



MAKERERE UNIVERSITY

# COLLEGE OF ENGINEERING, DESIGN, ART AND TECHNOLOGY

GEDAT

# NEWSLETTER

January - March Edition 2026



## Uganda Launches National AI Research Cloud at Makerere University

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## Word from the Principal



**Prof. Moses Musinguzi**  
Principal, College of Engineering,  
Design, Art and Technology  
(CEDAT)

Welcome to this issue of the CEDAT Newsletter for the period January to March 2026. The College of Engineering, Design, Art and Technology (CEDAT) at Makerere University continues to take lead in the efforts towards teaching and learning, Research and Innovation as well as outreaches as prescribed in the Makerere University Strategy.

For more than 50 years, the college has continued to grow into a center of excellence dedicated to nurturing professionals to contribute to sustainable development,

technological advancement and national transformation. Through the various programs we offer, our purpose is to turn challenges opportunities for prosperity and progress.

This newsletter highlights some of our recent achievements and initiatives in this endeavor. I wish to acknowledge everyone's contribution towards this noble cause.

## Uganda Launches National AI Research Cloud at Makerere University

On Friday, 13th March 2026, Makerere University hosted the official launch of the National AI Research Cloud during the AI Innovation Demo Day, organized by CEDAT in collaboration with the Science, Technology and Innovation Secretariat. The event was presided over by Hon. Dr. Monica Musenero Masanza, Minister for Science, Technology and Innovation in the Office of the President.

The launch marked a significant milestone in Uganda's digital transformation journey, showcasing innovations developed under the Pathogen Economy Labs Project. This initiative seeks to commercialize AI-driven platforms for disease screening and establish an AI for Health (AI4H) Research and Innovation Hub.

Among the innovations highlighted were Cervisight, a mobile-friendly AI tool for cervical cancer screening; the National Cancer Registry, a centralized platform for cancer data; Ventrascan, an



*Hon. Dr. Monica Musenero, Minister for Science, Technology and Innovation, officiates the launch of the National AI Research Cloud at Makerere University during the AI Innovation Demo Day.*

AI-powered tuberculosis screening solution; and the AI4Health Dataset Repository, a secure hub for health-related datasets. In recognition of their efforts, three startups namely Novita Diagnostics, Feyti Limited, and Impala Health were each awarded UGX 50M to advance cervical cancer screening solutions.

In her remarks, Dr. Musenero emphasized Uganda's determination to harness AI for national advantage.

**"This is the first industrial revolution that found us in a stage of awareness. This time we are taking our destiny in our hands."**

She also highlighted the launch of Uganda's first sovereign cloud infrastructure, reaffirming government support for AI labs and urging academia, industry, and learners to embrace this vision.

Makerere University Vice Chancellor, Prof. Barnabas Nawangwe, praised the leadership in science and innovation, noting that Makerere's focus has been on unlocking potential and channeling its best minds toward transformation. He cited innovations such as Kiira Motors' buses and the AI labs as evidence of Uganda's growing capacity.

The launch of the National AI Research Cloud positions Uganda as a leader in AI innovation, with Makerere University at the forefront of research, commercialization, and transformative health solutions.



Inspection of the stalls at the AI Demo Day



Dummy checks handed over to the best innovation

## CEDAT Open Day 2026: A Showcase of Student Innovation and Excellence

On 27th March 2026, the Makerere Engineering Society hosted the annual CEDAT Open Day, a premier exhibition celebrating technical and artistic ingenuity. This year's event brought together participants from the Margaret Trowel School of Industrial and Fine Art, the School of the Built Environment, and the School of Engineering, alongside industry partners eager to witness the creativity and innovation of CEDAT students.

The CEDAT parking lot was transformed into a vibrant hub of activity, buzzing with an audience exploring displays that ranged from sustainable energy solutions to AI-controlled firefighting vehicles. Complementing these engineering feats were striking art exhibits, ensuring a truly multidisciplinary experience that highlighted the breadth of talent within the college.

The event was graced by college leadership, including Prof. Moses

Musinguzi, Principal of CEDAT, and Prof. Dorothy Okello, Dean of the School of Engineering. Both leaders addressed attendees and toured the exhibition tents, engaging directly with students and their work.

