

"There is a lot of bad news. Makerere can convey good news but we lost the license to our radio. If you can give us a TV license, we can propagate correct news against fake news. The two can be used to disseminate the massive research at Makerere, which hardly goes out to the public," he said.

Nawangwe's proposal for a research fund, saying it would be discussed at the ministry.

During the two-day conference, various research innovations were exhibited, some of which included Bulamu ventilators, Low-cost decontamination equipment of masks, A contactless machine learning based humanoid robot, an

research and innovation, particularly of locally relevant solutions through discipline-specific conference series in communications.

The Conference thus offers students, researchers, application developers, innovators and practitioners a platform to identify new research challenges, share solutions and discuss issues relevant to the


Minister Judith Nabakooba said the Covid-9 pandemic had increased the use of ICTs in the country but also noted that the misuse of social media had increased. She said the government was committed to putting ICTs at the centre of development. "Our desire is to see the whole country connected to ICT infrastructure; this market Uganda and make it competitive globally," Hon. Nabakooba said.

Both the Minister and UCC director Irene Kaggwa welcomed Prof.

interactive voice response (IVR) system for cancer awareness in Uganda and a Covid-19 key work spotter for Luganda Broadcast Radio, among others.

## About NCC

The National Conference on Communications (NCC) was established in October 2010, by the Uganda Communications Commission to among others, strengthen communications' communications sector of developing countries such as Uganda.

The NCC has been held five (05) times; in September 2011, 2012, 2014, 2016 and in October 2019. The Uganda Communications Commission was the main event sponsor for all the last NCC events.

The first two conferences were hosted by the College of Engineering Design Art and Technology (CEDAT), the third NCC, held in 2014 was hosted by Ndejje University, the

fourth NCC, held in 2016 was hosted by Mbarara University of Science and Technology (MUST) and the fifth NCC, held in October 2019 was once again hosted by the College of Engineering Design Art and Technology (CEDAT).

The Host academic institutions are competitively chosen after expression of interest.

The National Conference on Communication attracts over 500 participants annually consisting of students, researchers, academia, and industry players, among others.

# CEDAT celebrates her first class female students

In the month of March, when the world celebrates women, The College of Engineering, Design, Art and Technology also celebrated her female students who will be graduating with First Class Honors Degrees.

The college is very proud of these brilliant young ladies. We thank you for having made CEDAT your home for the last 4 years and wish you the best as you embark on your new journeys.

| Name | Course | CGPA |
|---|---|---|
| Owino Shelah Ruth | Quantity surveying | 4.67 |
| Masaba Agatha | Land Economics | 4.65 |
| Agudu Racheal | Land Economics | 4.63 |
| Najjuuko Claire | Telecommunication Eng. | 4.63 |
| Kirabo Edwina Mirembe | Industrial and Fine Arts | 4.60 |
| Tumwine Colette | Land Economics | 4.57 |
| Bayiga Sharon Natukunda | Industrial and Fine Arts | 4.57 |
| Nabacwa Veronica | Civil Engineering | 4.54 |
| Denise Kabateizi Atuhaire | Electrical Engineering | 4.54 |
| Coutinho Kayaga Gloria | Industrial and Fine Arts | 4.54 |
| Karungi Prunella . N | Quantity surveying | 4.43 |
| Nangoma Hidaya Nassali | Mechanical Engineering | 4.40 |

# Vice Chancellor launches recyclable-water hand-washing machine in response to Covid-19

The Vice Chancellor, Prof. Barnabas Nawangwe today March 4th, 2021 launched a new innovation and at the same time called upon researchers to increase their efforts to contribute to the development of the country and the communities they live in. Prof. Nawangwe was launching the recyclable water hand-washing machine, an innovation by Dr. Peter Olupot. Dr Olupot is a senior lecturer in the Department of Mechanical Engineering at the College of Engineering, Design, Art and Technology.

