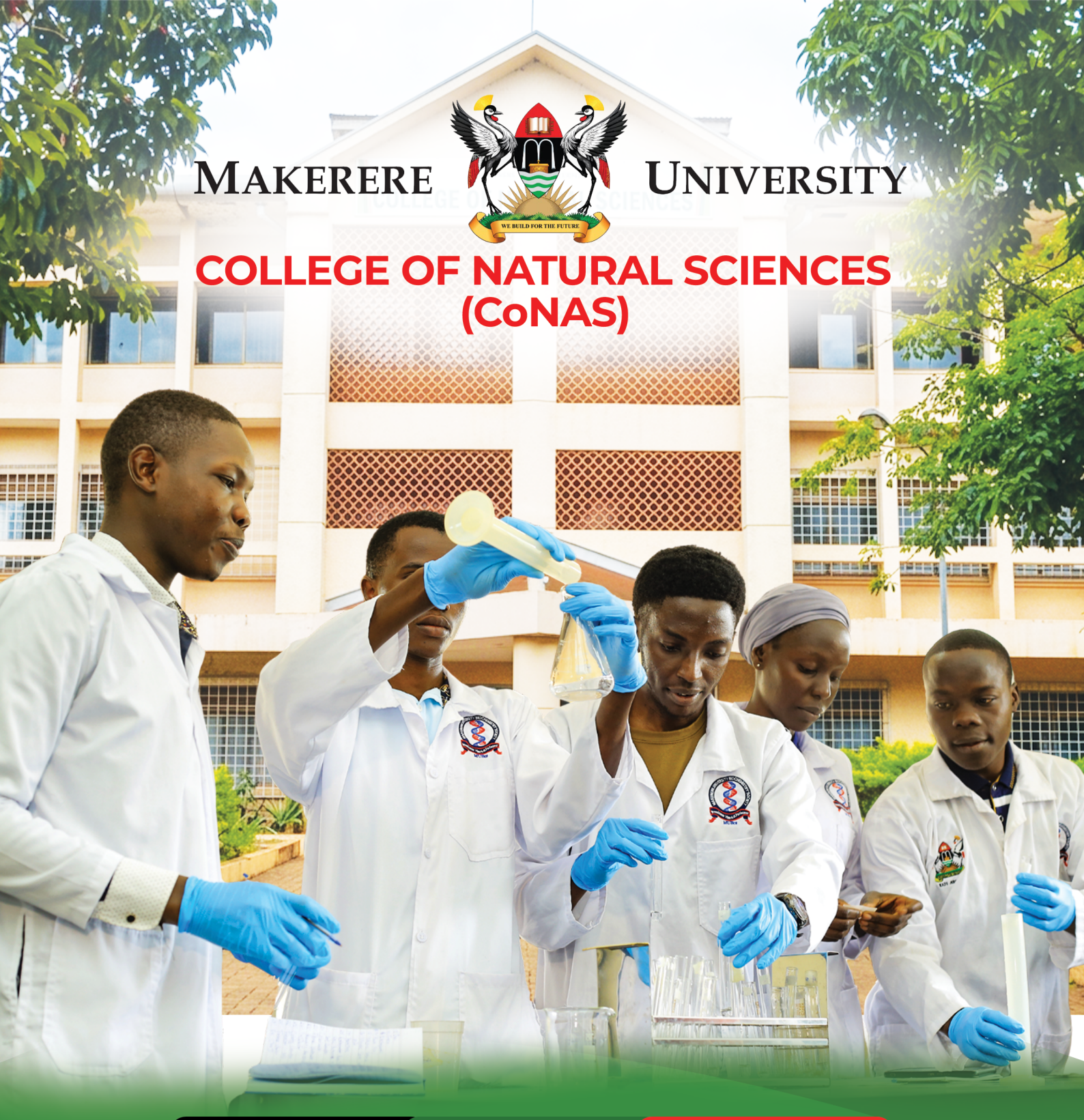
MAKERERE UNIVERSITY

WE BUILD FOR THE FUTURE

COLLEGE OF NATURAL SCIENCES (CoNAS)



ANNUAL REPORT 2025

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Our Vision

To be a thought leader of knowledge generation for societal transformation and development

Our Mission

To create and impart knowledge in basic and applied sciences to society through training, research and extension services for development

Core Values

The College in pursuit of its mandate is guided by the five core values of Makerere University listed below;

- Accountability
- Professionalism
- Integrity
- Respect
- Inclusivity

List Of Acronyms

BETB	Bachelor of Science in Ethnobotany
BSBT	Bachelor of Science in Biotechnology
BSc.	Bachelor of Science
BSCB	Bachelor of Science in Conservation Biology
BSFA	Bachelor of Science in Fisheries and Aquaculture
BSIC	Bachelor of Science in Industrial Chemistry
BSPC	Bachelor of Science in Sports Science
BSPG	Bachelor of Science in Petroleum Geosciences and Production
CGPA	Cumulative Grade Point Average
CoNAS	College of Natural Sciences
EAUMP	Eastern Africa Universities Mathematics Programme
ECCoFE	Effects of Climate Change on Freshwater Ecosystems
IPCC	Intergovernmental Panel on Climate Change
IPAs	Important Plant Areas
ISP	International Science Programme
LMFDB	L-functions and Modular Forms Database
Mak-RIF	Makerere University-Research and Innovations Fund
MSc.	Master of Science
NMC	National Mathematics Contest
NORAD	Norwegian Agency for Development Cooperation
ODEL	Open Distance and E-learning
OWSD	Organization for Women in Science for the Developing World
PMB	Plant Sciences, Microbiology and Biotechnology
RIMS	Research Information Management System
SBS	School of Biosciences
SPS	School of Physical Sciences
UNAS	Uganda National Academy of Sciences
UniPod	Makerere University Innovation Pod
ZEFS	Zoology, Entomology and Fisheries Sciences

College Leadership

Prof. Winston Tumps Ireeta,
PRINCIPAL

Prof. Juma Kasozi,
DEPUTY PRINCIPAL

Deans

Prof. Arthur Tugume,
Dean, School of Biosicences

Prof. Michael Owor, Outgoing
Dean, School of Physical Sciences

Prof. David Ssevviiri
Incoming Dean, School of Physical Sciences

Dr Eric Sande
Co-Director, MUBFS

Heads Of Department

Dr. Emmanuel Tebandeke
Head, Dep't of Chemistry

Dr. Arthur Batte,
Head, of Dep't Geology & Petroleum Studies

Dr. Geoffrey Ismail Mirumbe
Head, Dep't of Mathematics

Dr. Denis Okello
Outgoing Head, Dep't of Physics

Dr. Bosco Oruru
Incoming Head Dep't of Physics

Dr. Godfrey Kubiriza Kawooya
Head, Dep't of Zoology, Entomology &Fisheries Sciences

Dr Agnes Nandutu,
Head Dep't of Biochemistry & Systems Biology

Dr Jamilu Ssenku
Head, Dep't of Plant Sciences, Microbiology & Biotechnology

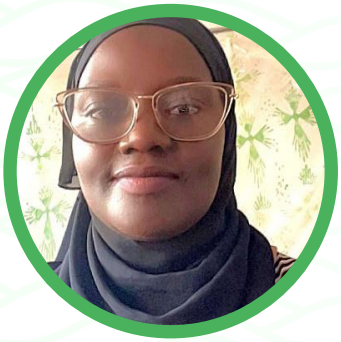
Dr Bernadatte Nakabazzi
Head, Dep't of Exercise & Sports Science

College Administrators

Ms. Joyce Nyiramahoro
Principal Registrar

Ms. Kevin Nabiryo Mikwano-
Human Resource Officer

Ms. Clare Birungi Gumoshabe
Team Leader, Finance



Ms. Sarah Nakayima
Librarian

Ms. Hasifa Kabejja
Principal
Communication Officer

Mr. David Kisitu
IT Officer

Ms. Shivon Atwine,
Procurement Officer

Ms. Hasifa Mukyala
Registrar, School of Bio-sciences

Ms. Eleanor Nandutu
Registrar, School of
Physical Sciences

Mr. Abias Asasira
Chief Custodian

Principal's Message

It is my distinct pleasure to present the 2025 Annual Report of the College of Natural Sciences (CoNAS) at Makerere University. This report reflects a year defined by steady growth, strategic consolidation, and outstanding achievements across our core mandates of teaching and learning, research and innovation, and strategic engagement and partnerships.

Throughout 2025, the College reaffirmed its position as a leading centre of scientific inquiry and training. Our vibrant academic community, comprising the School of Physical Sciences and the School of Biosciences, with eight specialised departments and 153 dedicated members of staff, continued to demonstrate resilience, creativity, and an unwavering commitment to excellence. Through high-quality, competitive grant proposals and multidisciplinary collaboration, our faculty secured research funding that supports transformative initiatives tackling critical national, regional, and global challenges.

During the 2024/2025 academic year, the College enrolled 1,195 students at undergraduate and postgraduate levels. We proudly celebrated the graduation of 14 PhD, 36 MSc, and 260 BSc students, including 10 First Class degrees. We commend Mr. Mubiru Enock Joel, who emerged as the best-performing science student with a CGPA of 4.91 in the Bachelor of Science in Mathematics and Physics programme. The successful defense of 13 doctoral theses during the year further underscores the strength of our postgraduate training and research environment. The introduction of the Terminal Seminar for final-year students and our continued career guidance outreach to secondary schools demonstrate our commitment to holistic student development and informed career pathways.

Research excellence remains a cornerstone of our identity. Our staff received prestigious recognitions for outstanding contributions in research and teaching during the 75th Graduation Ceremony of Makerere University. These accolades reflect the culture of scholarship and mentorship that defines CoNAS.

The year was marked by impactful research and innovation initiatives. We made history with the identification of 42 Important Plant Areas in Uganda, aligning national conservation efforts with global biodiversity strategies. Our researchers documented 174 medicinal plant species in Eastern Uganda, highlighting urgent conservation needs. Innovative solutions such as converting household organic waste into clean energy and bio-fertiliser exemplify our commitment to sustainable development. The launch of the NutriFishPlus Project, supported by international partners, is strengthening fish processing technologies and empowering women and youth in fishing communities. Similarly, the EU-funded INNOECOFOOD Project and the TRUEFISH regional workshop have advanced sustainable aquaculture, food security, and biosecurity in East Africa.

Our climate and environmental research portfolio continued to expand through projects such as ECCoFE, fostering international collaboration and strengthening capacity in freshwater ecosystem research. In public health, the MicroNUT-IPHL initiative is integrating micronutrient testing into Uganda's laboratory surveillance systems, enhancing evidence-based nutrition policy and practice. These initiatives reflect our deep engagement with societal needs and our responsiveness to emerging global challenges.

Innovation and student engagement were prominently showcased during the 2025 National Science Week Exhibition, where our students presented practical, market-oriented solutions ranging from biofuels and biosensors to health innovations. Such platforms nurture entrepreneurial thinking and translate scientific knowledge into tangible societal impact.

Our faculty also attained significant international recognition. Appointments to global scientific bodies, editorial boards, and international research collaborations affirm the growing visibility and influence of CoNAS scholars on the global stage.
In addition to academic and research achievements, the College, with support from the Estates and Works Department of the University, invested in improving

infrastructure across departments to enhance the teaching and research environment. The College community also actively participated in initiatives promoting health, inclusion, and unity, including the MakRun.

As we reflect on the milestones of 2025, we are mindful of the challenges that accompany growth including resource constraints, evolving technological demands, and the need for sustained infrastructure development. Yet, with the continued support of the University leadership, our partners, staff, students, and alumni, we remain confident in our collective capacity to advance scientific excellence and contribute meaningfully to national and global development.

I extend my sincere appreciation to all members of the College, our collaborators, and stakeholders whose dedication and partnership made these achievements possible. Together, we will continue to strengthen the College of Natural Sciences as a hub of innovation, discovery, and transformative impact.

Prof. Winstion Tumps Ireeta
Prncipal

Prof. Livingstone Sserwadda Luboobi:

A Visionary Leader, Distinguished Mathematician, & Humble Scholar

It is with profound respect, admiration, and gratitude that the College of Natural Sciences (CoNAS) pays tribute to Prof. Livingstone Sserwadda Luboobi, a distinguished mathematician, visionary academic leader, and former Vice Chancellor of Makerere University. His distinguished career stands as a testament to intellectual excellence, visionary leadership, and an unwavering commitment to the advancement of science and higher education.

Prof. Luboobi's journey with Makerere University began in 1970, marking the start of a lifelong dedication to scholarship and institutional service. Over the decades, he rose steadily through the academic ranks to become a full Professor of Mathematics, earning the respect of colleagues and students alike for both his intellectual rigor and his humility. Within the then Faculty of Science, now the College of Natural Sciences, he served with distinction as Head of the Department of Mathematics and later as Dean of the Faculty of Science from 1994 to 2001. In these roles, he championed academic excellence, strengthened a culture of research and inquiry, and guided the faculty through a period of transformative institutional reforms that later laid the foundation for the establishment and growth of the College of Natural Sciences.

A pioneer of biomathematics in Africa, Prof. Luboobi broke new ground by applying mathematical modelling to complex real-world challenges. His work bridged theory and practice, providing innovative approaches to problems in epidemiology, ecology, and operations research. Through more than 150 scholarly publications, he significantly advanced the application of mathematics as a powerful tool for addressing pressing societal challenges. Equally significant was his commitment to nurturing future generations of scholars. Over the course of his career, he supervised more than 35 PhD and over 50 MSc students, mentoring a vibrant network of mathematicians and scientists who continue to contribute to research, innovation, and teaching across Africa and beyond.