Adding an interactive twist, the public voted for their favorite exhibitor, with the winner receiving

a cash prize. This year's crown went to Vetella, an innovative digital platform designed to connect students with professional opportunities both on and off campus. By linking students, industry professionals, and local businesses, Vetella demonstrates the power of student-led solutions to address real-world challenges.



The 2026 CEDAT Open Day successfully showcased the immense technical and creative potential of Makerere University's students. With strong support from college leadership and an atmosphere alive with innovation, the event underscored the importance of bridging academic ingenuity with industry needs. As Vetella's success illustrates, this annual exhibition continues to serve as a vital stage for student innovation, recognition, and reward.



## Two Brothers Achieve Rare Feat: Both Earn PhDs in Mechanical Engineering

On February 27, 2026, Makerere University proudly celebrated the graduation of two brothers who both earned their Doctor of Philosophy (PhD) degrees in Mechanical Engineering from the College of Engineering, Design, Art and Technology (CEDAT).

Derrick Kajjoba's PhD thesis was titled, 'Assessment of Thermal Comfort, Air Quality and Energy Consumption of Naturally Ventilated Residential Buildings in Kampala'. Jeffy Briton Ssemuddu's thesis was titled; Advancing Safety & Sustainability in Uganda's Cement Industry.

Their doctoral journey was guided by an exceptional supervisory team: Assoc. Prof. Peter Olupot, Prof. Kirabira JB, and Dr. Hillary Kasedde, whose mentorship and encouragement were instrumental in shaping their research and professional growth. Gratitude was also extended to family, colleagues, and the broader PhD fraternity for their support throughout the process.



Brothers Jeffy Briton Ssemuddu(L) and Derrick Kajjoba (R) at the 76th Graduation Ceremony

Derrick Kajjoba completed the PhD program in just three years, following a two-year Master's degree in the same college and

department. This achievement demonstrates that with clear strategy, focus, and consistency, it is possible to complete both Master's and PhD studies at CEDAT in record time at Makerere University.

Beyond academics, Derrick served as the PhD Students' Coordinator, supporting numerous Master's and PhD candidates in navigating their research journeys. Notably, CEDAT recorded its highest number of PhD graduates in 2025 with 12 candidates, a milestone that reflects the collective commitment of students, faculty, and leadership. In his reflections, he expressed deep gratitude to the College Principal, Deans, Heads of Departments, and administrative staff for their steadfast support. Together, these efforts contribute to a legacy of excellence as Makerere University advances toward becoming a more research-led institution.

## CEDAT Welcomes Brand-New Executive Bus

On March 9, 2026, the College of Engineering, Design, Art and Technology (CEDAT) proudly added a 41-seater executive bus to its fleet. The bus is a product of Kiira Motors Corporation valued at UGX 500 million.

For years, staff and students wondered why CEDAT, the very hub that nurtured the brains behind the Kayoola buses, did not have a bus of its own. The arrival of this modern vehicle was met with excitement and celebration across the community.

### Modern Features & Benefits

The new executive bus is designed with modern features that ensure both comfort and safety for passengers during travel. Its arrival has eased the logistical challenges that staff and students previously faced when arranging transportation for official trips and academic activities, making coordination far more efficient. Beyond convenience, the acquisition represents a strategic



investment in infrastructure that strengthens Makerere University's ability to deliver on its academic mission, while enhancing the overall experience of the CEDAT community

### Voices from the College leadership

Prof. Moses Musinguzi, Principal of CEDAT, received the bus from Mr. Tonny Seruyange, Transport

Officer at the Directorate of Estates and Works. "This addition will greatly improve our mobility and coordination, easing transportation challenges and fostering greater efficiency in our operations. It is a step forward in supporting our academic mission and enhancing the experience of both staff and students." said Prof. Musinguzi

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## CEDAT, Makerere University to Host the 10th National Conference on Communications (NCC 2026)



*Makerere last hosted the National Conference on Communications in 2023*

The 10th National Conference on Communications (NCC 2026) is officially here, hosted by CEDAT, Makerere University in collaboration with the Uganda Communications Commission (UCC).

This milestone edition, themed “Accelerating Market-Driven Innovation for Uganda’s Development”, will take place from 24th – 26th June 2026 at Makerere University. The conference serves as a premier platform for advancing research, innovation, and knowledge exchange within Uganda’s ICT ecosystem, bringing together thought leaders to discuss the future of connectivity and digital transformation.