"Makerere University trains the best human resource in the country but we can not continue to be a teaching university only, we have to undertake research relevant to communities," Prof. Nawangwe said. Prof. Nawangwe commended the research team for the timely innovation which would help address the water challenge in many communities across the country. "There are many communities that use stagnant water. This innovation will address water challenges in these communities as well as busy areas such as markets," he said. In addition, he called on researchers to adopt a multidisciplinary approach to research for greater relevance and impact in society. In this way, he emphasized that research teams should include economists to ensure that such innovations are affordable and therefore readily commercialized whilst also contributing to Uganda's industrialization effort.

The innovation was funded under the Makerere University Research and Innovation Fund, which is annually allocated Ug Shs 30 billion by the government of Uganda. The fund's representative, Dr Robinah Kulabako thanked the government for its continued support towards research and innovation. Dr. Kulabako said over 500 research teams had benefited from the fund so far in the last two years.

> *"There are many communities that use stagnant water. This innovation will address water challenges in these communities "*

She said the research fund had taken Makerere University closer to the communities as "we propose ways to address diverse community challenges".

Because of the research fund, output and innovation has increased, which in turn has improved the ranking of the university as the 5th best in Africa, according to webometrics of 2020.

She congratulated the research team on their achievement and encouraged others to engage in research that aligns with the country's National Development Plan III.

The Principal, Prof. Henry Alinaitwe, congratulated Dr Olupot and his research team upon completion of the recyclable water hand-washing innovation prototype. He encouraged other researchers to follow their example.

### About the Machine

The hand washing innovation comprises an appropriate wastewater treatment system, integrated with a solar photovoltaic unit for powering the control system which, i) automates pumping of water to the different components, ii)


auto-releases the detergent, iii) supports the touchless function of a standalone handwashing station and iv) supports auto-audio guidance for handwashing. It is also equipped with a liquid soap auto-dispenser, tissue paper purveyor, and a bin for sanitization, hand drying, and for disposal of used tissue paper, respectively. The design of the treatment system was based on data and information gathered from hand washing facilities installed at selected public places in Kampala city. The selected treatment system was configured with judiciously selected particle sizes of silica sand, zeolite, and granular activated carbon as filtration and/or adsorption media, followed by its performance evaluation towards amelioration of turbidity, true colour, apparent colour, total suspended solids (TSS), total coliforms, and E.coli in the handwashing wastewater.

After running the handwashing wastewater through the configured treatment system, the treated water exhibited a turbidity of 5 FAU, true colour of 10 PtCo, apparent colour of 6 PtCo, and TSS of 9 mgL-1, translating to removal efficiencies of 98.5, 98.1, 99.7, and 96.9%, respectively. Total coliforms and E.coli were completely eliminated by disinfection using 0.5 mL NaOCl (3.5% w/v) per liter of treated water. The treated water thus meets WHO and UNICEF standards for handwashing purposes. This innovation provides a resilient solution for the provision of safe water particularly for water-stressed and public settings, thus helping to curb the spread of COVID-19 and other infections while also saving water.

### Why the machine?

Handwashing with soap and clean water is one of the most effective ways to prevent the spread of COVID-19. However, the handwashing practice still remains limited among some communities in Uganda where about 51 percent and 82 percent still lack access to safe water and improved sanitation facilities respectively. This scenario disproportionately affects the poor, refugees, and/or displaced persons in crowded settlements, exposing them to high risks of spreading COVID-19, as well as other illnesses. With the additional challenge of water scarcity among such communities, handwashing wastewater could be diverted from going down the drain, and instead treated for subsequent recycling.

# What you should know about CEDAT

All first year students of the College of Engineering, Design, Art and Technology were met by the College Administration yesterday 25th February 2021 at the CEDAT Conference Hall. The administration briefed them on various issues including the processes followed during registration, making payments and life on campus.