Prof. Luboobi's influence extended far beyond the classroom and research laboratory. He played a transformative role in shaping the strategic direction of Makerere University's scientific enterprise. As Chair of the committee that developed the University's first locally conceived Strategic Plan (1990-1991), he helped chart a bold course for the modernization of teaching, research, and institutional governance. His leadership was instrumental in mobilizing critical development support for the University, including a UGX 30 billion grant from the Norwegian Agency

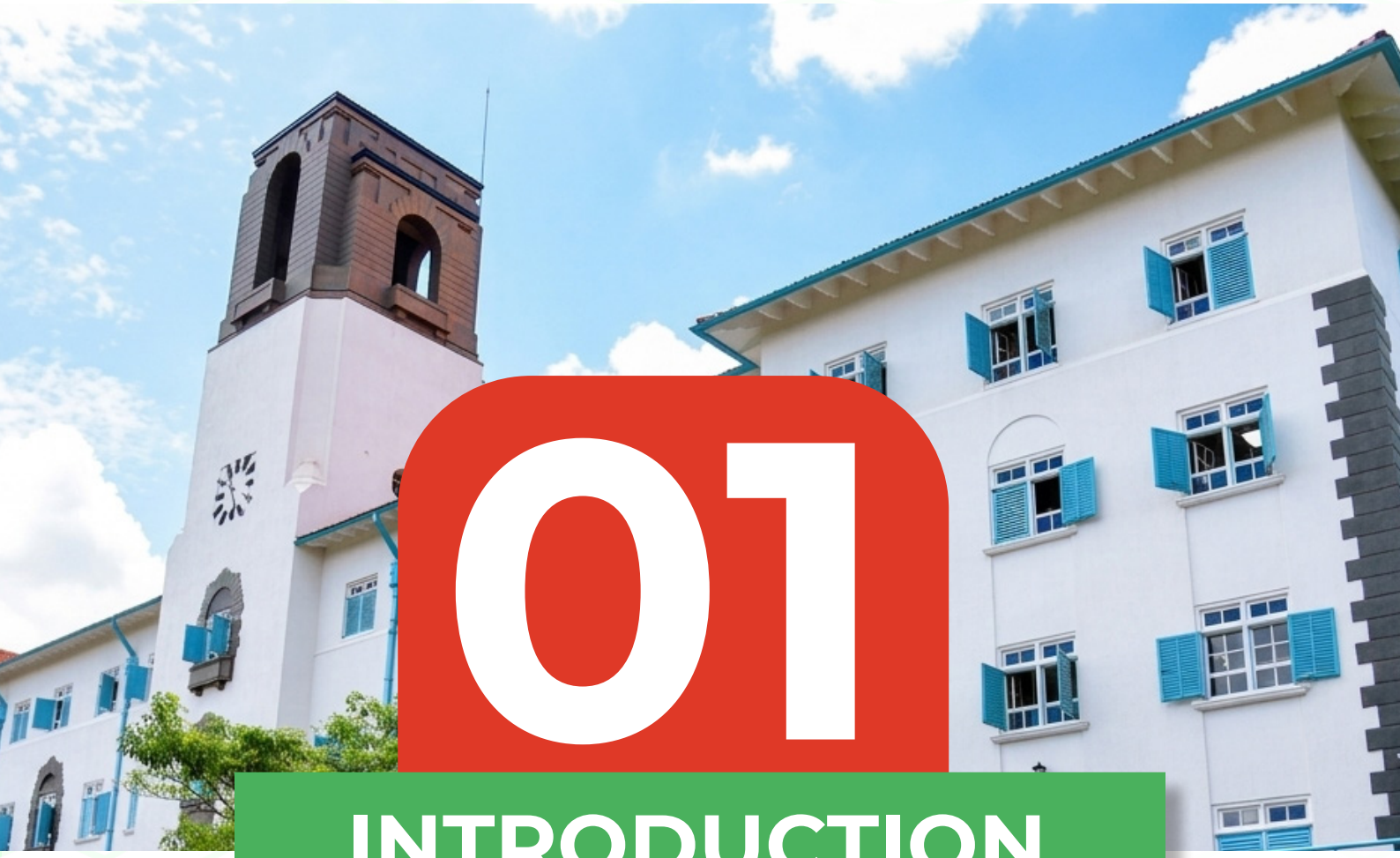
for Development Cooperation (NORAD). This landmark support strengthened key academic areas such as computing, gender studies, and food science, fields that remain integral to the continued growth and impact of the College today.

Beyond his many administrative and scholarly achievements, Prof. Luboobi remained deeply committed to the advancement of mathematics and science education. Through his teaching, mentorship, and intellectual leadership, he cultivated an environment of curiosity, discipline, and collaborative scholarship. His influence

Prof. Livingstone Sserwadda Luboobi

has inspired generations of students and colleagues, leaving an enduring imprint on the academic culture of CoNAS.

Today, the College of Natural Sciences proudly celebrates Prof. Luboobi as one of its most distinguished scholars and leaders. His legacy lives on in the thriving academic community he helped build, in the countless scholars he mentored, and in the enduring contributions he made to mathematics, science, and higher education at Makerere University. His work continues to inspire excellence, innovation, and service to society.



01 INTRODUCTION

The College of Natural Sciences (CoNAS) is a dynamic academic community composed of two distinguished schools and eight specialized departments. These include the School of Physical Sciences, which encompasses the Departments of Chemistry, Geology and Petroleum Studies, Mathematics, and Physics; and the School of Biosciences, which comprises the Departments of Biochemistry and Systems Biology, Exercise and Sports Science, Plant Sciences, Microbiology and Biotechnology, as well as Zoology, Entomology and Fisheries Sciences. With a dedicated team of 153 highly qualified staff members whose expertise spans diverse disciplines within the natural sciences, the College remains firmly committed to academic excellence, innovative teaching, and impactful research.

Our faculty consistently secure competitive research funding through the development of high-quality, grant-winning proposals, enabling the implementation of transformative research initiatives. These projects address critical scientific and societal challenges, foster innovation, and contribute meaningfully to improving livelihoods and advancing sustainable development within our communities and beyond.

This edition of the report showcases the key activities and accomplishments of 2025, aligned with the University's strategic priorities: Innovative Teaching and Learning; Research, Innovation and Technology Transfer; and Strategic Engagement and Partnerships.

02 TEACHING AND LEARNING

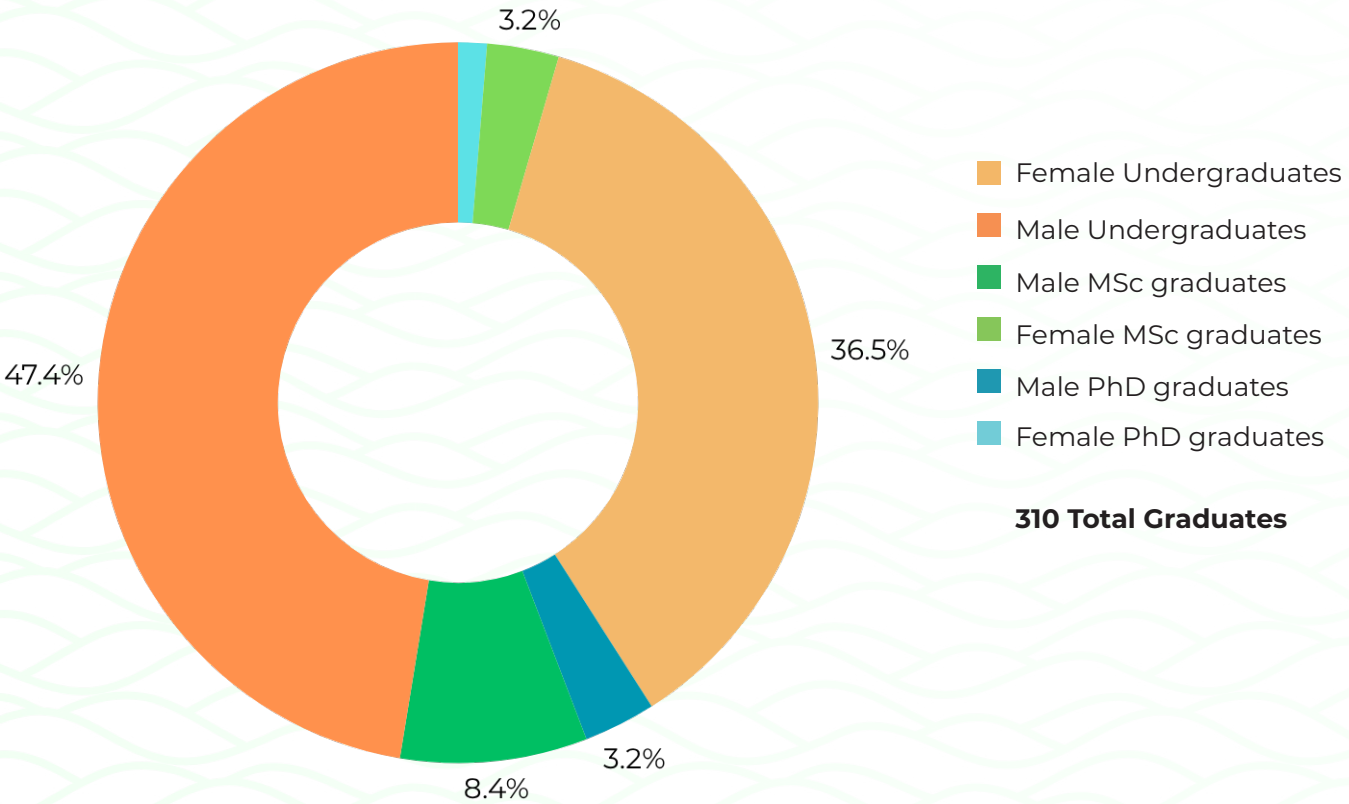
A total of 1,195 students were enrolled in various academic programmes at both undergraduate and postgraduate levels during the 2024/2025 academic year. Of these, 14 graduated with Doctor of Philosophy (PhD) degrees, 36 with Master of Science (MSc) degrees, and 260 with Bachelor of Science (BSc) degrees. The College also produced the best-performing student in the sciences, Mr. Mubiru Enock Joel, who graduated with a CGPA of 4.91 in the Bachelor of Science Programme specializing in Mathematics and Physics. Additionally, the College recorded 10 First Class degrees during the year.

Over the course of the academic year, 13 PhD candidates successfully defended their theses in various fields of study, and some graduated during the 76th graduation ceremony of Makerere University held from 24th-27th February 2026. In the same year, the College launched the Terminal Seminar aimed at preparing final-year students for life after university and entry into the world of work. As part of its ongoing outreach efforts to dispel misconceptions surrounding the Bachelor of Science programme and to support prospective university students in making informed career choices, the College of Natural Sciences (CoNAS) continued to provide career guidance to secondary school science students across the country.

2.1 CoNAS Student enrolement 2025/2026

1195 Total Students Enrolled

2.2 CoNAS graduates 2025



310 Total Graduates

2.3 CoNAS Graduation statistics

CoNAS presented 311 graduands, 128 female and 296 male at the 75th graduation ceremony held on 14th January 2025. Of these, 14 graduated with PhDs (4 female, 10 male), 36 with MSc (11 female, 25 male) and 260 with BSc (113 female, 148 male). Mubiru Enock Joel from CoNAS emerged the top performing student in the Sciences at Makerere University with a CGPA of 4.91 in the Bachelor of Science specializing in Mathematics and Physics. In the table below, we present to you the graduates per programme

NO	PROGRAMME	F	M	TOTAL
1	PhD	4	10	14
	Masters programmes			
1	Master of Science in Zoology	1	6	7
2	Master of Science in Botany	2	0	2
3	Master of Science in Physics	1	2	3
4	Master of Science in Petroleum Geosciences	0	5	5
5	Master of Science in Mathematics	0	2	2
6	Master of Science in Applied Mathematics	2	3	5
6	Master of Science in Chemistry	4	5	9
7	Master of Science in Biochemistry	1	2	3
	TOTAL	11	25	36
	Undergraduate programmes			
1	Bachelor of Science	40	53	93
2	Bachelor of Science in Biotechnology	17	17	34
3	Bachelor of Science in Conservation Biology	4	7	11
4	Bachelor of Science in Fisheries and Aquaculture	8	18	26
5	Bachelor of Science in Industrial Chemistry	29	30	59
6	Bachelor of Science in Petroleum Geoscience and Production	14	20	34
7	Bachelor of Sports Science	1	3	4
	TOTAL	113	148	261

2.4 First Class Degrees 2025

Students who graduated with First Class Degrees on 14th January 2025				
NO.	**NAME**	**GENDER**	**PROGRAMME**	**CGPA**
1	Mubiru Enock Joel	M	Bachelor of Science	4.91
2	Kadugu Emmanuel Lagen	M	Bachelor of Science in Petroleum Geoscience and Production	4.7
3	Nagujja Lazia Shina	F	Bachelor of Science in Biotechnology	4.66
4	Nakawungu Winfred Tracy	F	BSc. Fisheries & Aquaculture	4.59
5	Katsigaire Robert	M	Bachelor of Science in Industrial Chemistry	4.55
6	Ssaleh Ssedime Ahmed	M	Bachelor of Science in Industrial Chemistry	4.48
7	Nabudo Ruth Zilica	F	Bachelor of Sports Science	4.44
8	Naggayi Harriet	F	Bachelor of Science in Conservation Biology	4.44
9	Namitala Thereza Natonda	F	Bachelor of Science in Petroleum Geoscience and Production	4.4
10	Muwonge Mark	M	Bachelor of Science in Industrial Chemistry	4.4

2.5 CoNAS PhD graduates

NO.	NAME	GENDER	DEPARTMENT	THESIS TITLE
1	Akwongo Betty	F	Plant Sciences, Microbiology and Biotechnology	Ethno-botanical Survey, Bioactivity and Safety of Medicinal Plants used in the Management of Candidiasis in Pader District, Northern Uganda
2	Arop Deos-borns Martin	M	Mathematics	Optimal Actuator Design and Placement for a Linear Wave Equation
3	Canpwonyi Sam	M	Mathematics	Mathematical Models for the Dynamics of Production and Utilization of Forage for Sustainable Livestock Industry in Semi-Arid Region of Uganda
4	Habakwiha Vianney	M	Physics	Estimation of Radiological Effects and Modeling Radionuclide Transfer to Milk and Fish in Kisoro District, South-Western Uganda
5	Kigozi Moses	M	Chemistry	Conversion of Selected Plastic Waste into Carbon Nanomaterials for Application in the Adsorption of Carbon Dioxide and Energy Storage
6	Kirenga Betty Kiwumulo Nabiyonga	F	Mathematics	Mathematical Models for the Dynamics of Asthma Development: Effect of Immunological, Environmental and Genetic Determinants
7	Makonzi Brian	M	Mathematics	Computing the Artin Component using Reconstruction Algebras
8	Mbabazi Ruth	F	Chemistry	Carbon Dioxide-epoxide Copolymerization using Heterogeneous Zinc Catalysts

9	Muhumuza Cosmas	M	Mathematics	Mathematical Models for the Transmission Dynamics of Fowl Pox Disease with Seasonality and Control Measures
10	Nakajigo Joan	F	Geology & Petroleum Studies	Quantitative Reservoir Characterisation using Rock Physics, Seismic and Geological Constraints – Examples from Semiliki Basin in the Albertine Graben, Western Uganda
11	Namanya Caroline	F	Mathematics	Pure Braids and Group Actions from 3-Fold Flops
12	Nambala Peter	M	Biochemistry and Systems Biology	Trypanosome Genetic Diversity and Differential Gene Expression Profiles Associated with Human African Trypanosomiasis Clinical Phenotypes in Malawi
13	Nzala Nicholas Walter	M	Physics	Prediction of Meteological Parameters using Inverse Artificial Neural Networks
14	Ogweng Peter	M	Zoology, Entomology, and Fisheries Sciences	Innovative Approaches to Managing Livestock Diseases in Uganda: A Case of African Swine Fever

2.6 CoNAS presents top performing student in the Science

Makerere University Convocation honoured Mubiru Enock Joel for his excellent performance. He emerged the top performing student in the Sciences at Makerere University with a CGPA of 4.91 in the Bachelor of Science (majoring in Mathematics and Physics).