**Conference Tracks**

Submissions are invited from researchers, industry professionals,

and policymakers across eight diverse tracks, including:

- Artificial Intelligence and Data Science
- Digital Financial Services (FinTech)
- Smart Societies
- ICT for Social Impact in health and education
- Digital Infrastructure and Environmental Resilience

Whether your work focuses on cutting-edge technology or community impact, NCC 2026 provides visibility to drive meaningful advancement in Uganda’s ICT sector.

**Submission Guidelines**

Contributors may submit:

- Full Research Papers (up to 8 pages)
- Extended Abstracts for work-in-progress
- Industry Case Studies

- Policy and Position Papers

All submissions should be made through the official link <https://lnkd.in/d3HUrms2>.

**Important Deadlines**

- Submission Deadline: 1st May 2026
- Acceptance Notifications: 22nd May 2026

For program details and registration, contact the organizing committee at [ncc.cedat@mak.ac.ug](mailto:ncc.cedat@mak.ac.ug).

NCC 2026 is more than a conference, it is a catalyst for innovation, collaboration, and market-driven solutions that will shape Uganda’s digital future. Submit your work, register, and be part of Uganda’s ICT transformation journey at Makerere University.

## Civil Engineering Students Gain Hands-On Experience at Borehole Drilling in Wakiso

The drilling of a new borehole at Kasozi Health Centre III in Wakiso District did not only solve the facility’s persistent water supply challenges, it was also transforming the learning experience for Makerere University’s Year 4 Civil Engineering students. By stepping beyond the classroom and witnessing the drilling process, students gained invaluable practical exposure to how hydraulics and soil mechanics theories are applied in real-world engineering projects. This hands-on learning opportunity allowed them to connect academic knowledge with community impact, reinforcing the importance of engineering in addressing everyday challenges.

The project was the culmination of months of collaboration. The Rotary Club of Kiwenda identified the need for a borehole and mapped out the most strategic location. Earlier, as part of the WALLACE project facilitated by Engineers Without Borders – East



Africa, a multidisciplinary team of students collected site data at the health center. Their findings directly informed the borehole’s placement, giving them the rare chance to see their academic work evolve into a tangible solution that benefits the community.

For the students, the benefits were clear namely applied learning, translating classroom theory into practice, Community engagement, seeing how engineering directly improves lives, and Professional preparation, experiencing the

processes of data collection, site analysis, and project execution. CEDAT extends gratitude to the Rotary Club of Kiwenda for funding and organizing this vital project, and to Engineers Without Borders – East Africa for creating such impactful learning opportunities. This initiative underscores the power of partnerships in bridging education and action, empowering students to become engineers who not only design solutions but also witness their transformative impact on communities.

## Sheila Mugala Ndoboli Advances Wireless Connectivity Research with PhD Triumph at Makerere



L.R. Assoc. Prof. Dorothy Okello, Dean SoE, Ms. Sheila Mugala Ndoboli, Dr. Serugunda Jonathan and Dr. Abubaker Waswa Matovu celebrate with cutting a cake after a successful PhD defense

On January 8, 2026, CEDAT celebrated a landmark achievement as Ms. Sheila Mugala Ndoboli successfully defended her doctoral research titled *“Performance Analysis of an Aerial Assisted Cellular Network.”* Her dissertation makes a significant academic contribution by exploring how aerial platforms can be integrated into cellular networks to improve coverage, reliability, and performance in areas where traditional infrastructure is limited. By analyzing performance metrics and proposing novel frameworks, Ndoboli’s work expands the body of knowledge in next-generation communication systems and provides a foundation for future research in wireless connectivity. Her journey was guided by distinguished mentors such as Associate Professor Dorothy Okello and Dr. Jonathan Serugunda.

## Eng. Sekaya Ronald’s PhD Triumph following a Study on Integrated Urban Services



The Academia, family and friends take off time to take a picture after a successful PHD defense

critical services namely water supply, sanitation, and solid waste management, traditionally planned in isolation. By focusing on Kokooge Town, the research provides practical insights into sustainable infrastructure management, with potential applications across Uganda’s rapidly growing small towns and beyond. The PhD defense, held on January 22, 2026 at CEDAT chaired by Assoc. Prof. Peter Olupot, Head of the Department of Mechanical Engineering. The supervisory team comprised Assoc. Prof. Charles Nuwagaba, Dr. Alex Y. Katukiza, and Christopher Lüthi of Eawag/Sandec, Switzerland.