All freshers are encouraged to download the official briefing below:

Brief to Freshers 2021

# Using applied sculpture for HIV prevention and empowerment of young people in Uganda

Researchers have been called upon to increase awareness about HIV among the population. The call was made by Rtd. Maj. Rubaramira Ruranga, during the opening of Mr Robert Ssewanyana's art exhibition that sought to create HIV awareness and prevention in slum areas of Kampala. Maj. Rubaramira said the biggest reason for the increase in HIV is lack of knowledge and information by the population especially in the rural areas. The exhibition was attended by the Deputy Vice Chancellor (F&A) Dr. Josephine Nabukenya as well as organisations doing HIV treatment and rehabilitation.

Maj. Rubaramira said there was no reason as to why people should contract HIV even if raped. He pointed to the existence of post-exposure prophylaxis (PEP), an emergency treatment to prevent HIV after exposure. This treatment is given before 72 hours after exposure or rape.

The spread of HIV has been on the rise especially among the young people aged between 15 and 24 years. This has been due to lack of knowledge about HIV especially among the rural communities. In the urban centres, HIV increase has been attributed to a number of factors, including, poverty, illiteracy, ignorance, a thriving commercial sex industry and lack of knowledge of matters relating to the spread of HIV.

*Mr. Robert Ssewanyana*

To this end, Mr Robert Ssewanyana, an artist and lecturer at the Margaret Trowell School of Industrial and Fine Art set out to work with communities in an effort to create awareness and prevent the spread of HIV. He worked with communities of Bwaise, Ndeeba and Katwe.


*Some of the "HIV benches" on display in the exhibition*

Mr Ssewanyana, as part of his PhD research worked with various people in these communities to create art pieces that inform and educate people about HIV. The art pieces include 'HIV benches'. These benches can be used for both seating and HIV awareness for they carry messages on how to prevent the spread of the disease.

The exhibition also had art pieces depicting and HIV ward, bed, logos as well as a bicycle drawing attention to the Corona pandemic.

The Rtd. Major condemned people who hide the fact that they have HIV and end up infecting their partners. Through sharing his own story, Maj. Rabaramira said, he had never infected his wife despite having 6 children with her after he was diagnosed with HIV. This he attributed to having knowledge and information about the disease.

He challenged the researcher, Mr Ssewanyana to not only concentrate on urban areas but also take this information to the rule areas because there is stigma and trauma surrounding HIV. "The concentration in urban areas without going to the rural or from house to house will never stop the spread of HIV. We shall not stop the stigma without uniting people and talking to them," he said.

He called on all participants to focus on public health rather than medical treatment. He said, if we focus on public health then we can avoid catching disease and therefore will not require medical attention.

Major Ruranga added his voice to remind patients to learn how to take medicine, "one should learn how take medicine at the right time. Knowledge is power," he said.

The Dean of The Margaret Trowell School of Industrial and Fine Art welcomed and thanked everyone for coming to the research dissemination exhibition. He also thanked Major Rurangaranga Rubaramira for his commitment to fight HIV. He also thanked students, well-wishers and everyone for making the presentation a success.

# Professor, mentor, golfer, father and friend celebrated

## Prof. Kerali sent off in honor

Staff of Makerere University on February 23, 2021 honorably bid farewell to their fallen comrade Prof. Anthony G. Kerali. As if to mimic the elegant and flamboyant lifestyle that he lived, the academic staff led by the Vice Chancellor, donning their academic gowns, escorted the casket into the church.

Prof. Kerali was described by many as a simple, quiet and intelligent individual who performed exceptionally well in everything he did.

Prof. Nawangwe addressing mourners said, "We are sincerely grateful to God that Prof. Kerali was able to share his knowledge with thousands of students through teaching, mentoring, field work supervision and his day to-day life. He was a man who offered distinguished service to Makerere University and the country," the Vice Chancellor, Prof. Barnabas Nawangwe, said.