***Top** Right: Mubiru receiving an award from convocation at the 75th graduation ceremony held on 14h January 2025*

***Bottom:** Some of the PhD graduates from CoNAS at the 75th graduation ceremony. Right: Dr Joan Nakajigo, a Lecturer in the Department of Geology and Petroleum Studies at CoNAS graduated with a PhD in Petroleum Geosciences*

2.7 PhD Defenses 2025

NO.	NAME	DEPARTMENT	THESIS TITLE	DATE OF DEFENSE
1	Ms. Lydia Nabyonga	Plant Sciences, Microbiology and Biotechnology	Development of an Azolla-Vermiculite composite fertilizer for enhancing nutrient use efficiency & soil productivity in Uganda	27th February 2025
2	Mr. Batte Hebert	Mathematics	Solutions to Diophantine Equations involving terms of Lucas Sequences, Perfect Power and Repdigits	14th March 2025
3	Mr. Jimmy Chaciga	Physics	Development of Solar Thermal Energy Storage Technology for off-grid Cooking Applications	21st March 2025
4	Ms. Kinyua Mbuci	Chemistry	Photo-catalytic Degradation of Microplastics in Wastewater Using Metal Modified TiO2 Catalysts	11th April 2025
5	Mr. Tusiime Swaleh	Physics	Developing Experimental Control Methods and Simulation Models for Solar cookers with heat storage	30th May 2025
6	Mr. Sekandi Peter	Chemistry	Structural Elucidation, Antibacterial, Antioxidant, and Toxicity of compounds from Selected Ugandan Medicinal Plants used in Treating Bacterial Skin Infections	2nd June 2025

7	Cyprian Osinde	Plant Sciences, Microbiology and Biotechnology	Molecular Basis of Secondary Metabolites mediated Defense Against Stem Borers in Sorghum Bicolor L.(Moench) and Oryza sativa (Desv.) Steud	4th June 2025
8	Mr. Zaccheus Shehu	Chemistry	Synthesis and Characterization of Iron Oxide-based Magnetic Nanocomposites for Removal of Diclofenac and Sulfamethoxazole from Water	21st October 2025
9	Mr. Katende Ronald	Mathematics	Numerical Analysis of Physics-Informed Neural Networks for Solving PDEs	23rd October 2025
10	Ms. Afazali Zabibu	Mathematics	Regime-switching Approaches for Dynamic Risk and Dependence Modeling of Insurance Claim Frequency and Severity.	25th November 2025
11	Mr. Paul Akuyenze	Plant Sciences, Microbiology and Biotechnology	Profiling starch properties and their genetic markers in selected East African highland cooking bananas.	4th December 2025
12	Mr. Namugera Frank	Mathematics	Long-range Contact Process in a Random Environment	19th December 2025
13	Mr. Komakech Ignatius	Physics	Quality Management for Radiotherapy Services in Uganda	22nd December 2025

2.8 Preparing Graduates for Life after University: Launch of the Terminal Seminar for Final Year Students

Transitioning from university life to the professional world can be a daunting experience for many graduates. This challenge is particularly pronounced in Uganda, the broader East African region, and across Africa, where many university leavers find themselves ill-equipped to face the realities of life after school. Issues such as limited career guidance, lack of personal development resources, and insufficient awareness of societal expectations leave many graduates unprepared for what lies ahead.

On 23rd April 2025, CoNAS held its flagship Terminal Seminar for Final Year students that were set to complete their studies in June 2025. The event featured a series of empowering sessions, designed to help students navigate the transition from academic life to the professional world. Key topics included career planning, workplace ethics, entrepreneurship, and mental well-being. A line-up of seasoned professionals and motivational speakers – including Mr. John Walugembe, Executive Director of the Federation of Small and Medium Sized Enterprises Uganda, and Dr. Catherine Mbidde, Ag Director, Makerere University Innovations Pod (UniPod), also Lecturer at the School of Business at CoBAMS, shared their personal journeys, professional insights, and practical advice for thriving beyond the university walls.

Other Speakers included Dr. Alex Behakanira from the Department of Mathematics, Makerere University; Mr. Henry Nsubuga, Manager, Counselling and Guidance Centre, Makerere University; Mr. Maurice Ssebisubi, Senior Programme Officer (Fisheries and Environment) at the Embassy of Iceland; and Ms. Sylvia Kajubi, Deputy Principal at the Insurance Training College of Uganda. The activity is coordinated by Dr. Godfrey Kawooya Kubiriza, Head, Department of Zoology, Entomology and Fisheries Schiences.



Left: *Dr. Godfrey Kawooya Kubiriza, one of the key architects of the programme, briefs participants on the significance of the seminar.* ***Right:*** *Mr. John Walugembe, Executive Director of the Federation of Small and Medium Sized Enterprises Uganda, highlighted the value of time management and integrity in building a successful career*

Left: *Dr. Joel Isanga moderated the session. Right: Dr. Catherine Mbidde, Ag Director, Makerere University Innovations Pod (UniPod), also Lecturer at the School of Business at CoBAMS talking to the students.* ***Right:*** *Mr. Maurice Ssebisubi, Senior Programme Officer (Fisheries and Environment) at the Embassy of Iceland, also an alumnus of CoNAS sharing his experience.*

2.10 First Year Students' Orientation

The leadership of CoNAS on 6th August 2025 conducted an orientation for the newly admitted First Year students, introducing them to the university's programmes and policies regarding academics and social welfare, as well as the leadership development opportunities available.


The Deputy Principal of CoNAS, Prof. Juma Kasozi together with the Deans, Prof. Arthur Tugume and Prof. Michael Owor and other College staff orienting the students

2.11 First Year Graduate Students Orientation

The College of Natural Sciences organized an orientation session for students admitted to its graduate programs. The session provided First Year graduate students a valuable opportunity to familiarize themselves with the college academic environment, gain insights into available resources, and learn about the wide array of support services that are in place to facilitate their academic and professional success.

Right: *Prof. Arthur Tugume, Dean, School of Biosciences at CoNAS addressing the students on 29th August 2025*

2.12 CoNAS Student Leaders Induction

On 26th September 2025, the College of Natural and Applied Sciences (CoNAS) conducted an induction programme for newly appointed student leaders. The induction aimed to equip the student leaders with essential knowledge, values, and skills necessary for effective leadership within the college and the wider university community. The programme covered a wide range of leadership-related topics, including accountability and responsibility, leadership rooted in character, and leadership as a lifelong learning process.

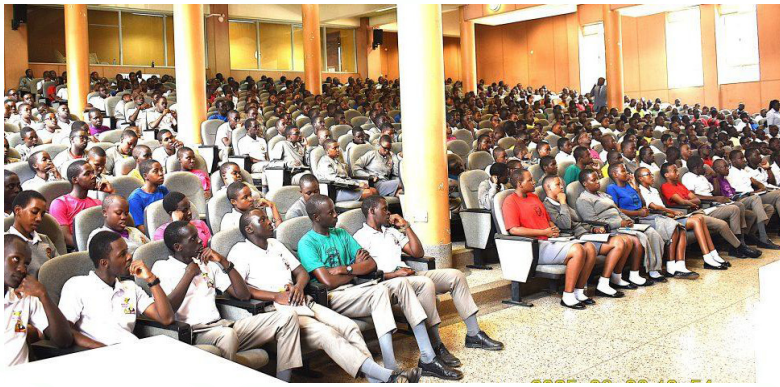
Emphasis was placed on the importance of honesty, personal growth into leadership roles, and understanding generational challenges that influence leadership dynamics in contemporary academic environments. In addition, the induction featured a session on the Safeguarding Policy, underscoring the critical role of student leaders in promoting and upholding a safe, inclusive, and supportive environment for all students. This session highlighted the responsibilities of leaders in ensuring student welfare, ethical conduct, and respect for diversity. The sessions were facilitated and overseen by the Deans of the School of Biosciences and the School of Physical Sciences, Prof. Arthur Tugume and Prof. Michael Owor.

Left: *Prof. Arthur Tugume, Dean, School of Biosciences at CoNAS addressing the leaders.* ***Bottom Right:*** *The former and current student leaders together with the Patron, CoNAS Students' Guild, also Dean School of Physical Sciences, Prof. Michael Owor (6th L), and the Dean, School of Biosciences, Prof. Arthur Tugume (6th R) during the induction ceremony held in the Large Lecture Theatre at the Chemistry Department, CoNAS.*

2.13 Career guidance to S.6 Science Students

As part of the ongoing outreach efforts to demystify the myths surrounding the Bachelor of Science programme and to prepare prospective University students to make informed decisions, the College of Natural Sciences (CoNAS) continues to offer career guidance to science students from secondary schools across the country.

On 26th August 2025, academic staff and administrators from the College offered career guidance to over 700 Senior Six Science students from Mengo Senior School. Held in the Yusuf Lule Central Teaching Facility (CTF2) Auditorium, Makerere University, the activity aimed to expose students to academic programmes and career prospects in the natural sciences and other science fields. The event featured a series of informative presentations by the Deans and departmental representatives from the School of Physical Sciences and the School of Biosciences. Similarly, on 17th October 2025, the team offered career guidance to students of Holy Cross Lake View S.S.S, Jinja. The team also offered guidance to students of Nabisunsa Girls and Mt. St. Mary's Namagunga.



The career guidance sessions for S.6 Science students of Mengo Senior School and Holy Cross Lake View S.S.S, Jinja

2.14 Training of CoNAS Staff in the RIMS

Makerere University is actively rolling out and training staff on the Research Information Management System (RIMS). RIMS is designed to streamline the management of graduate training and research processes, enabling efficient tracking of academic progress for graduate students. The university aims to enhance research and postgraduate training, with RIMS playing a key role in this effort. On 29th May 2025, the teams from DRGT and DICTS trained staff at CoNAS.

Prof. Julius Kikooma, Director Graduate Training addressing CoNAS staff about the system

03

RESEARCH AWARDS, PROJECTS & ACTIVITIES & INNOVATIONS

3.1 Research Excellence and Teacher Recognition

At the 75th graduation ceremony held on 14th January 2025, Makerere University recognized outstanding researchers and educators from CoNAS. The Senior Researcher Award was presented to Assoc. Prof. Juma Kasozi (Department of Mathematics), Assoc. Prof. Charles Masembe (Department of Zoology, Entomology and Fisheries Sciences), and Dr. Jamilu Ssenku (Department of Plant Sciences, Microbiology and Biotechnology).

The Mid-Career Researcher Award went to Dr. Julius Mulindwa (Department of Biochemistry), Dr. Patience Tugume (Department of Plant Sciences, Microbiology and Biotechnology), and Dr. Patrick Ssebugere (Department of Chemistry), while Dr. Omara Timothy (Department of Chemistry), Dr. Mukiibi Ssewannyaga Ivan (Department of Geology and Petroleum Studies), and Dr. Sadik Mustafa Abubakar (Department of Plant Sciences, Microbiology and Biotechnology) were recognized as the best Early Career Researchers. In addition, Prof. Ann Akol (Department of Zoology, Entomology and Fisheries Sciences), Dr. Sadik Mustafa Abubakar, and Dr. Kalega Peggy (Department of Geology and Petroleum Studies) were honoured as the best teachers of the year from CoNAS.

Senior Career Reseacher Award



Prof. Juma Kasozi, Prof. Charles Masembe, and Dr Jamili Ssenku received the Senior Career Researcher Award

Mid-Career Reseacher Award



Dr Julius Mulindwa, Dr Patience Tugume, and Dr Patrick Ssebugere scooped the Mid-Career Researcher Award

Early Career Reseacher Award



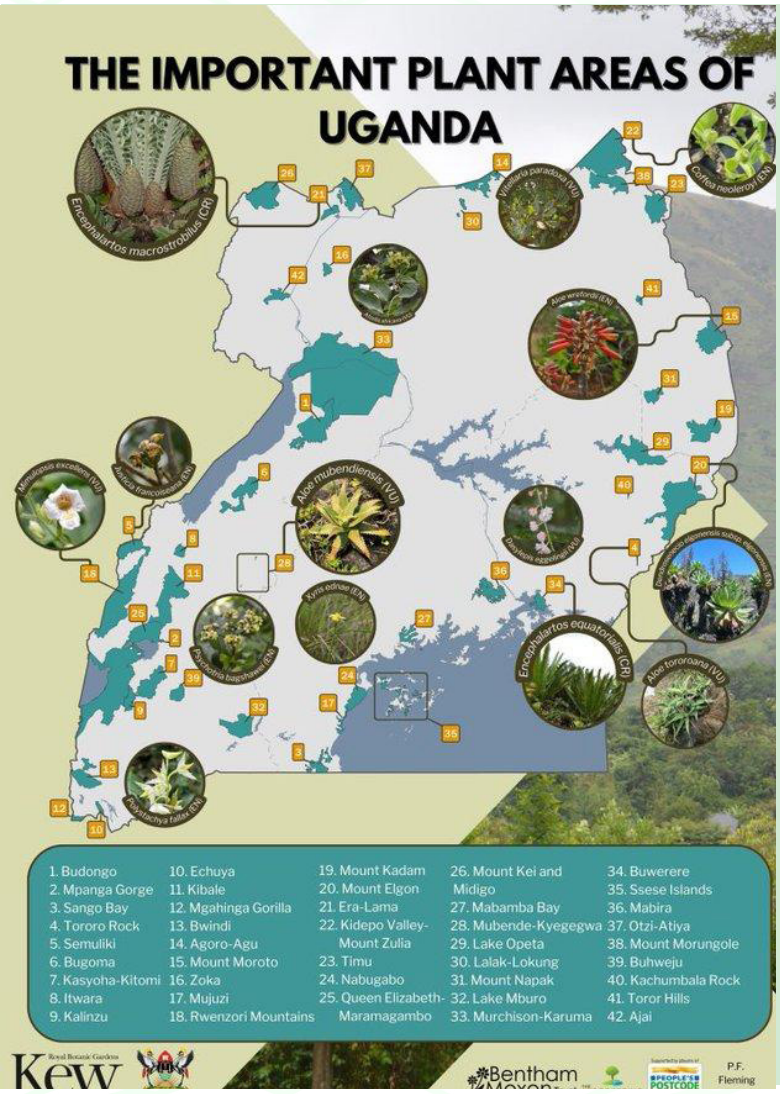
Mr. Timothy Omara, Dr Ivan Mukiibi Ssewannyaga, and Dr Abubakar Sadik Mustafa got the best Early Career Researchers' Award

Prof. Ann Akol, and Dr. Kalega Peggy were honoured as the best teachers of the year from CoNAS

3.2 Research Projects and Activities

3.2.1 Workshop on Uganda Important Plant Areas (IPAs)

Uganda has taken a significant step towards the conservation of its unique plant diversity by identifying 42 Important Plant Areas (IPAs)—critical sites that require urgent action to protect priority plant species. The initiative, spearheaded by Makerere University in collaboration with the Royal Botanic Gardens, Kew, United Kingdom, marks the first time the IPA concept has been applied in Uganda, aligning the country with global efforts, particularly the Global Strategy for Plant Conservation of the Convention on Biological Diversity (CBD), to safeguard plant diversity. The identification of these sites was based on three global criteria: the presence of threatened species, exceptional botanical richness, and threatened habitats. Among the designated IPAs are well-known protected areas such as Semuliki, Lake Mburo, Murchison Falls, Kibale, and Bwindi Impenetrable National Parks as well as Mabira, Budongo, and Kashoya-Kitomi Central Forest Reserves. However, several identified sites remain unprotected, including Tororo Rock, Buwerere, Kacumbala Rock, and Buhweju, highlighting the urgent need for conservation efforts beyond Uganda's formal protected area network. Identification of the 42 IPAs marks the first time the IPA concept has been applied in Uganda, aligning the country with global efforts, particularly the Global Strategy for Plant Conservation of the Convention on Biological Diversity (CBD), to safeguard plant diversity. The project team led by Prof. James Kalema from the Department of Plant Sciences, Microbiology, and Biotechnology, Makerere University held a two-day workshop (Wednesday 5th- Thursday 6th, March 2025) to explore conservation strategies for the 42 Important Plant Areas (IPAs) identified in Uganda.