Eng. Sekaya Ronald’s doctoral research, *“Towards an Integrated Planning Framework for Water Supply, Sanitation, and Solid Waste Management Services*

*in Ugandan Small Towns: Case of Kokooge,”* offers a transformative approach to urban service delivery. His study proposes a holistic framework that integrates three

## Enhancing School Sanitation: Jude Zziwa Byansi's PhD Triumph at Makerere University

Mr. Jude Zziwa Byansi's doctoral study at Makerere University delivered a groundbreaking framework for the operation and maintenance of sanitation facilities in Kampala schools. His work bridges engineering, public health, and sustainable development, offering practical solutions to one of Uganda's most pressing challenges. Byansi's research emphasizes that sanitation facilities must go beyond construction to ensure effective operation and maintenance. His framework integrates engineering principles, environmental management strategies, and community participation models to promote sustainability. His academic journey was shaped by a distinguished supervisory team, including Dr. Robinnah Nakawunde Kulabako, Dr. Swaib Semiyaga and Prof. Frank Kansime.



A proud academic moment: Mr. Jude Zziwa Byansi stands with his supervisors after successfully defending his PhD

## Re-Authoring Stories Through Art

Art took center stage at Makerere University's Second Biennial Narrative Practices Conference, held December 10–11, 2025, under the theme "Beyond the Ivory Tower: Our Stories, Our Spaces, and Decolonial Visions." Curated by the Margaret Trowell School of Industrial and Fine Art (MTSIFA).

The exhibition reimagined myths and everyday life through visual creativity, highlighting art's role as a catalyst for decolonisation. Striking images of elephants, masked dancers, paraathletes, and elders by the hearth reframed cultural narratives and everyday practices.

Dr. Ritah Nabuyungo Edopu, Head of the Department of Fine Art and curator of the exhibition, emphasized art's power to confront realities beyond statistics. "Art allows us to confront realities that statistics alone cannot capture,"



Dr. Ritah Nabuyungo Edopu, (R) Head of the Department of Fine Art and curator of the exhibition

she said, noting how the pieces sparked dialogue on identity, resilience, and inclusion.

The exhibition was organized in collaboration with Smith College School for Social Work (USA), The Makula Fund for Children, Peer Nation, Geruka Healing Centre, St. Lucia Children's Home (Tanzania), and Save the Disabled Children Gaba.



## Intensive Digiwater Field work in Manafwa District conducted



**C**EDAT Students and staff conducted a one week of intensive fieldwork in the Manafwa Catchment, Eastern Uganda, under the DIGITWATER Project. Dr. Jotham Sempewo, the Principal Investigator said that since March 2, 2026, students and staff conducted field activities in the Manafwa River Catchment, collecting critical data on

hydrology, water quality, irrigation agronomy at the Doho Irrigation Scheme, and exploring nature-based solutions. The findings, he observed, will inform practical strategies for improved catchment management. The project coordinated by Vrije Universiteit Brussel (VUB) brings together 10 partner organizations from Europe and Africa, and is focused

on designing innovative and sustainable solutions for water resources management.

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**“This fieldwork has given our students the opportunity to connect theory with practice, while addressing real challenges in water resources management,” said Dr.Sempewo.**

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The DIGITWATER Project is an EU-funded initiative aimed at digitally transforming higher education and research in water resources management, with a strong focus on Sub-Saharan Africa. It combines field-based learning, digital tools, and international collaboration to train the next generation of water professionals. DIGITWATER partners include IHE Delft Institute for Water Education (Netherlands), Eummena BV (Belgium), Sakarya University (Türkiye), and universities in Ethiopia, Uganda, and South Africa.

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## MAPRONANO ACE: Makerere’s Hub for Innovation in Materials Science and Nanotechnology

**T**he Africa Center of Excellence in Materials Product Development and Nanotechnology (MAPRONANO ACE) at Makerere University has positioned itself as a regional leader in advanced research and industrial innovation. Supported by the World Bank, the center is equipping East Africa with cutting-edge laboratories, groundbreaking projects, and a new generation of scientists and engineers.

