



MAKERERE UNIVERSITY

CEDAT

Newsletter

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**MAKERERE UNIVERSITY**

Leveraging 100 years of Excellence  
in Building a Transformed Society



## Fundis and Masons Trained



*The VC Prof. Barnabas Nawangwe inspects the stalls at the Event Opening Ceremony*

The Department of Architecture and Physical planning, College of Engineering Design, Art and Technology (CEDAT) convened a two-day training and awareness session for Masons and Fundis as a way of sharing scientific knowledge, ideas and new ways of construction drawing from the research experiences in the college

The event, the first of its kind attracted a number of stakeholders in the building industry that made an exhibition of the various building materials on the market. They included Uganda Clays Ltd, Hima Cement, Steel and Tube, The National Building Review Board, the National Physical Planning Board, Simba Cement and Kansai Palscon Paint.

The Vice Chancellor Makerere University Prof. Barnabas Nawangwe who is also an Architect by profession officiated the opening of the training on Thursday 9<sup>th</sup>-2-2022 in the CEDAT Conference room. He said the training was timely because Fundis and Masons handle most of the construction in Uganda following a construction boom since the 1990s. He observed that on most of the construction sites, there were no engineers or architects and therefore it was important that the frontline people in the building industry were equipped with extra skills. [Click here for details](#)





*Participants during the Nano Technology Training Workshop on 17<sup>th</sup> to 19<sup>th</sup> January 2022*

The College of Engineering, Design Art and Technology (CEDAT) with support from MakRIF from 17<sup>th</sup> to 19<sup>th</sup> January 2022 conducted a Nano Technology Training Workshop. It attracted a cross section of participants drawn from Telecommunication Engineering, Mechanical Engineering, Civil engineering, Bio chemistry, Plant sciences, Agricultural engineering, School of Chemistry as well as Environmental sciences.

The participants had varied expectations and they included learning what Nano technology was all about and how feasible it was for it to be applied in Uganda. Others wanted to know how to derive energy using nano technology, and to establish as to whether this technology was already in use in Uganda. Further, others wanted to know how to relate nano technology to mechanical engineering and how best nano technology could be used in individual projects. There was need to establish the morality aspects of nano technology.

Prof. John Baptist Kirabira, the MAPRONANO ACE centre leader and chair DoME-Mak described nano technology as a science, engineering and technology conducted at a nano scale. He said this technology had the potential of changing society through manipulation of objects on the atomic level leading to products that were stronger cheaper smarter cleaner and more precise.

While explaining the origins of nano technology, he said it concerned the use of materials in their smallest scales.' As you get the materials smaller, you can get a range of properties available, he explained'. He listed a number of products that included building products like cement, textile and fabric, marine products, cosmetics, electronics and computers, TVs, Batteries, which were smaller in size but longer lasting for example the solar cells in the solar panels.



Prof. John Baptist Kirabira,  
MAPRONANO ACE centre leader  
and chair DoME

## CEDAT Hosts the Uganda Institute of Professional Engineers (UIPE)



**Eng. Geoffrey Ogwang , VP UIPE (R) flanked by MES President Noah**

The Engineering Registration Board conducted an outreach to CEDAT where they rallied engineering students to register with the organization. Held on Friday 11<sup>th</sup> March 2022, the event took place in the CEDAT conference Hall and attracted a number of students who were urged to focus on ethics as they prepared to join the professional world. ‘Ethics is very important and should guide our activities in professional practice’ noted Eng. Geoffrey Ogwang, the Vice President of Uganda Institution of Professional Engineers (UIPE).

“As you enter the professional world, it is important to focus on ethical work .

Ethics are very important and they should guide our activities in professional practice.” he said adding that for one to practice professionally and legally as an Engineer, there was need to register with UIPE Uganda and ERB Uganda.

During the session, it was explained that engineering practice was when one was able to convert the knowledge gained in engineering school and the mentorship to solve problems in society.

It is essential for engineering students to register with the agencies and that this would allow them to take part in the activities arranged like seminars and trainings as they started their journey in practicing engineering.