Participants at the workshop on Uganda's Important Plant Areas held on 3rd May 2025 at Makerere University

3.2.2 Conservation of Medicinal Plants in Eastern Uganda

Despite Namutumba District's rich diversity of medicinal plants, conservation efforts are limited, and several species are already classified as globally and nationally threatened. This highlights the urgent need for focused conservation strategies to safeguard these vulnerable medicinal plants. Under a project titled "Knowledge, Attitudes, and Conservation of Commonly Traded Medicinal Plants in a Climate-Changing Environment in Eastern Uganda," a team of researchers from Makerere University, Department of Plant Sciences, Microbiology, and Biotechnology led by Dr Patience Tugume documented 174 medicinal plant species. The goal was to assess the existential threats facing these plants due to unsustainable harvesting practices and the lack of effective conservation measures.

These species are widely used to treat various health conditions, including malaria, syphilis, diabetes, hypertension, and certain cancers. The findings of the study were intended to guide the development of species-specific, evidence-based interventions to curb possible extinction and loss of medicinal plant resources. The research revealed troubling trends in the availability of key medicinal plants, including: 1) The herbalists mostly collected their medicinal plants from bushlands (92.0%), markets (82.3%) and wetlands (74.7%) and were rarely cultivated.

This is of great concern regarding the conservation and future availability of these resources; 2) It was noted that 36% of the herbal products were made from roots, which presents a conservation threat since the heavy utilization of roots affects the regeneration of the medicinal plants, 3) Common plants used were: Kigelia africana (Naibere), Erythrina abyssinica (Ekiyirikiti) and Geranium sauveolens (Lokowe). Kigelia africana was the most cited species by the herbalists, indicating heavy utilization and a high conservation threat if deliberate measures are not taken to ensure its future availability; 4) Almost all respondents (289, 96.3%) acknowledged a considerable decline in the availability of 13 medicinal plants species including Aloe wollastonii (Ekigagi), Commiphora africana (Nkulidho), Myrica kandtiana (Mukikimbo) and Acacia sieberiana (Mufundawuzi); 5) Four plant species i.e. Tamarindus indica (Enkoge), Warburgia ugandensis (Balwegira), Mitragyna rubrastipulata (Mutamatama) and Mondia whitei (Mulondo) appear on the Red List of Globally and Nationally Threatened Species and were mentioned among the plants whose population has greatly declined; 6) The causes of decline in availability of medicinal plants included climate change, overharvesting, agricultural expansion, habitat destruction, land use change and inadequate regulations; 7) There were no medicinal plant conservation efforts by herbalists.

The study recommended the following practices to ensure conservation of the medicinal plants:

1) Promote the use of sustainable harvesting techniques to ensure conservation of medicinal plants;
2) Conduct capacity building for stakeholders in the medicinal plants sector on conservation, value addition and standardization;
3) Establish community botanical gardens raw plant collection and sensitization programmes; 4) Advocate for agroforestry among herbalists to reduce the dependence on natural habitats;
5) Develop and enforce regulations on accessing natural areas for medicinal plants;
7) Promote conservation awareness campaigns.
The research team disseminated their findings to Namutumba District leaders and local herbalists on 23rd July 2025.


Left: *The Project team with some of the district leaders who participated in the workshop.* ***Centre:*** *The PI, Dr Patience Tugume addressing Namutumba District leaders and local herbalists on the key research findings.* ***Right:*** *Kigelia africana was the most cited species by the herbalists, indicating heavy utilization and a high conservation threat.*

3.2.3 Innovation in Sustainable Energy and Agriculture – Turning Food Waste into Clean Energy and Fertilizer

In November 2025, Makerere University researchers led a groundbreaking project to convert household organic waste into clean energy and agricultural inputs, addressing critical environmental and socio-economic challenges in Uganda. Household dependence on wood fuel remains high in Uganda, with approximately 65 % of households relying on firewood for cooking, contributing to deforestation, environmental degradation, and health risks from indoor smoke. Within this context, a multidisciplinary research team developed an affordable bio-digester that transforms food waste — including banana and potato peelings, leftover food, and vegetable offcuts — into biogas for cooking and lighting, while the residual bioslurry is converted into an integrated bio-fertiliser and bio-pesticide.

The project, led by Dr Patience Tugume of Makerere University and involving collaborators from Kyambogo University, MAMITA Technical and Business Management Institute, and Bishop Stuart University, is distinguished by its three-fold sustainability benefits:

- Environmental: reducing reliance on charcoal and firewood, thus slowing deforestation and cutting carbon emissions;
- Economic: producing low-cost energy and agricultural inputs that reduce household expenditures;
- Social: training and empowering women and youth, enhancing livelihoods and enabling engagement in income-generating and educational activities.
-

A demonstration site has been established at Frevasema Ltd in Biharwe, Mbarara City, where the technology is being applied to enhance sustainable practices. The innovation also offers a sustainable solution to urban organic waste, turning a sanitation challenge into a source of income and improved environmental hygiene. To date, 40 women and youth have been trained in biogas and bio-fertiliser production, and the project has begun creating opportunities for youth employment in waste collection and processing. Support for the research comes from an Early Career Research Grant awarded by the Organisation for Women in Science for the Developing World (OWSD), funded by the International Development Research Centre (IDRC).

Top: *The Integrated biofertilizer-pestcide developed under the project.*

Middle: *Dr Tugume with some of the trainees in Biharwe, Mbarara City*

Bottom: *Dr Tugume briefs the trainees on the process of macerating food wastes to be used as feed stock for biogas production.*

3.2.4 Mak Hosts International Symposium on Human-Wildlife Interactions in Africa

As human populations continue to grow rapidly around the world, the expansion of urban areas, agricultural lands, and infrastructure has led to significant reductions in natural habitats that once thrived with diverse wildlife. This ongoing encroachment has intensified interactions and conflicts between humans and wildlife. These conflicts take many forms, from wildlife damaging crops and property to more serious and sometimes dangerous encounters between animals and people.

Such incidents not only threaten the safety and well-being of local communities but also jeopardize the survival of numerous animal species, thereby undermining the rich biodiversity that is essential for maintaining healthy ecosystems. The increasing frequency of these human-wildlife conflicts poses complex challenges for both conservationists and local populations who depend on natural resources for their livelihoods. To address these pressing issues, a growing number of researchers and conservationists from across Africa are collaborating to develop innovative strategies.

On 5th September 2025, Makerere University convened an International Symposium on Integrated Studies on Human-Wildlife Interactions in Africa to examine the intricate balance between development and conservation. Hosted by the Department of Zoology, Entomology and Fisheries Sciences, and attended by scholars, conservationists, and community representatives, the central aim of the symposium was to foster a deeper, more integrated understanding of human-wildlife interactions, particularly in African contexts where rapid population growth and land-use changes are placing mounting pressure on ecosystems.

Some of the stakeholders that participated in the symposium

3.2.5 CoNAS Wins CAD 0.8 Million Grant to Scale-up Fish Processing Technologies & Empower Women in Uganda through the NutriFishPlus Project

Following the successful implementation of the NutriFish Project (2019-2023), Makerere University through the College of Natural Sciences (CoNAS) was in 2025 awarded a new grant worth about UGX2 Billion to expand activities and deepen community impact through the NutriFishPlus Project. Funded by the International Development Research Centre (IDRC) and the Australian Centre for International Agricultural Research (ACIAR) under the Cultivate Africa's Future Fund Phase II (CultiAF2), the NutriFishPlus Project seeks to enhance the incomes and livelihoods of fishing communities in Uganda.

Launch of the NutriFishPlus Project

The Project was officially launched by the Deputy Vice Chancellor in charge of Finance & Administration at Makerere University, also Principal, CoNAS, Prof. Winston Tumps Ireeta at Rider Hotel in Seeta on 28th October 2025

The project was officially launched on 28th October 2025 by the Ag. Deputy Vice Chancellor (Finance and Administration) at Makerere University, Prof. Winston Tumps Ireeta. Building on the achievements of phase one, NutriFishPlus will focus on:

1. Scaling up the use of improved and sustainable fishing technologies, including solar tent driers and raised racks, to reach new communities across Uganda.
2. Enhancing market access and strengthening supply chain linkages for high-quality fish and fish-based products.
3. Empowering women and other vulnerable groups and strengthening community resilience through diversified income-generating activities.

The project is expected to deliver the following outcomes:

1. Improved incomes and livelihoods for the marginalized fishing groups, particularly women and youth.
2. Better health and nutrition outcomes through the development of diversified, market-embedded fish products.
3. Establishment of sustainable fish processing and marketing models that can be replicated across Uganda and the East African region.
4. Improved participation of women and youth in decision-making and benefit-sharing within the Small Pelagic Fishes (SPFs) value chain.
5. Enhanced socioeconomic conditions and ecosystem health through participatory and scalable approaches.

The project commenced in September 2025 and is scheduled to end in March 2028. It is being implemented by the Department of Zoology, Entomology, and Fisheries Sciences at Makerere University, in collaboration with two private companies (Nutreal Ltd and Kati Farms Ltd) under a public-private partnership. Project activities will be carried out at five landing sites around Lakes Victoria, Kyoga and Albert. These include Katosi and Kikondo landing sites in Mukono and Buikwe districts respectively, Bangaladesh and Kayago landing sites in Amolatar District, and Dei landing site in Pakwach District. The Principal Investigator is Dr. Jackson Efitre, a Senior Lecturer at the Department of Zoology, Entomology, and Fisheries Sciences at Makerere University.

Dr. Jackson Efitre, PI, shows the Minister of State for Fisheries, Hon Hellen Adoa, the Solar tent dryers developed under the project.

3.2.6 NutriFishPlus Project Team Participation in the Jinja Fish Festival

The NutriFishPlus Project team participated in the 7th edition of the Jinja Fish Festival, held on 6th–7th December 2025 at Across the Nile Resort, along the banks of the River Nile in Njeru Municipality. Renowned for showcasing diverse fish cuisines and cultural exhibitions, the festival aimed to promote knowledge exchange, raise awareness, and highlight recent developments around Lake Victoria. Launched in 2018, the Jinja Fish Festival has become a key platform for the public and stakeholders to learn

about sustainable fisheries and the vital role of fish in livelihoods and nutrition. It also provides an avenue for fisheries stakeholders to deliberate on strategies to improve and sustain the sector. The event includes the Lake Victoria Marathon, Nalubaale boat rowing competitions, a high-level fisheries forum, workshops, and exhibitions. It is organized by the Lake Victoria Fisheries Organization (LVFO) in partnership with the Directorate of Fisheries Resources, Sustainable Fisheries Initiative (SFI), Uganda Fish Processors and Exporters (UFPEA), and the International Fish and National Organizing Committee.

It is funded by GIZ–SAF Project, the Food and Agriculture Organization (FAO), the International Fund for Agricultural Development (IFAD), and Enabel. Led by Ms. Nelly Badaru, Gender Expert on the Project and Ms. Juliet Ogubi Nafula, PhD student in the Department of Zoology, Entomology, and Fisheries Sciences at CoNAS, the team showcased products developed under the project and educated participants on the nutritional benefits of small pelagic fishes. In its first phase, titled NutriFish, Makerere University researchers, led by Dr. Jackson Efitre, in collaboration with the National Fisheries Resources Research Institute (NaFIRRI–NARO), NUTREAL Limited, and McGill University, Canada, developed five high-value nutritious products, including baby food, sauce, maize meal, snacks, and seasoning, using Mukene (silverfish).

The team also published a Mukene recipe book, containing 16 recipes rich in protein, calcium, zinc, and iron. Through the project, fishers gained access to loans for purchasing boats and fish containers that improve hygiene and product quality. Two enterprise fishing groups, with over 70 boats, were established to ensure consistent supply and standards. Researchers also developed the eCAS system, an application for tracking fish catches. By September 2022, 8,960 catch records had been transmitted through the system, which is now used by over 200 stakeholders, including the Directorate of Fisheries Resources and the Fisheries Protection Unit, helping prevent overfishing.

Other achievements registered under the project included the development of solar tent driers – greenhouse-like structures that reduce the risk of contamination and provide clean and efficient storage and drying, especially during the wet season subsequently reducing post-harvest losses. The project conducted awareness training for 326 people (200 women) to reduce gender inequalities. As a result, domestic violence dropped by 30%, and the number of women in the fish value chain increased. The project also trained eight Graduate students, who have gained valuable skills and knowledge thus boosting critical human resource needs in the fisheries sector.

The NutriFishPlus Project team showcasing some of the products developed in Phase One

3.2.7 CoNAS Recognised for its outstanding contribution to the Development of the Fisheries Sector

Makerere University, through the Department of Zoology, Entomology, and Fisheries Sciences (ZEFS) at the College of Natural Sciences (CoNAS), was recognized for its outstanding contribution to the development of the fisheries sector in Uganda. The award was presented during the Sustainable Fisheries, Aquaculture, and Environmental Awards Ceremony at the 7th edition of the Jinja Fish Festival, held on 6th–7th December 2025. ZEFS has over the years undertaken research projects that have addressed key challenges in fisheries and aquaculture, such as sustainable fish processing, value-addition, and environmental impact mitigation. Its NutriFish and NutriFishPlus projects, for example, have developed nutritious fish-based products, improved processing technologies (like solar tent dryers), and strengthened livelihoods for fishing communities, especially women and youth. These initiatives also support market access and supply chain improvements.

Training and Capacity Building

Through the Bachelor of Fisheries and Aquaculture programme, supported by a wide network of strategic partnerships, the department plays a pivotal role in strengthening technical and professional competencies in fisheries and aquaculture. These initiatives contribute to the development of a skilled and knowledgeable workforce, thereby enhancing human capital and supporting sustainable growth and innovation within the sector.

Pre-testing the sparky solar dryer prototype

3.2.8 Transforming Food Production & Curbing Food Insecurity through the EU-funded INNOECOFOOD Project

Across Uganda and much of Africa, millions still struggle with hunger and malnutrition, despite our continent's rich natural resources. Climate change, population growth, and unsustainable farming have only made the challenge greater. But hope is on the horizon. The EU-funded INNOECOFOOD Project at CoNAS, running from 2024 to 2026, is transforming food production in Uganda. Through eco-innovative, climate-smart systems, the project aims to improve nutrition, protect the environment, and create jobs-especially for youth and women.

Central to this effort are solar- and wind-powered ECOHUBs. These innovative centres use AI and IoT technology to support sustainable fish farming, monitor water quality, reduce losses, and increase yields. The project also turns underused resources like fish by-products, spirulina, and insects into safe, nutrient-rich foods, promoting a circular bio-economy that benefits both people and the planet. The image below presents the journey of developing novel food products, highlighting the progression from raw materials to finished, value-added outputs.