### Advanced Infrastructure

MAPRONANO ACE boasts state-of-the-art facilities, including a high-resolution scanning electron

microscope, an inductively coupled plasma spectrometer, and a 3D printing facility. These resources have enabled pioneering projects that link academic research with industrial applications.

“Our laboratories are engines of innovation, bridging science with industry for Uganda and East Africa.” — MAPRONANO ACE Leadership

### Engineering Breakthroughs

The center has developed prototypes of a two-cylinder petrol engine and a single-piston diesel engine, designed to meet local

market needs while training youth in advanced engineering skills. It has also synthesized graphene from agricultural waste to create battery pouch cells, linking sustainable agriculture with clean energy technology.

### Health and Nanomedicine

MAPRONANO ACE has advanced Uganda’s biomedical capacity by producing paramagnetic nanoparticles for DNA/RNA extraction kits, reducing reliance on imports. During the Covid-19 pandemic, the center created rapid antibody test kits and designed a lipid-based nanoparticle vaccine

delivery system using locally available materials such as fish scales and banana weevils, which showed promising pre-clinical results.

**“We are proving that local resources can power global health solutions.”**  
**— MAPRONANO ACE Researcher**



Scanning Electron Microscope

### Capacity Building and Impact

The center has supported over 25 PhD students and nearly 200 researchers, strengthening regional

human resource capacity in science and engineering. Consultancy services, including forensic SEM analysis, have extended its impact beyond academia into industry and government.

By refurbishing and equipping its labs, MAPRONANO ACE has enhanced Makerere University's visibility, attracted collaborations, and produced peer-reviewed publications, cementing its role as a hub of innovation in East Africa.

## Staff News

### Civil and Environmental Engineering Department



**D**r. Eng. Robinah Nakawunde Kulabako was promoted from Senior Lecturer to Associate Professor of Environmental Engineering, following the decision

of the Appointments Board at its 787th meeting. Dr. Kulabako, who serves as Head of the Department of Civil and Environmental Engineering in the School of Engineering, College of Engineering, Design, Art and Technology (CEDAT), has built a distinguished career in water supply, sanitation, wastewater management, and groundwater pollution control. Her research has earned wide recognition both locally and internationally, with more than 2,200 citations and an h-index of 25 on Google Scholar, a testament to her influence in advancing environmental engineering scholarship.

### The Margaret Trowel School of Industrial and Fine Art (MTSIFA)



**D**r. Robert Sewanyana was appointed acting Head of the Department of Industrial Art and Design (DIAAD), replacing Dr. Dorah Kasozi, whose term expired. Congratulations to the incoming head and much appreciation goes to the outgoing head.

## Geomatics and Land Management

**I**n march 2026, the unit convened a MASS Women's conference under the theme 'She Surveys, She Leads'. Several inspiring speakers delivered talks giving out insights to the upcoming surveying women. 'I want to see everybody having an opportunity to fulfil their

true potential and bring their full potential to work' said one of the speakers. The event was aimed at creating role models and providing aspiration for women to see other women in decision making positions.



### EDITORIAL TEAM

1. Prof. Moses Musinguzi, Principal
2. Assoc. Prof. Dorothy Okello, Dean SoE
3. Assoc. Prof. Amanda Tumusiime, Dean MTSIFA
4. Assoc. Prof. Anthony Gidudu, Dean, SBE
5. Ms. Harriet Musinguzi, Principal Comm. Officer
6. Mr. Alex Isemaghendera, IT Officer
7. Mr. Pius Kikomoko, CO, SoE
8. Ms. Eunice Rukundo, Deputy Chief-PRO
9. Mr. Agaba Issa Mugabo, Brand/Marketing Officer

### Editorial Team Appreciation

We thank our editorial team for their dedication and precision. Your contributions are vital to our success and are deeply appreciated.

### College of Engineering, Design, art and Technology (CEDAT)

Makerere University  
 P.O Box 7062, Kampala  
 Email: principal.cedat@mak.ac.ug  
 pro.cedat@mak.ac.ug  
 www.cedat.mak.ac.ug  
 @MakCEDAT