Prof. Kerali was described as a prolific writer who won research grants worth USD2 million. He was passionate about education, its transformative impact on society and an individual's upward mobility.

> ***"He was a man who offered distinguished service to Makerere University and the country"***

One of his Colleagues at the College of Engineering, Design, Art and Technology, Dr. Dans Naturinda shared his education journey with Prof. Kerali. "Dr Anthony Kerali was one of the lecturers who had to teach me in a one-man class; he taught me Strategic Management in Construction, one of the courses that shaped my outlook to inspire and influence the Ugandan construction industry," he said. Dr. Dans described Kerali as a good father-figure and professional.

Prof. Nawangwe eulogized Prof. Kerali as a resourceful person, developmental, dedicated and innovative academic who brought developed the Makerere University Academic Staff Association (MUASA) during his tenure as vice chairperson. The Principal of CEDAT, Prof. Henry Alinaitwe, described the deceased as a man of his word, one no known to mince his words. If he didn't agree with a decision made, he made it very clear why and offered alternative views, a thing the principal said helped him as a manager.

Prof. Alinaitwe and Dr. Nakazibwe laying wreath on the casket of Late Prof. Kerali

The Head of Department Construction Economics and

Management, Dr. Nathan Kibwami, where Prof. Kerali worked described him as an extra-ordinary member of the department. “He is the founder of the department, having been the driver and architect of the proposals leading to creating of this department in 2004, starting with three programs, 67 students, and a handful of staff. The department currently has over 30 permanent and temporary staff, and over 700 students,” Dr. Kibwami added.

*Prof. Alinaitwe and Dr. Nakazibwe lay a wreath in honor of the Late. Prof. Kerali*

“Prof. was deeply concerned with improving systems and the way things worked; he was very keen to innovate for any problem. He initiated and implemented a number of things during the (almost) 20 years that he has worked at CEDAT, and Makerere.”

Prof. Kerali is credited for having prepared the first ever time-bound Master plan for the optimization of space use at Makerere, worked with MUASA (vice chair) and spearheaded efforts for the significant increase in staff salaries (2004-2006). He also spearheaded the start of the Dept. of Construction Economics and Management.

As a consultant on various road projects, his contribution to the construction industry in Uganda was appreciated.

As an avid golfer Prof. Kerali supported the golfing fraternity, with sponsorships every time he could. The golfers honoured him by forming an arch using golf clubs to salute their former club captain.

## Work Record

Prof. Kerali joined Makerere University service in 1985 as a Senior Assistant Engineer shortly after graduating with a Bachelor of Science in Civil Engineering from this institution. Because of his hard work, in 1988 he was promoted to Estates and Works Engineer, a position he held until 2001. He then went on to pursue an MSc in Construction from Loughborough University as well as a PhD from the University of Warwick, both in the United Kingdom. After completing his PhD in 2002, he was transferred to the Faculty of Technology as a Lecturer in the Department of Civil and Environmental Engineering. It was during this time that he started the Construction Economics and Management Course where he went on to be the Head of Department. He served in this capacity from 2007 to 2009 and in 2010, he was promoted to the rank of Associate Professor.

Prof. Kerali was a highly qualified Professional Civil Engineer with extensive experience in teaching, research, administration and consultancy work spanning a period of 30 years. He also held several postgraduate qualifications including one in International Construction Management from Lund University in Sweden, and another in Heavy Construction Plant and Practical Training from the Construction Industry Training Board of England.

Prof. Kerali served on the Makerere University Senate from 2012, a duty he performed exceptionally well. Everything he did, he did with dedication and determination. He equally served as the Chairman of the University Infrastructure Committee and was an active Consultant with TECO consults – an Engineering Firm at the College of Engineering, Design, Art and Technology, as well as with various international firms.

Prof. Kerali was on Wednesday February 25, 2021 laid to rest at his ancestral home in Erussi, 25km south of Nebbi Town.

***You will be dearly missed. Rest in Peace Prof. Kerali.***