The Department of Zoology, Entomology, and Fisheries Sciences at CoNAS, Makerere University was recognized for its outstanding contribution to the development of the fisheries sector.

3.2.9 TRUEFISH East African Regional Workshop on Aquatic Animal Health & Biosecurity

Aquaculture is one of the fastest-growing food production sectors globally and plays a crucial role in food security, nutrition, and sustainable development. Since 2022, aquaculture supplies more than half of the world's fish consumption. In Africa, the sector has rapid expansion. Between 2000 and 2020, aquaculture production in Sub-Saharan Africa increased by over 400%, with annual growth rates reaching 10–20% in several countries. Projections suggest regional production could exceed 2 million tonnes by the mid-2030s if current trends continue. Uganda has emerged as one of the region's aquaculture leaders. From producing just under 1,000 tonnes in the early 1990s, the country scaled up to an estimated 120,000 tonnes by 2020, making it the second largest aquaculture producer in Sub-Saharan Africa after Egypt. This growth has positioned aquaculture as a key driver of livelihoods, economic development, and food security, core goals of the Sustainable Development Agenda. However, the sector faces growing risks related to disease outbreaks, poor-quality inputs, antimicrobial misuse, and weak biosecurity infrastructure. Experts warn that outbreaks such as tilapia lake virus (TiLV) and streptococcosis could significantly impact production and regional trade if not adequately addressed. In response to the growing challenges in aquatic animal health and biosecurity, the Lake Victoria Fisheries Organisation (LVFO) and the Food and Agriculture Organisation of the United Nations (FAO), implementers of the TRUEFISH Project, in collaboration with Makerere University held a five-day workshop in Kampala from 18th to 22nd September 2025 to develop practical strategies for managing aquatic animal diseases and improving biosecurity across the region. The workshop, hosted by Makerere University and held at the Kampala Kolping Hotel, was organized under the European Union-funded TRUEFISH project, a component of the 11th European Development Fund (EDF). It brought together a diverse group of stakeholders, including technical experts, government officials, researchers, and private sector representatives from across East Africa. Facilitated by Dr. Melba Bondad-Reantaso, Team Leader – Food Safety, Nutrition and Health at the FAO's Fisheries and Aquaculture Division; Mr. Jose Parajua, Fisheries Technical Advisor at FAO; and Dr. Peter Akoll from Makerere University, the workshop provided a platform for countries to review national strategies, align regional efforts, and address critical challenges in the aquaculture sector. Key topics discussed included emergency preparedness for sudden fish mortality events, regional pathogen surveillance and disease reporting, regulation of fish movements, quarantine protocols, waste management, enhanced biosecurity measures, and the prudent use of antimicrobials in aquaculture systems.

Left: *Mr. Jose Parajua, Fisheries Technical Advisor at FAO addressing participants.* ***Centre:*** *Dr. Melba Bondad-Reantaso with the Kenyan team at the workshop.*



Left-right: *The Ugandan team led by Dr. Peter Akoll discussing the key strategic plans for Aquatic Animal Health and Biosecurity at the workshop. Mr. Jose Parajua, Fisheries Technical Advisor at FAO guiding the team from Burundi. Mr. Jose Parajua, Mr. Koffi Honouga, FAO Operations Officer; and Dr. Melba Bondad-Reantaso at the workshop at Kampala Kolping Hotel.*

3.2.10 Project to Assess Effects of Climate Change on Freshwater Ecosystems (ECCoFE)

ECCoFE focuses on how climate change, which is one of the triple crisis facing humanity today, is affecting freshwater ecosystems. The project brings together experts from Kabale University and Makerere University in Uganda, and University of South-Eastern Norway in Norway, to conduct teaching and research on effects of climate change on freshwater ecosystems.

Activities in the project

To achieve the objective, several activities will be implemented including summer schools to be held both in Uganda and Norway; semester-based student mobility from Uganda to Norway and vice versa; field and laboratory practical; research; outreach activities and citizen science; and capacity building through acquisition of equipment for molecular biology. Research activities will primarily take place at Lake Nabugabo in Uganda and Lake Goksjø in Norway.

Project outcome

Increased student learning outcomes, acquisition of field and laboratory experience, and international experience with better professional network; improved quality of student supervision; improved quality of teaching and research activities through collaboration and access to equipment; enhanced capacity of teams through mentorship, training, networking and horizontal knowledge transfer; more visibility of partner institutions through disseminations, and strengthened institutional partnerships for exploration of other funding opportunities.

Financing

ECCoFE is a project funded by the Norwegian Directorate for Higher Education and Skills (HK-dir) through the Norwegian Partnership Programme for Global Academic Cooperation (NORPART).

Project duration: Four years: December 2024 – December 2028

Project participants

Tone Jøran Oredalen, Coordinator USN, Daniel Abiriga, Coordinator KAB, Robinson Odong, Coordinator Mak, Robert Ptacnik (USN), Perpetra Akite (Mak), Agnes Ariho Babugura (KAB), Catherine Nanyonga (Mak), Isaiah Owiunji (KAB), Mona Sæbø Støren (USN), Alex Saturday (KAB), Jørn Henrik Sønstebø (USN).

Some of the ECCoFE Project team members at the Equator

3.2.11 Integrating Micronutrient Testing Capacity in a Public Health Reference Laboratory to Support Surveillance in Uganda (MicroNUT-IPHL)

MicroNUT-IPHL is a three-year investment aimed at integrating micronutrient testing into Uganda's public health laboratory system. The project is implemented through a collaboration between the National Health Laboratory and Diagnostic Services (NHLDS), the Nutrition Division, Ministry of Health; Makerere University Department of Biochemistry and Systems Biology, and Uganda Bureau of Statistics. The project is piloting two cost-lowering approaches for sample acquisition: (1) archived samples from the Uganda Population-based HIV Impact Assessment and other infectious diseases national surveys, and (2) remnant samples from routine health-facility laboratory testing transported through the National Sample Transport and Results Network (hub-based study). Micronutrient and related biomarkers are quantified using the Quansys Q-Plex™ Human Micronutrient v2 (7-plex) assay, which measures indicators of iron (ferritin, sTfR), vitamin A (RBP4), inflammation (AGP, CRP), iodine (thyroglobulin), and malaria (HRP2). To date, analysis of 9,739 archived UPHIA 2020-2021 samples is complete. The hub-based study is on-going, with approximately 8,000 remnant clinical samples collected from 43 health facilities across all 11 sub-regions of the country.

3.2.12 Gates Foundation-Emory University Visit to Uganda, 9–12 December 2025

A four-member delegation from the Gates Foundation (Jonathan Gorstein, Kathy Banke and Omar Dary) and Emory University (Kasthuri Sivalogan), visited Uganda for a four-day technical engagement with the Central Public Health Laboratories (CPHL) and Makerere University focused on the two GF investments. MicroNUT Project discussions focused on strengthening laboratory methods, including further optimization of the Quansys v2 micronutrient assay, and on promising results from the development of a hemoglobin-from-DBS protocol (MSc Biochemistry student). A field visit to Sembabule HCIV, one of the sites for the hub-based study offered valuable insights into real-world sample collection, storage, transport, and ANC service delivery in semi-rural settings.

Going forward, the project will prioritize first-trimester ANC attendees as the core surveillance population, expand sampling to lower-level facilities, complete laboratory method optimization, and strengthen data validation through triangulation with community surveys and household food consumption data. MNBI-SAB Secretariat: The visit also marked the launch of the Micronutrient Biomarker Initiative (MNBI) Scientific Advisory Board (SAB) Secretariat. The inaugural meeting focused on putting core governance structures in place, including the review and alignment of the SAB Terms of Reference, Technical Working Group (TWG) guidelines, the updated work plan and deliverable matrix, the draft TWG membership list, and the SAB concept note. Discussions also highlighted the importance of strengthening coordination and data management, with consensus on the need for a centralized, secure database to support data sharing, harmonized reporting, and cross-institutional collaboration.

L-R: *Dr Isaac Ssewanyana, Director CPHL/PI MicroNUT; Dr Omar Dary, Consultant, GF; Dr Kasthuri Sivalogan, Early-Career Nutrition Scientist, Emory University; Dr Jonathan Gorstein, Senior Program Officer-Nutrition Program, GF; Ms Bernadette Negesa, Senior Medical Laboratory Officer, Sembabule HCIV, Dr Joseph Mbabazi, Early-Career Nutrition Scientist, Makerere University; Ms Hildah Kirunga, Quality Assurance Officer, Sembabule HCIV; Mr. Patrick Semanda, Laboratory Technologist, CPHL; Ms Hellen Nansumba, Laboratory Manager, CPHL; Ms Destiny Aguma, ICT fellow, CPHL; Dr Kathy Banke, GF; Dr Rhona Baingana, Makerere University, PI MNBI-SAB Secretariat.*
Photo credit: Mr Mike Mazinga, Project Coordinator-MicroNUT/MNBI-SAB.

3.2.13 CoNAS Participation in the 2025 National Science Week Exhibition

Over 300 Ugandan innovators, among them students from the College of Natural Sciences (CoNAS) and other science-based colleges at Makerere University participated in the 2025 National Science Week exhibition held at the Kololo Independence Grounds. Launched in 2021, the National Science Week is an annual event organized by the Science, Technology, and Innovation (STI) Secretariat under the Office of the President. The exhibition serves as a strategic platform for showcasing Uganda's advancements

in science, technology, and innovation, both at the national level and on the global stage. Organized under the theme "Made in Uganda: Innovation to Market", the 2025 edition held on 15th-20th June highlighted the country's growing capacity to transform home-grown scientific ideas and research into viable, market-ready products and technologies.

Guided by their lecturers and coordinated by Prof. Juma Kasozi, Deputy Principal of CoNAS, the students showcased the following projects:

1. Anti-fungal and Anti-bacterial Gel Research Project
Team Leader: Mwebaze Bruce
Team Members: Atim Martha, Sebastian Jordan
This project explored the development of a topical gel with both anti-fungal and anti-bacterial properties, aimed at improving public health outcomes in communities with limited access to conventional treatments.

2. Minoxidil Production for Hair Regrowth
Team Leader: Keinembabazi Melissa
Team Members: Hashima Nanyiri, Nkamusiima Andrew
Focused on producing affordable, locally made Minoxidil, this project aims to provide a cost-effective solution for treating hair loss.

3. Infrared Biosensor for Aflatoxin Detection
Team Leader: Rubeihayo Randolp
Team Members: Namuleme Martha, Wabitereza Teddy
This innovation utilizes spectrophotometry to develop an infrared biosensor capable of detecting harmful aflatoxins in food, contributing to food safety and public health.

4. Biofuel Production from Water Hyacinth
Team Leader: Bill Garvin
Team Members: Kalanguka Patience Pearl, Nuwagaba Victor
The project converts invasive water hyacinth into sustainable biofuels using hydrothermal liquefaction, offering an environmentally friendly alternative energy source.

5. Automobile Fuel Gauge Detector
Team Leader: Ayebare Sam
Team Members: Achieng Rosemary, Nakirinda Winnie
This project involves the development of a reliable fuel gauge detector to improve vehicle fuel management and efficiency.

Top: *Team Leader Bill Garvin with team members Kalanguka Patience Pearl and Nuwagaba Victor showcase their project – converting invasive water hyacinth into sustainable biofuels through hydrothermal liquefaction.*

Middle: *Team Leader Mwebaze Bruce, with team members Atim Martha and Sebastian Jordan, showcase their Anti-fungal and Anti-bacterial Gel Research Project, an innovative solution aimed at enhancing public health in communities with limited access to conventional treatments.*

Last: *is an affordable, locally made hair growth remedy. Students of CoNAS developed a cost-effective Minoxidil alternative to tackle hair loss*

Right: *Students showcasing their product aimed at detecting harmful aflatoxins in food.* ***Left:*** *The team led by Ayebare Sam developed a reliable fuel gauge detector to improve vehicle fuel management and efficiency*

3.2.14 Molecular Biology Laboratory (MoBiLab) Training

The Molecular Biology Laboratory (MoBiLab) Training was held from 2–10 October 2025. This collaborative initiative was jointly organized by Makerere University and Ghent University (Belgium), and coordinated by the International Plant Biotechnology Outreach (IPBO). Funded by VLIR-UOS, the program seeks to address the limited access to molecular biology training in Sub-Saharan Africa. In Uganda, the training was hosted by Makerere University and Muni University, and was designed for academic staff, laboratory technicians, and researchers.

The students in one of the training sessions

3.2.15 TotalEnergies and SLB Donate Computers to the Department of Geology & Petroleum Studies

In a continued demonstration of their commitment to advancing geoscience education and capacity building, TotalEnergies and SLB have generously donated computer equipment and specialized software to the Department of Geology & Petroleum Studies. The donation is aimed at strengthening practical training within the Petroleum Geoscience Learning Laboratory by fully equipping eight (8) dedicated workstations.

Each workstation has been outfitted with two monitors and one high-performance computer, creating a modern and efficient learning environment that mirrors industry standards. TotalEnergies provided the hardware components, ensuring that students and faculty have access to reliable and up-to-date computing infrastructure. Complementing this contribution, SLB supplied the specialized software required for petroleum geoscience applications, thereby enabling hands-on training in data analysis, interpretation, and modeling. This collaborative support enhances the Department's ability to deliver industry-relevant instruction, better preparing students with the technical competencies and practical skills required in the evolving energy sector.

Dr. Simon Echegu, formerly Senior Lecturer in the Department of Geology and Petroleum Studies overseeing the installation of the computers.