The Uganda Institution of Professional Engineers (UIPE) has a mandate of promoting general advancement of the science and practice of engineering and its applications, and to facilitate the exchange of information and ideas on those subjects amongst the members of the Institution.

Registration of Engineers is a legal requirement for one to practice Engineering in Uganda, among other benefits is a sense of belonging to the Engineers’ “Club” which serve to protect the interest of members as well as promoting professionalism and competitiveness.



**CEDAT Students**



## The Worldwide Universities Network Executive Director Visit CEDAT



Prof. Peter Lennie in a discussions with CEDAT Management about possible areas of collaborative research

Prof. Peter Lennie, Executive Director World Wide Universities Network (WUN) on Monday 21<sup>st</sup> March 2022 visited the College of Engineering, Design, Art and Technology where he held discussions with the faculty about the possible areas of collaborative research through the network.



Prof. Peter Lenny

Prof. Peter Lenny, accompanied by Prof. John Mango from the College of Natural Sciences (CoNAS) the Makerere University WUN Coordinator was welcomed to the College by the Deputy Principal, Dr. Venny Nakazibwe. She gave a brief a

profile of CEDAT and noted that the College was multidisciplinary in nature and research alive in terms of networks and connections. She said CEDAT was comprised of both Arts and Sciences in addition to the engineering disciplines and informed the guests about the available centers of excellence that included the Materials, Products Development and Nanotechnology (Mapronano), The East African Centre of Excellence for Renewable Energy and Efficiency (EACREE) and the Culture and Heritage Research and conservation in the Arts.

During the discussions, a number of Heads of departments shared information about their research areas which could be the areas of collaboration with the Worldwide Universities Networks.

These included Public Private Partnerships in the green economy, responsive urban planning and designing, construction responsive to climate change, valuation of ecosystem services and the growing interest in the value of the ecosystem.

Prof. Peter Lennie, Executive Director World Wide Universities Network (WUN) noted that the network had diverse talent of members geographically, culturally and legally and that they could support the ongoing efforts through comparative research.



Prof. Peter Lenny addressing CEDAT management

## The School of the Built Environment gets a new Dean



Associate Prof. Musinguzi Moses handing over office to Prof. Anthony Gidudu

Associate Professor Anthony Gidudu was elected to the office of the Dean, School of the Built Environment in the College of Engineering, Design, Art and Technology. Dr. Anthony Gidudu who is from the School of Geomatics and Land Management garnered 38 votes while his contender Dr. Kenneth Ssemwogere from the School of Architecture and Physical Planning got 13 votes.

Associate Professor Anthony Gidudu replaces Prof. Moses Musinguzi whose term of office expired at the end of March 2022. According to The Principal Human resource Officer CEDAT, Ms. Josephine Apolot Opolot, the voting exercise conducted Wednesday 12<sup>th</sup> January 2022 in the Boardroom was peaceful, free and fair, with a high percentage turn up of 90% of the eligible voters, three of whom voted by proxy. The exercise was facilitated by Mr. Baguma Thomas, Principal Registrar and Personal Assistant to the Academic Registrar and was witnessed by agents of the two candidates as well as observers.

The Department of the Built Environment is comprised of three Schools namely Architecture and Physical

Planning, Geomatics and Land Management, as well as Construction Economics and Management.

Prof. Moses Musinguzi handed over to Dr. Anthony Gidudu on Monday 7<sup>th</sup> February 2022 during a ceremony held in the College Board room. In his hand over remarks, Prof. Moses Musinguzi extended his appreciation to the staff that accorded him the necessary support through his eight-year tenure. He highlighted some of the major responsibilities handled by the dean that included the coordination of teaching and learning, research, knowledge transfer and partnerships. He said the unit was in the final stages of approving a new program, Master of Science in Land Management, which was at the National Council for Higher Education and offered to make the necessary



The Principal CEDAT, Prof. Henry Alinaitwe giving guidance during the handover ceremony

The Principal, Prof. Henry Alinaitwe charged the incoming leader and the team to work towards realizing an increase in the number of graduate students graduating. He also observed that a number of programs in the college were reviewed and urged the incoming dean to ensure they got accredited in addition to the new program, Masters in Land Management.