Ongoing Research Projects

No.	Project title	Purpose	Duration	Principal Investigator
1	Mathematics for Sustainable Development	Makerere University in collaboration with University of Bergen, Norway and University of Dar es Salaam, Tanzania won a grant of NOK19,900,000 to train five (5) PhDs at Makerere University and six (6) PhDs at University of DaresSalaam between 2021-2026.	2021-2026	Assoc. Professor John M. Mango, Department of Mathematics
2	Energy Technology Network (EnergyNET)	EnergyNET project is funded by the Norwegian Agency for Development Cooperation (NORAD) under NORHED II. "The project is a network of African universities collaborating on education and research in Energy Technology. EnergyNET project is coordinated by NTNU-Trondheim and the project partners are: University of Dar es Salaam (Tanzania), Makerere University (Uganda), Mekelle University (Ethiopia), Addis Ababa University (Ethiopia) and Eduardo Mondlane University (Mozambique	2021-2026	Dr. Karidewa Nyeinga, the Department of Physics
3	Dry Rifting in the Albertine Rhino (DRIAR) Project	Makerere University is collaborating with the US universities including Virginia Tech and University of Kansas to conduct research in the Albertine Graben under the Dry Rifting in the Albertine Rhino (DRIAR) Project. The DRIAR Project involves a geophysical, geochemical, geological, and geodynamic investigation of the Albertine-Rhino Graben in western and northwestern Uganda to improve understanding of continental rifting in areas where volcanic activity is minimal. Several field activities are being carried out. These activities include collecting water samples, collecting rock samples, temporary deployment of seismic, magnetotellunc, and gravity instruments, permanent installations or Global Navigation Satellite System (GNSS) instruments, temporary deployment of GNSS instruments at specific locations, and geological mapping. PhD students include Mr. Hillary Mwongyera and Ms. Asenath Kwagalakwe.	2021-2025	Dr. J.M. Kiberu,Department of Geology and Petroleum Studies
4	IST Grant of 598,000 SEK -	Grant to support women in Mathematics and Gender Outreach Activities		Dr B. K. Nannyonga, Department of Mathematics
5	Understanding cell to cell heterogeneity in African trypanosome field isolates	Funded by DFG (German Research Fund), Project No. 444811942; Amount Eur 179,735	2023- 2025	Dr Julius Mulindwa - Department of Biochemistry and Sports Science
6	INNOECOFOOD Project	Funded by the EU under The Horizon Europe Programme	2024-2026	Dr Godfrey Kawooya Kubiriza - Department of Zoology, Entomology and Fisheries Sciences

7	Prevention and Management of postpartum haemorrhage using safe uterotonics	IDRC-UNESCO	2023-2025	Dr Alice Nabatanzi - Department of Plant Sciences, Microbiology, and Biotechnology
8	Bio-GOLD Project - the project aims to develop sustainable technologies for remediation and rehabilitation of mercury contaminated soils and effluents in Mercury-dependent Artisanal and Small-scale Gold Mining (ASGM) areas in Uganda	Funded by the Austrian Development Cooperation through APPEAR	2024-2028	Project PI is Dr Mary Kaggwa from Kyambogo University. At Makerere, the Project is coordinated by Dr Peter Akoll from the Department of Zoology, Entomology and Fisheries Sciences
9	Establishment of a Scientific Advisory Board for the Micronutrient Biomarker Initiative (MNBI-SAB) -Leading a two-year initiative to establish a Scientific Advisory Board to guide the Micronutrient Biomarker Initiative (MNBI). The project provides independent scientific oversight, strengthens methodological and analytical standards for biomarker research, and supports the generation of high-quality evidence to inform public health programs and improve nutrition and health outcomes in underserved populations.	Gates Foundation, USD 1,010,168; in partnership with Emory University	2025–2027	Dr Rhona Baingana - Department of Biochemistry and Systems Biology
10	Capacity Building in Science and Technology in Uganda and Turkey	Erasmus+ International Credit Mobility programme (Project Coordinator, Uganda).	2026 – 2028	Patrick Ssebugere
11	Capacity building in Gas Chromatography and Food Security in Uganda and Slovakia	Erasmus+ International Credit Mobility programme, Grant No. 2022-1-SK01-KA171-HED-000077735	2025 – 2027,	Patrick Ssebugere
12	Learning mobility for higher education, students and staff between University of L'Aquila, Italy and Makerere University	Erasmus+ Programme	July 2025	Dr. David Ssevviirri

13	Eastern Africa Algebra Research Group	SEK 30,000 from ISP	Feb 2025	Dr. David Ssevviirri
14	Effects of Climate Change on Freshwater Ecosystems (ECCoFE) - focuses on how climate change, which is one of the triple crisis facing humanity today, is affecting freshwater ecosystems. The project brings together experts from Kabale University and Makerere University in Uganda, and University of South-Eastern Norway in Norway, who will join forces to work collaboratively to conduct teaching and research on effects of climate change on freshwater ecosystems.	Norwegian Directorate for Higher Education and Skills (HK-dir) through the Norwegian Partnership Programme for Global Academic Cooperation (NORPART)	Dec 2024 – Dec 2028	Dr Robinson Odong from the Department of Zoology, Entomology, and Fisheries Sciences coordinating the project at Makerere University
15	Integrating Micronutrient Testing Capacity in a Public Health Reference Laboratory to Support Surveillance in Uganda (MicroNUT-IPHL)	Bill & Melinda Gates Foundation	2023-2026	PI: Dr. Isaac Ssewanyana, Central Public Health Laboratories, Ministry of Health. Co-Investigator: Dr. Rhona Baingana, Department of Biochemistry and Systems Biology at CoNAS
16	Establishment of a Scientific Advisory Board for the Micronutrient Biomarker Initiative (MNBI-SAB) - This is a two-year initiative to establish a Scientific Advisory Board to guide the Micronutrient Biomarker Initiative (MNBI). The project provides independent scientific oversight, strengthens methodological and analytical standards for biomarker research, and supports the generation of high-quality evidence to inform public health programs and improve nutrition and health outcomes in underserved populations. The Secretariat coordinates the activities of the SAB.	Gates Foundation, USD 1,010,168; in partnership with Emory University	2025-2026	Dr. Rhona Baingana, Department of Biochemistry and Systems Biology at CoNAS.

RIF Round 6 grant recipients

No	Project title	PI	Department
1	Dr Alice Nabatanzi	From World's Worst Water Weed to Worth: Small-scale Community Biorefining of Water hyacinth to produce value-added commercially valuable products.	Plant sciences, Microbiology and Biotechnology
2	Miiro Brian Nsubuga	Gambling advertisement and Peer Effect on Teenegar Gambling in Ugandan Urban Areas	Exercise and Sports Science
3	Patrick Ssebugere	Recycling biomass residues from agricultural waste into alternative clean energy via sustainable methanol production	Chemistry
4	Ireeta Tumps Winston	Skooldesk: An A.I. based Quiz Chatbot for Improved Learning Outcomes	Physics

RIF Round 5 grant recipients

1	Assessing feasibility, acceptability and utility of tuberculosis-molecular bacterial load assay for monitoring TB treatment in three HIV Clinics in Kampala	Dr Agnes Nandutu Ma-sawi	Biochemistry and Sports Science

2	Exploitation of Azolla as a renewable Climate Smart Agricultural resource for restoration of degraded soils and improvement soil productivity in Uganda	Ms. Nabyonga Lydia	Plant sciences, Microbiology and Biotechnology
3	Designing efficient, inexpensive, and Eco-friendly Plant- Derived Nanoparticles Adsorbents For Removal Of Pharmaceutical Residues From Effluent Water	Dr Florence Nantaba	Chemistry
4	Knowledge, Attitudes And Conservation Of Commonly Traded Medicinal Plants In A Climate Changing Environment In Eastern Uganda	Dr Tugume Patience	Plant sciences, Microbiology and Biotechnology
5	The Forgotten Tropical Peat Swamp Forests of Lake Victoria Basin, Uganda: A Treasure for Restoration and Conservation Biochemistry and Sports Science	Mr. John Omara	
6	Developing Blight Resistant Tomato Varieties to Reduce Excessive Use of Fungicide and Generation of Tomato Shelf-life Extension Technologies for Smallholder farmers in Uganda	Ozimati Alfred Adebo	
7	Immersive Technology for Physics	Dr Elizabeth Naluminsa	Physics
8	Development of Poly-Herbal mosquito repellent from Marigold, Lemon grass and Eucalyptus plant cocktail for malaria control	Dr Ambrose K. Mukisa	Biochemistry and Sports Science

04 KNOWLEDGE SHARING AND OUTREACHES

4.1 Promoting Science Education in Schools through Astronomy

In an initiative geared towards bolstering science education in Uganda, Makerere University Department of Physics is leveraging the wonders of astronomy and space science to ignite curiosity and enthusiasm among learners. In 2025, the project, led by Prof. Florence Mutonyi D'ujanga from the Department of Physics reached 10 schools in Kampala, Luwero, and Mukono districts, using the vast universe to inspire the next generation of scientists, engineers, and mathematicians. The astronomy outreach activities have impacted numerous schools across different regions in Uganda. The initiative started during the COVID-19 lockdown, with initial outreach to nearby schools in Kampala. As the programme gained momentum, it expanded to various districts, benefiting students from both primary and secondary levels. The schools that have participated in the programme include, Kampala: Makerere College School and Makerere CoU Primary School, Luwero: Mulusa Academy (Wobulenzi), Wobulenzi Bright Parents, Janan Luwum S.S., and Janan Luwum Nursery & P/S, MUkono: Our Lady of Africa S.S., Kyesereka CoU P/S, Mpoma Royal College, and Mpoma Junior School. Funded by the Government of Uganda through the Makerere University Research and Innovations Fund (MakRIF), the central aim of this initiative was to use astronomy and space science to capture the imagination of students, encouraging them to embrace the study of science and mathematics. On 21st March 2025, the project team hosted a dissemination event at Makerere University to present and share their research findings. The event was presided over by Prof. Winston Tumps Ireeta, the Principal of the College of Natural Sciences (CoNAS) and Acting Deputy Vice Chancellor in charge of Finance and Administration at Makerere University. The event was attended by students, school administrators, as well as representatives from MakRIF and the Ministry of Science, Technology, and Innovation.

Students from the participating schools in the Planetarium shortly before the dissemination workshop. Planetarium Shows was one of the project activities that provided exciting visual experience where students could view projections of stars and planets. In the middle is the PI, Prof. Florence D'ujanga addressing participants at the project dissemination workshop held at Makerere on 21st March 2025.

Left: *Pupils of Makerere Primary School during the project research dissemination event. Each of the participating schools received a certificate in appreciation of their contribution to the project.* ***Center:*** *is the Head Teacher of Makerere Primary School receiving a certificate. Right is Mr. Kivumbi, Physics teacher at MACOS receiving a certificate on behalf of the school.*

4.2 Erasmus+ Chemistry Conference 2025

On 1st July 2025, Makerere University College of Natural Sciences (CoNAS) hosted the Erasmus+ Chemistry Conference 2025 under the theme "Institutional Collaboration as a Catalyst for High-Impact Research." The conference brought together partner institutions including CoNAS (Makerere University, Uganda), the Slovak University of Technology (Slovakia), and Jomo Kenyatta University of Agriculture and Technology (JKUAT, Kenya). The event featured a keynote lecture by Prof. Anthony Gachanja from JKUAT, who shared insights on "Laboratory Sustainability: Experiences in Mass Spectrometry within a Sub-Saharan African Laboratory Context."

A key highlight of the conference was a series of research presentations by postgraduate students supported by the Erasmus+ programme. These included:

1. Ashiraf Miiro (MSc, Makerere University) – Novel and Legacy Per- and Polyfluoroalkyl Substances in Major Wastewater Treatment Plants in the Lake Victoria Basin, East Africa

2. Nicolette Viktoryová (STU) – Solid-Phase Microextraction Coupled to GC-MS/MS for Determining Bioplasticizers in Environmental and Bottled Waters

3. Josphine Auma (PhD, JKUAT) – High-Resolution Mass Spectrometry Approach to Cyanotoxins Detection and Characterization

4. Collins Yiiki (MSc, Makerere University) – Epoxidation of Olefins over Supported Bimetallic Catalysts Using Oxygen as Oxidant and Carbon Dioxide as Moderator

5. Kristof Urban (STU) – Development of Large-Volume Water Sampling Using SPE and GC-MS for Determining Selected Priority Compounds

6. Linda Kariuki (MSc, JKUAT) – Occurrence of Microplastics in Fish and Nairobi River Sediments and Evaluation of Removal Efficiency in Kenyan Wastewater Treatment Plants

7. Kubrah Ismaila (STU) – Comprehensive Analysis of Volatile Organic Compounds in Roasted Arabica Coffee from Four Geographical Origins

8. Amina Nalweyiso (Makerere University) – Green Synthesis of Zero-Valent Iron Nanoparticles from Cape Gooseberry (Physalis peruviana L.) Biomass for Oil Spill Remediation

9. Tamara Pocsova (STU) – Biomonitoring of Heavy Metals in Leaf Samples from Various Regions of Italy

10. Peter Sekandi (Makerere University) – New Terpenoids from Rytigynia kigeziensis Verdc and Their Antibacterial Potential

Top Row ; Left: *Prof. Anthony Gachanja from JKUAT delivering a lecture on the importance of laboratory sustainability*

Bottom Row; Left: *Some of the MSc and PhD students supported by the project presenting their research projects.* ***Right:*** *the participants during the seminar*

4.3 The Makerere–CIMPA Research School (13th–24th January 2025)

The Department of Mathematics at the College of Natural Sciences (CoNAS), Makerere University, hosted the 2025 Makerere–CIMPA Research School on Effective Algebra and the L-functions and Modular Forms Database (LMFDB) from 13th to 24th January 2025. The school brought together graduate students, early-career researchers, and established mathematicians to explore recent developments in effective methods in algebra and the use of the LMFDB as a research tool in number theory and related areas. The objectives of the activity included:

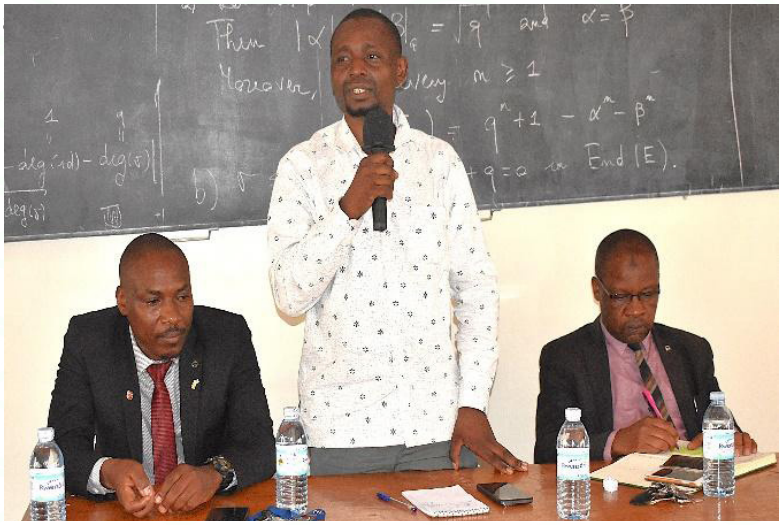
1) Introducing participants to modern computational and theoretical techniques in effective algebra,

2) Providing training on the use of the L-functions and Modular Forms Database (LMFDB) as a resource for mathematical research,

3) Promoting collaboration and knowledge exchange between local and international researchers in algebra and number theory,

4) Strengthening research capacity among graduate students and early-career mathematicians in the region, and

5) Stimulation of new research directions and projects in areas related to algebra, number theory,



Top: *The Head, Department of Mathematics, Dr Ismail Godfrey Mirumbe welcoming participants to the workshop.*

Bottom: *Some of the instructors at the workshop*

4.4 Workshop on Health Data Analysis in Collaboration with CoRE-Math, GSU, and MATH4SDG at Makerere

The workshop aimed to strengthen interdisciplinary collaboration between mathematicians, statisticians, and health professionals in the effective analysis and interpretation of health and medical data. By bringing together experts and practitioners from these fields, the workshop sought to highlight the critical role of mathematical and statistical methods in addressing health-related challenges, improving data-driven decision-making, and enhancing evidence-based research in healthcare.

The workshop also provided a platform for participants to exchange knowledge, share research experiences, and explore innovative analytical techniques that can be applied to health datasets. The workshop held on 28th October 2025 at the Senate Conference Hall, Makerere University.

Some of the participants with Makerere University Academic Registrar, Prof. Buyinza Mukadasi (C) at the workshop

4.5 The 21st NAPRECA International Symposium

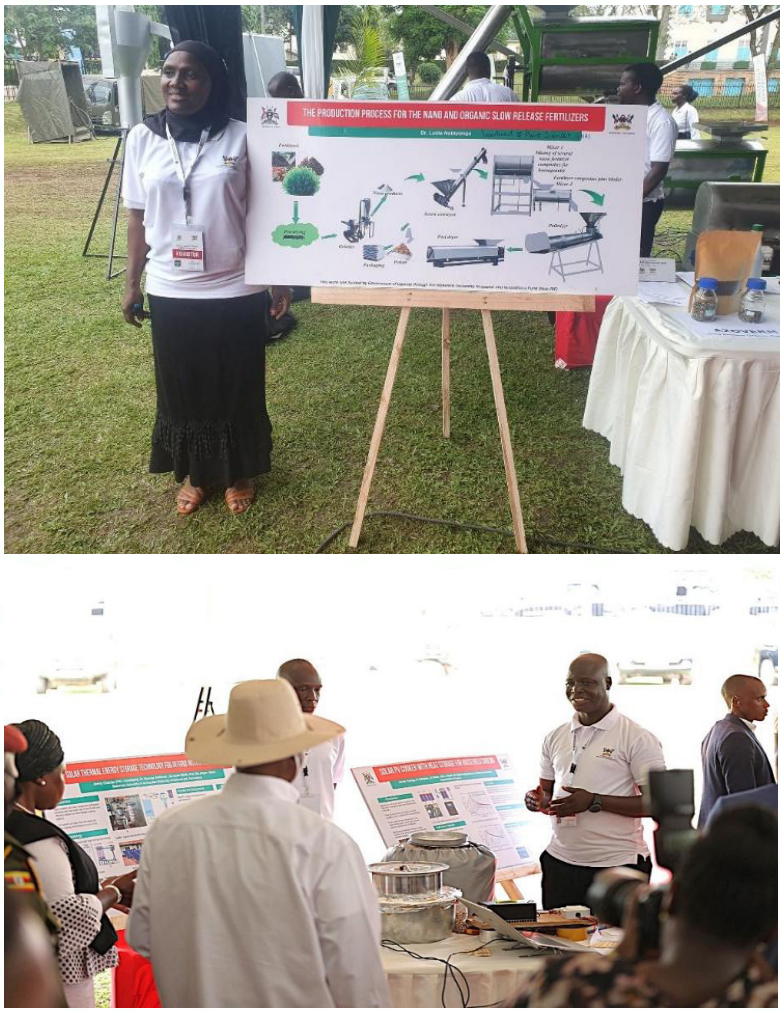
The 21st International Symposium of the Natural Products Research Network for Eastern and Central Africa (NAPRECA) was successfully held from 1st to 3rd November 2026 at Makerere University. The symposium brought together researchers, academics, industry stakeholders, and policymakers from across the region and beyond to exchange knowledge, share research findings, and strengthen collaborations in the field of natural products.

The event was convened under the theme, "Enhancing the Contribution of Ethical Natural Products Research to Industrial Development and One Health." Discussions centered on promoting responsible and ethical research practices, advancing innovation in natural products, and exploring their role in supporting sustainable industrial development. Emphasis was also placed on the One Health approach, recognizing the interconnectedness of human, animal, and environmental health. The symposium featured keynote presentations, panel discussions, and scientific sessions that highlighted emerging trends, challenges, and opportunities in natural products research. Participants engaged in meaningful dialogue on how to translate research outputs into practical applications that benefit society, while ensuring sustainability and ethical compliance. Overall, the symposium provided a valuable platform for networking, capacity building, and fostering partnerships aimed at advancing the impact of natural products research in the Eastern and Central African region. The event was presided over by the Minister of Science, Technology and Innovation, Hon. Dr. Monica Musenero Masanza.

Right: The Minister of Science, Technology and Innovation, Hon. Dr. Monica Musenero Masanza, together with CoNAS staff, Prof. Esezah Kakudidi, Dr. Godwin Anywar, and Dr. Adia Madina, at the symposium

4.6 Participation in the Makerere University Research and Innovations Week 2025

The College of Natural Sciences (CoNAS) actively participated in the Makerere University Research and Innovations Week 2025—an annual event that serves as a dynamic platform for showcasing ground-breaking research and innovations. This year's edition brought together a diverse group of stakeholders, including researchers, policymakers, and industry leaders, all united by a shared vision of shaping Uganda's sustainable future. Through its participation, CoNAS highlighted its ongoing contributions to science, technology, and sustainable development. Faculty and students presented research findings, demonstrated innovative solutions, and engaged in thought-provoking discussions aimed at addressing some of the country's most pressing challenges. The event also provided valuable networking opportunities, fostering collaborations that are essential for translating scientific discoveries into practical applications and policy action.



Mr. Jimmy Chaciga and Ms. Lydia Nabyonga showcasing some of the CoNAS projects at the event

4.7 Workshop Training on Parasite Single-Cell OMICS

A workshop on Parasite Single-Cell OMICS was conducted from 16–18 September 2025 at Makerere University, Uganda, and at the Tropical Insect Science Institute (ICIPE), Kenya. The training hosted by the Department of Biochemistry and Systems Biology, and coordinated by Dr Julius Mulindwa engaged a total of 40 postgraduate students, with 20 participants from each site. The workshop was organized in partnership with the Nicolai Lab, Department of Physiological Chemistry, Ludwig-Maximilians University (LMU), Germany, with financial support from the German Research Foundation (DFG). External faculty facilitators included Prof. Nicolai Siegel (LMU, Germany), Prof. Luisa Figueiredo (Gulbenkian Institute for Molecular Medicine, GIMM, Portugal), Dr. Markus Schmidt (LMU, Germany), and Dr. Anna Barcons (LMU, Germany).

4.8 Public Lecture on Intelligent Design

On 16th October 2025, the College of Natural Sciences (CoNAS) at Makerere University, in collaboration with the BioCosmos Foundation, hosted a compelling public lecture on the theme – "The Theory of Intelligent Design: The Question of the Origin of Life and the Universe."

Intelligent Design (ID) is a scientific theory that argues certain features of the universe and living organisms are best explained by an intelligent cause rather than undirected natural processes like evolution. Drawing from multiple disciplines including biology, physics, chemistry, cosmology, and information theory, ID emphasizes several key concepts:

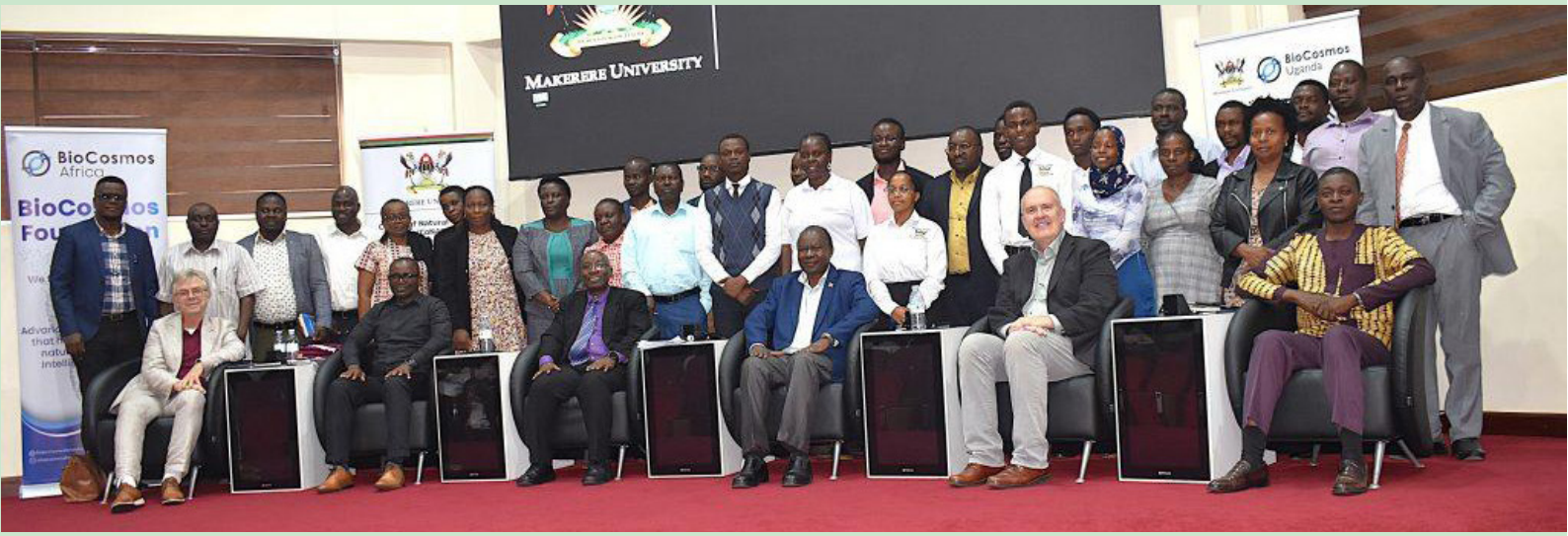
1. Complex systems require an intelligent cause: According to the ID theory, certain biological systems are too complex to have arisen solely through natural selection and mutation. Such systems require an intelligent cause to explain their origins.

2. Irreducible complexity: This principle contends that certain biological structures are irreducibly complex which means that such structures consist of multiple interacting parts, all of which are necessary for the system to function. Hence, according to the ID theory, such structures could not have arisen through gradual evolution, but must have been designed.

3. Information theory: ID argues that DNA, the genetic material that encodes the instructions for building and maintaining living organisms, contains complex information that could not have arisen through natural processes alone.

4. Fine tuning of the universe: ID points to the apparent fine-tuning of the physical constants and laws of the universe that allow life to exist and therefore argues that this provides evidence of an intelligent causation.

Held in the auditorium at the School of Public Health, the event attracted a diverse audience of students and academics from Makerere's Colleges of Natural Sciences (CoNAS), Education and External Studies (CEES), and Humanities and Social Sciences (CHUSS). The lecture explored one of science and philosophy's most enduring questions: the origin and complexity of life. The session aimed to introduce participants to the scientific principles and empirical evidence behind Intelligent Design. Topics included pattern recognition in biological systems, the application of information theory to genetics, and broader implications for understanding life's origins.



Top left: *Dr. Paul Nelson delivered the keynote address on Intelligent Design. The event was attended by members of staff and staff from CoNAS, CEES, and CHUSS*

05

CONFERENCES/ CAPACITY BUILDING

NO	NAME OF STAFF	DEPARTMENT	CONFERENCE TOPICS	VENUE	DATE
1	Dr. David Ssevviiri	Mathematics	Taught a course titled "Local Cohomology" at the Algebra and Geometry from Africa workshop Co-organiser of Algebra and Geometry from Africa workshop Plenaryw speaker at a Conference on Rings and Polynomials Workshop presentation on the Versatility of locally reduced modules Co-organiser of Algebra and Geometry from Africa workshop Gave a talk about locally prime modules and locally reduced modules In November 2025, he won a two weeks fellowship to Uppsala University in Sweden	Futures Institute, Edinburgh, United Kingdom Ediburgh, UK TU, Graz, Austria University of Vienna, Austria University of Nairobi Uppsala University, Sweden	5th-16th May 2025 5th- 17th May 2025 14th July 2025 23rd July 2025 11th-19th September 2025 11th November 2025

2	Timothy Omara	Chemistry	PRIORITY Training School on Chemometrics for Microplastics Detection and Monitoring Erasmus+ Chemistry Conference 2025. Institutional Collaboration: A catalyst for high impact research. NETmicroplastic Conference and Mini Fair The 4th microONE Summit on Microplastics and Health.	University of Brescia (Italy) and the Chemometric Group of the Analytical Chemistry Division of the Italian Chemical Society. (virtual attendance). Department of Chemistry (Makerere University) in collaboration with Institute of Analytical Chemistry (Slovak University of Technology in Bratislava) and Jomo Kenyatta University of Agriculture and Technology (Kenya) (virtual attendance). The Austrian Institute of Technology, Tulln, Austria Center for Biomarker Research in Medicine (CBmed), Vienna, Austria.	16th–18th June 2025 1st July 2025 6th November 2025 27th November 2025
3	Dr Patrick Ssebugere		Erasmus+ Chemistry Conference 3rd Commonwealth Congress 2025 for Early Career Chemists	Held at Makerere University Held in Stellenbosch, South Africa	1st July 2025 11th-14th May 2025

4			Tropical Important Plant Areas (TIPAs) workshop Uganda Science Leadership Workshop 2nd IFE Agiculture International Conference International Conference on Climate Resilience, Smart and Sustainable Futures (ICCRSF 2025) 21st NAPRECA International symposium 2025: Enhancing the contribution of ethical natural products research to industrial development and one health.	Makerere University Uganda Virus Research Institute (UVRI) campus, Entebbe, Uganda Obafemi Awolowo University, Ile Ife, Osun State, Nigeria Organised by Vaal Univerity & University of Zimbabwe & Masai Mara UniversityEmprors Palace, Johannesburg, South Africa Makerere University	5th-6th March 2025 22nd-24th April 2025 11th-14th May 2025 25th-29th August 2025 1st-3rd November 2025
5	Dr. Julius Mulindwa	Biochemistry and Systems Biology	Microbiome retreat 2025. The event was organised by Wellcome Connecting Science Learning and Training, bringing together Microbiome Travel Awardees to foster future collaborative research across LMICs in South Asia, Africa and Latin America.	Wellcome Sanger Institute, Cambridge, UK	2025
6	Dr. Alice Nabatanzi	Department of Plant Sciences, Microbiology, and Biotechnology	Springer Nature: Research Publishing: Navigating the Book Publishing Journey - Southern Africa. Springer Nature: Meet an Editor: Medicine & Life Science Book Publishing. Springer Nature: Responsible Use of Generative AI in Academic Publishing. Grant writing workshop EQPE Online Seminar. Topic: Developing personal resources of postgraduate students. Speakers: Prof Juliet Townes & Dr Mari Ford	Organised by the Research Capacity Division in the Department of Research & Innovation, University of Pretoria, Hatfield, South Africa Department of Applied Management, Administration and Ethical Leadership, University of Fort Hare	4th August 2025 5th August 2025 6th August 2025 12th-14th August 2025 16th September 2025

7	Dr. Agnes Nandutu Masawi	Biochemistry and Systems Biology	Joint Cluster Projects Conference Title of the paper presented - Acceptability of novel nutritious and safe food products in selected African countries World Aquaculture Safari Kampala, Uganda International Conference & Exposition. Paper presented: Sustainable protein snacks for underutilized nutrient sources The INNOECOFOOD project mid-term meeting (Month 18)	Online meeting Speke Resort Mun-yonyo Sarova Imperial Hotel in Kisumu city, Kenya	27th May 2025 24th-27th June 2025 1st-3rd July 2025
8	Dr. Godfrey Kawooya Kubiriza		World Aquaculture Safari Kampala, Uganda International Conference & Exposition. Presented 2 papers Presented a guiding paper to graduate students (MSc and PhD) admitted to Makerere University-in a meeting organized by Graduate School, by Prof. Kikooma. Topic: Graduate Training, Research and National Development.	Speke Resort Munyonyo Makerere University	24th-27th June 2025 2025

06

INTERNATIONAL APPOINTMENTS, AWARDS AND RECOGNITIONS

6.1 Dr. Jackson Efitre Appointed Lead Author for the IPCC's Seventh Assessment Report

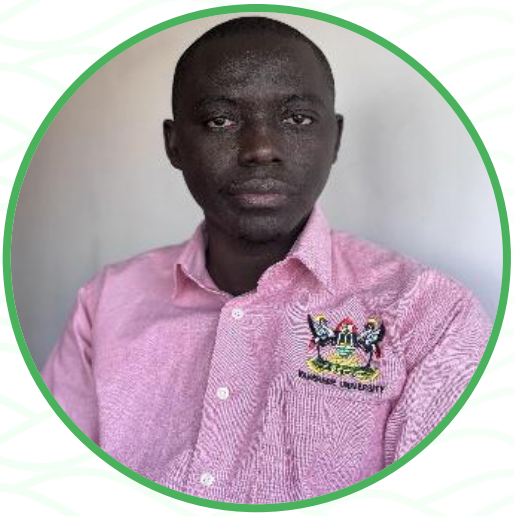
Dr. Jackson Efitre, a Senior Lecturer at the Department of Zoology, Entomology, and Fisheries Sciences, College of Natural Sciences (CoNAS), Makerere University has been appointed as a Lead Author for the Intergovernmental Panel on Climate Change (IPCC) Seventh Assessment Report. He was amongst the 664 experts nominated by governments and selected by the IPCC Bureau from a global pool of 3,771 nominees. This prestigious appointment recognizes his extensive expertise and significant contributions to climate science globally. Dr. Efitre previously contributed to the Africa chapter of IPCC's 6th Assessment Report that was launched in 2022. In the seventh assessment cycle, Dr. Efitre will contribute to Working Group II: Impacts, Adaptation and Vulnerability, Chapter 17: Agriculture, Food, Forestry, Fiber and Fisheries. IPCC Assessment Reports are the most authoritative assessment of the state of knowledge on climate science, mitigation and adaptation. Commissioned by nearly all governments, the reports are key in informing climate policy, and shaping international climate negotiations.