The event was witnessed by the Deputy Principal, Dr. Venny Nakazibwe, Dr. Lydia Mazzi Kayondo, from Geomatics and Land Management, Dr. Kibwami Nathan from the School of Construction Economics and Management, as well as Dr. Amin Tamale Kiggundu from Architecture and Physical Planning and Ms. Apolot Opolot CEDAT HR officer.



## Strengthening Career services at Makerere University



The Ag. DVCFA and Principal College of Engineering, Design, Art and Technology (CEDAT)-Prof. Henry Alinaitwe (R) with stakeholders from his college at Kabira Country Club Bukoto

There is an urgent need to come up with policy guidelines and deliberate efforts by all stakeholders in ensuring that our students get career guidance.

During a meeting held to undertake self-appraisal as to what the University and respective Colleges were doing as far as career guidance was concerned, it was realized that although some activities were ongoing, these were adhoc. The meeting therefore, borrowing from the practices in the Mastercard Foundation Scholars program was aimed at generating ideas on strengthening career services. It brought on board over 70 participants who included Members of Management, College Principals, Deans of Schools, Heads of Departments, Directors of Units, College Principal Communications Officers and Web Administrators, Mastercard Foundation Scholars Program (MCFSP) staff, Counseling and Guidance Center (CGC) staff, as well as the Public Relations Office of the University.

## Freshers welcome and oriented into the CEDAT Family



***Orientation session for fresh men and women in the College Conference Hall Tuesday 1<sup>st</sup> February 2022***

Incoming students for a number of Programs in the College of Engineering, Design Art and technology (CEDAT) were advised to use their time at the University wisely and avoid engagements and networks that would ruin their future. While addressing the fresh men and women in the College Conference Hall Tuesday 1<sup>st</sup> February 2022, the Principal Prof. Henry Alinaitwe informed them that at university unlike in Secondary Schools, the students were expected to guide themselves and that they were expected to know where to go and what to do at all times.

He advised them to access time-tables, get to know the valuable websites and learn how to use the online teaching and

learning tools like MUELE and Zoom that would be handy in the course of their program. The Principal advised the students to start on their academics with zeal given that the grades at University are accumulated.

He urged them to be responsible, protect University property and equipment at their disposal as well as ensure that they kept management informed of their academic progress by reporting issues like missed lectures.



***The College Principal addressing the men and women in the College Conference Hall Tuesday 1<sup>st</sup> February 2022***



The Deputy Principal, Dr. Venny Nakazibwe informed the students that they were coming in at a time when Makerere University was celebrating 100 years and affirmed that their choice of coming to CEDAT was the beginning of their life changing journey with the academics as the main focus of business. ‘take your work seriously, avoid getting retakes focus on semester loads and make use of the best of the best lectures available in the respective disciplines in the country who are at your disposal’ she counselled.



***Dr. Venny Nakazibwe addressing new students in the College Conference Hall Tuesday 1<sup>st</sup> February 2022***

She said as students, the college expectations of them was to attend lectures, sit and pass exams, be responsible citizens that adhere to set rules and regulations. ‘You are representing the brand of Makerere University’ she said while emphasizing the need for the students to lead a modest lifestyle taking advantage of the freedoms at the University but conscious of their individual responsibilities as learners.



The orientation event was attended by a number of Deans and Heads of Departments that included the outgoing Dean School of the Built Environment, Prof. Moses Musinguzi as well as the incoming Dean Dr. Anthony Gidudu. Also in attendance was the Dean School of Engineering, Dr. Dorothy Kabagaju Okello and the team that included Prof. John Baptist Kirabira from Mechanical Engineering and Dr. Robinah Nakawunde Kulabako from Civil and Environmental Engineering.



***Heads of Departments at CEDAT***

In their address to the students as they introduced them to CEDAT Family, all speakers reminded them that they were the best of the best in the country and urged them to live up to the expectation of the College and the University as a whole. The students were encouraged to make use of the library services that had the best reference materials in the country as well as the best equipment in the various laboratories.

They were cautioned against the use of drugs and other substances which could derail them from their planned academic progress and loss of career. The representative of the Dean of MITSIFA Prof. Kizito Maria Kasule informed the students that their unit had the best Art Collection spanning a number of decades from which a wealth of experience would be derived. He said as students they were scholars in their own right and that the College was looking forward towards their contribution towards the world of knowledge.

Mr. Nsubuga Henry from Counselling and Guidance Centre, Makerere University advised the students to utilize the services availed by the University free of charge to address social, personal as well as academic stress related challenges.

## CEDAT Engineering Alumni win 77 million Uganda Shillings



*Internet Photo*

Former students of the College of Engineering, Design, Art and Technology (CEDAT) won 77 million Uganda Shillings to further grow their innovation. **Vepox Filter** is a social enterprise providing innovative clean drinking water solutions to households, schools and institutions by providing the most affordable durable household filter at USD 10 per unit.

Muyita Samuel, Ninsiima Julius, and Aturinda Marvin the founders of Vepox Filter won the prize following their participation in the UNICEF Uganda Innovation Fund Challenge where they emerged winners.

The UNICEF Innovation Fund Challenge that was launched in December 2020 seeks to support entrepreneurs, civil society organizations and startups in the creation of innovative solutions and ideas geared towards contributing to solving challenges faced by children and adolescents through social innovation.

Through a co-creation process with Outbox, UNICEF and mentors on education, WASH and child protection, the winners will further receive technical assistance for six months that will include mentorship, social business training, funding as well as linkages to strategic partnerships and market for further finetuning of their ideas and scale up to benefit the most vulnerable children.

Acting UNICEF Representative in Uganda, Ms. Laura Siegrist Fouche noted, "Innovating for children remains one of UNICEF's priorities globally and in Uganda. Today, more than ever, as we build back better after the COVID-19 pandemic which has posed new challenges for children, innovation is key."



*Internet Photo*



## PhD Defenses



Mr. Brian Makabayi, a Ph.D. Student in the Department of Geomatics and Land Management successfully defended his Ph.D during an event held in the CEDAT Conference Hall on Thursday 03rd March 2022. Thesis title: **Investigation of Ground Deformation Using InSAR and GNSS. A Case Study of Bududa District, Uganda.**



The Viva Voce examination for Ph.D. Candidate Sarah Nakisanze was held on Thursday 31<sup>st</sup> March 2022. Thesis title: **Social Sustainability and The Ugandan Haute Couture Visual Aesthetic: Articulating The Contemporary Value Of Past Tradition.**



Mr. Joseph Jjaggwe from CEDAT was one of the 10 Ph.D students selected following the first call for proposal of the 100 Ph.D's for Africa Program. He will undertake his study in “**Iron oxide based Nanocomposite bio-adsorbents for water treatment**”, and will be supervised by Prof. Peter Wilberforce Olupot, Senior Lecturer, Department of Mechanical Engineering, at CEDAT and the EPFL co-supervision of Prof. Sandro Carrara.

## Oriented into the School of the Built Environment



School of the Built Environment held a graduate orientation session at the CEDAT Conference hall on 14th February 2022

The School of Build Environment held a graduate orientation session at the CEDAT Conference Hall on the 12<sup>th</sup> of February 2022 to appraise the incoming students about the various aspects of the program.

The Deputy Principal CEDAT was represented at the event by the Dean Ass. Prof. Anthony Gidudu and was also attended by Heads of Departments, the School Registrar Mr. Kasuja Moses, The systems Administrator, Mr. HadadiKigozi and other administrative staff. These addressed the students on a number of issues deemed important for the successful completion of their program

The Dean advised the students advised to always share their knowledge and aim at adhering to the scheduled timelines. He asked them to start on the proposal writing early enough and to surround themselves with people who matter.



Similarly, the head of Department of Architecture and Physical Planning, Dr. Amin Kiggundu Tamale urged the students to take research with the seriousness it deserved and emphasized the fact that at Master's level,

research was so critical. While encouraging the students to work hard, Kigundu said that one could not graduate without passing both classwork and research.

The CEDAT Systems Administrator Mr. Hadadi-Kigozi addressed students about the ICT issues and emphasized that ICT was critical in their studies.



Mr. Hadadi Kigozi Standing addressing Students



Hand over by Ms. Ruth Namusisi and welcome on Ms. Mutinye Oliver, outgoing and incoming Administrative Secretaries



The Principal CEDAT Prof. Henry Alinatwe (1st R-L) and Deputy Principal Dr. Venny Nakazibwe (2nd L) witnessed the hand over and welcome of the Administrative secretaries in the Principal's office

CEDAT Healthy Day

CEDAT held a Health day on the 15th of March 2022. The event was organised by the student leaders and the cedat community benefitted from services that included eye check up, blood donation, mental health counselling, Covid-19 tests and vaccination





## Pictorial





### Ongoing Research at Mapronano

1. The Role of nanoparticles and Bacteriaophages in Preventing Emergence and Transmission of Carbapenem Resistant Enterobacteriaceae; by Kenneth Ssekatawa.
2. Synthesis and Characterization of Carbon Nano-Materials Using Catalytic Decomposition of Selected Plastic Wastes; by Kigozi Moses.
3. Design and Fabrication of Chemical Sensor Based on Molecularly Imprinted Conducting Polymers Composite Nanomaterials For Aflatoxins Monitoring in Consumable Products; by Meikamu Biyana.
4. Development of a Novel Based Nano fertilizer for improving productivity of poor soils in Uganda; by Ms. Nabyonga Lydia.
5. Nano- water Filters for Provision of safe Drinking water in Developing Countries; by Wangi Godfrey.
6. Effect of Dodonaea ViscoseVar. Angustifolia (DVA) Derived Flavone Stabilized Nanoparticles on Growth and Pathogenicity of Candida Albicans; by Akudi Obi.
7. Iron Oxide Nano Particles as Positive MRI Contrast Agents; by Ayor Semakula Andrew.
8. Development of An Improved Bioactive Gauze Dressing Using Herb Loaded Nanoparticles to Facilitate Wound Healing; by Catherine Namugga.
9. Optimization of the Electrical Resistivity of Magnetron Sputtered Aluminium and Barium Co-doped Zinc Oxide Thin Films for Solar Cells; by Eneku John Paul.
10. Effects of Selected Aggressive Ion on Alkali Active Geopolymer As Alternative Cement Made from Coconut Shell Ash; by Festus Musyimi.
11. Modification of Cathode with Molecularly Wired Metallic Nanoparticles for Enhancing Light Trapping Efficiency of Polymer Solar Cells; by Galena Jebessa.
12. Formulation of HDL Albendazole Nanoparticles for the Management of Cancer; by Robert Cherogony.
13. MRI aided Nanoparticles Drug Release in Leukaemia Treatment; by Henry Kiwumulo
14. Production of Activated Carbon From Cassava Peels for Industrial Waste Water Treatment in Uganda; by Kayiwa Ronald.

### Development of Applied Research at MAPRONANO

- ♦ Low cost rapid antigen based test kit for detection of active COVID -19 in Saliva in 5-10 minutes.
- ♦ An Antibody based ELISA assay for detecting antibodies to SARS-CoV-2 in patients.
- ♦ Evaluation of nanoscale materials as candidate adjuvants and delivery systems for SARS CoV-2 sub unit vaccine.
- ♦ Developed low cost hand sanitizer as a prevention measure for COVID 19.
- ♦ Bioactive nano-coated masks with antimicrobial activity.
- ♦ Paramagnetic nanoparticles for extraction of nucleic acids.
- ♦ Green synthesis of graphene from coffee husks and other agro wastes for energy storage applications.
- ♦ Graphene-based Bathroom agro- waste (coffee husks, bagasse) by Ivan Lubwama