6.2 Microbiome Travel Award 2025

Dr. Julius Mulindwa, Senior Lecturer in the Department of Biochemistry and Systems Biology was awarded the Microbiome Travel Award 2025. From 5 April to 17 May 2025, he undertook a research visit at the Wellcome Sanger Institute, Genome Campus, Cambridge, UK, in the laboratory of Dr. Trevor Lawley. The primary objective of the visit was to receive training in bioinformatics pipelines for the metagenomic analysis of large population-scale datasets.

6.3 Dr Alice Nabatanzi Appointed Board Member of the APSS and Mentor of YEFFA

Dr Alyce Nabatanzi from the Department of Plant Sciences, Microbiology and Biotechnology was appointed Board Member of the African Phytomedicine Scientific Society (APSS), University of Pretoria, Hatfield, South Africa. She was also appointed Mentor of YEFFA - FANRPAN Agrifood Fellowship Policy Systems, Silverton, Pretoria, South Africa.



6.4 Editorial Board Appointment

Dr Timothy Omara from the Department of Chemistry was appointed Academic Editor for PeerJ (Taylor & Francis Group) from September 6th, 2025. The appointment is on a rolling basis, dependent on active participation.

6.5 Recognition Certificates to the Department of Zoology, Entomology and Fisheries Sciences

World Aquaculture Safari '25

Jun 24 - Jun 27, 2025 - Kampala, Uganda
International Conference & Exposition

WORLD AQUACULTURE Society

Presentation Certificate

Godfrey Kubiriza

Agnes Nandutu Masawi, Margaret Masette, Peter Akoll, Mary Namwanje, Catherine Nanyonga, Ampaire Akongo, Johnson Mayega, Robinson Odong

for Oral Presentation of

BEYOND THE NET: CATALYZING LIVELIHOOD DIVERSIFICATION THROUGH INSECT AND SPIRULINA FARMING IN BUIKWE DISTRICT, UGANDA

John Walakira - Steering Committee Chair

World Aquaculture Safari '25

Jun 24 - Jun 27, 2025 - Kampala, Uganda
International Conference & Exposition

WORLD AQUACULTURE Society

Certificate of Participation

Godfrey Kubiriza

Makerere University

Makerere Hill UGANDA

John Walakira - Steering Committee Chair

6.6 Prof. Arthur Tugume Inducted UNAS Fellow

In 2025, Prof. Arthur Tugume was inducted as a Distinguished Fellow of the Uganda National Academy of Sciences (UNAS), a prestigious honor recognizing his exceptional contributions to science and national development.

The Uganda National Academy of Sciences is Uganda's premier independent science academy, bringing together distinguished scholars from the natural sciences, social sciences, arts, and humanities to provide evidence-based guidance on national development priorities. Fellowship is conferred through a rigorous nomination and peer-review process and represents one of the highest recognitions of lifetime scientific excellence and impact in Uganda.

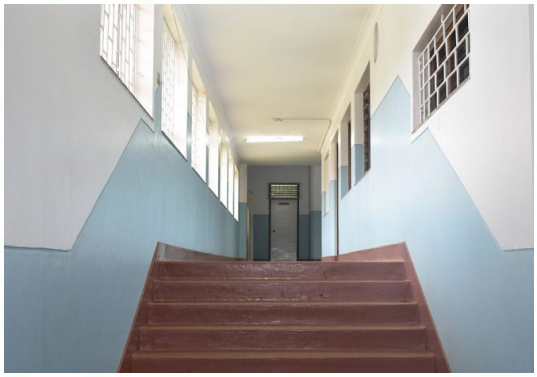
07

INFRASTRCTURE DEVELOPMENT

With support of the Estates and Works Department, the College of Natural Sciences (CoNAS) successfully carried out extensive infrastructure renovations across various departments, enhancing both the functionality and the overall learning and research environment within the College.

1. *The renovated interior of JICA, the headquarters of CoNAS*

2. *The renovated exterior and interior of the Department of Physics*

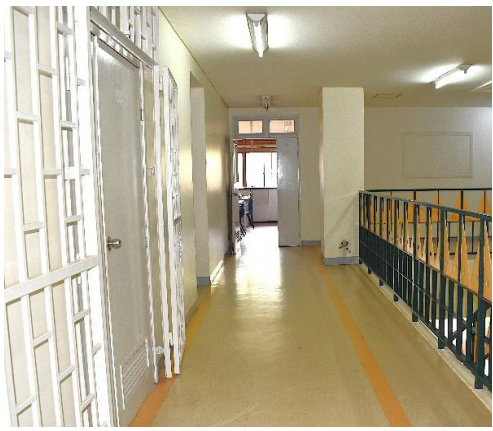




3.*The renovated Inorganic, organic and physical chemistry laboratories, as well as the roof at the Department of Chemistry*




4.*Some of the renovated labs at the Department of Biochemistry and Systems Biology and the interior of the Department of Plant Sciences. Microbiology, and Biotechnology*






08

MAKRUN: PROMOTING HEALTH, INCLUSION & FUNDRAISING

The MakRun is an annual charity marathon organised by the Makerere University Endowment Fund to mobilise resources for strategic student and community initiatives. Held under themes that emphasise education, inclusion and community well being, the event combines competitive racing with wide public participation across multiple categories, from fun runs to half and full marathon distances. Proceeds from the run support priority causes such as equipping the Disability Support Centre and expanding the Makerere University Endowment Fund to benefit economically disadvantaged students and enhance student welfare. Beyond fundraising, the MakRun promotes active lifestyles, and unity. A number of CoNAS staff participated the 2025 run held on 17th August.

In addition to the MakRun, staff take part in several other sporting activities organized at the university and college levels, to promote healthy living and a sense of unity.

The team that participated in the MakRun in August 2025

The CoNAS and Finance Department members of staff that participated in a friendly footballl match

09

CoNAS PUBLICATIONS 2025

Chemistry

1. Adia, M. M., Asiimwe, S., Namukobe, J., Mukwaya, J., Anywar, G., Kakudidi, K. E., & Byamukama, R. (2025). Medicinal plant species used for contraception and reproductive health care in rural Uganda. Heliyon, 11(1), e41518. https://doi.org/10.1016/j.heliyon.2024.e41518
2. Aturagaba, G., Egesa, D., Usman, M. O., Mubiru, E., & Tebandeke, E. (2025). Production of advanced biofuels: A review of catalytic hydrothermal liquefaction of biomass using iron-based catalysts. Journal of Sustainable Bioenergy Systems, 15(2). https://doi.org/10.4236/jsbs.2025.152002
3. Baguma G, Bamanya G, Twinomuhwezi H, Gonzaga A, Omara T, Onen P, Ocakacon S, Angiro C, Waibale W, Ntuwa R (2025) Bioaccumulation and transfer of potentially toxic elements in the yam-soil system and associated health risks in Kampala's Luzira Industrial Area. Journal of Xenobiotics 15(6), 193. https://doi.org/10.3390/jox15060193
4. Bbumba, S., Kigozi, M., Karume, I., Arum, C. T., Murungi, M., Babirye, P. M., & Kirabo, S. (2025). Prediction and optimization of process parameters using artificial intelligence and machine learning models. Asian Journal of Applied Chemistry Research, 16(1), 11–33. https://doi.org/10.9734/ajacr/2025/129344
5. Bbumba, S., Kigozi, M., Karume, I., Yiga, S., Nsamba, H. K., & Ntale, M. (2025). Carbon nanotubes and graphene as counter electrodes in dye-sensitized solar cells. Discover Nano. https://doi.org/10.1186/s11671-025-04279-7
6. Collins Letibo Yiiki, Simon Bbumba, Emmanuel Tebandeke, Moses Kigozi, Ibrahim Karume, Betty Naziriwo, George William Nyakairu, Solomon Yiga, John Ssekatawa, Joan Talibawo, Geofrey Kaddu and Muhammad Ntale. Application of carbon dioxide as a soft oxidant and promoter in metal-catalyzed oxidation reactions. Discover Catalysis, 2025, 2:15. https://doi.org/10.1007/s44344-025-00019-2
7. Ebbu E, Nalumansi I, Kiganda I, Nakiguli CK, Onen P, Ocakacon S, Adaku C, Omara T, Ntambi E (2025) Ecological and Human Health Risks from Potentially Toxic Elements in Environmental Matrices of Kiteezi Landfill, Uganda. Journal of Xenobiotics 15(6), 185. https://doi.org/10.3390/jox15060185
8. Ebbu E, Nalumansi I, Omara T, Ntambi E. Toxic legacy: Heavy metals in Kiteezi landfill's water, sediments

and Colocasia esculenta before the 2024 tragic collapse. The 6th Commonwealth Chemistry Posters, 2nd October 2025, Royal Society of Chemistry, UK.

9. Gumisiriza, H., Birungi, G., Omara, T., Lejju, J. B., & Sesaazi, C. D. (2025). Polyphenolic content, antioxidant activity and acute toxicity of Gouania longispicata Engl. leaves. LIAN. Advances in Natural Sciences - Biology and Biomedicine, 14(2), 93. https://doi.org/10.33263/LIANBS142.093
10. Gumula I, Achiro M, Nanyonga SK, Akampurira D, Onen P, Tumwesigye R, Omara T (2025) In Silico Antimycobacterial Evaluation of Compounds Isolated from Kigelia africana Stem Bark. Natural Product Communications 20(10), 1-10. https://doi.org/10.1177/1934578X251388844
11. Kagoya, A., Arinaitwe, K., Odongo, S., Sifuna, D., Matovu, H., Matsiko, J., Muhwezi, G., Špánik, I., Kato, D. C., Sillanpaä, M., & Ssebugere. P. (2026): Anthropogenic footprint and ecological risk assessment of organochlorine pesticides and polychlorinated biphenyls in sediments from Lake Victoria, East Africa. Journal of Hazardous Materials Advances 21, 100979.
12. Kahwa I, Omara T, Agaba M, Nuwagira U, Ajayi CO (2025) Ethnobotanical survey of medicinal plants used by communities on the fringes of Budongo Central Forest Reserve, Uganda. Ethnobotany Research and Applications 31, 42. http://dx.doi.org/10.32859/era.31.42.1-20
13. Kahwa I, Omara T, Ayesiga I, Shah K, Ambe GNNN, Panwala ZJ, Mbabazi R, Iqbal S, Kyarimpa C, Nagawa CB, Chauhan NS (2025) Nutraceutical benefits of seaweeds and their phytocompounds: A functional approach to disease prevention and management. Journal of the Science of Food and Agriculture 105(13), 6917-6942. https://doi.org/10.1002/jsfa.14287
14. Karume, I. (2025). How enzyme selectivity and immobilization affect catalytic yields in lipase-catalyzed processes. Letters in Organic Chemistry, 22(4), 251–262. https://doi.org/10.2174/0115701786330890240826053103
15. Kigozi, M., Karume, I., Bbumba, S., Parvathalu, K., Kasozi, G., & Tebandeke, E. (2025). Non-emission carbon nanomaterial derived from polystyrene plastic waste for the adsorption of carbon dioxide. Results in Materials, 26, 100671. https://doi.org/10.1016/j.rinma.2025.100671
16. Kwikiriza G, Abaho I, Tibihika PD, Izaara AA, Atukwatse F, Omara T, Nattabi JK, Kasozi N, Curto M, Melcher A, Meimberg H (2025) Genetic Diversity and Population Differentiation of Farmed Nile Tilapia (Oreochromis niloticus) to Advance Selective Breeding in Uganda. Diversity 17, 128. https://doi.org/10.3390/d17020128
17. Kwikiriza G, Muthoka M, Omara T, Abaho I, Tibihika DP, Curto M, Opiyo MA, Munguti J, Abwao J, Orina P, Meimberg H (2025) Nile tilapia (Oreochromis niloticus L.) cage aquaculture in Africa: Potential threats to congeneric fish species and advances to detect escapees. Aquaculture, Fish and Fisheries 5(4), e70090. https://doi.org/10.1002/aff2.70090
18. Miiro, A., Mubiru, E., Odume, N. O., Odongo, S., Nyakairu, W. G., Matovu, H., Kato, D. C., Špánik, I., Sillanpää, M., Sifuna, D., Khvalbota, L., & Ssebugere, P. (2025): Novel and legacy per- and poly-fluoroalkyl substances in major wastewater treatment plants within the Lake Victoria basin, East Africa. Emerging Contaminants 11, 100580.
19. Muhwezi, G., Kyarimpa, C., Gumula, I., Nagawa, C. B., Omwoma, S., Matovu, H., Matsiko, J., Odongo, S., Sifuna, D., Špánik, I., Kato, C. D., & Ssebugere, P. (2025). Legacy and emerging organic pollutants in indoor and outdoor environments in Africa: Contamination levels, health risks, and analytical techniques. Emerging Contaminants, 11(2), 100468. https://doi.org/10.1016/j.emcon.2025.100468
20. Muhwezi, G., Kyarimpa, C., Gumula, I., Odongo, S., Matovu, H., Matsiko, J., Nagawa, B.C., Kato, D. C., Špánik, I., Sillanpaä, M., Taiwo, M. A., Miiro, A., & Ssebugere., P. (2026): Exposure of urban population to organophosphate esters and novel brominated flame retardants via indoor dust: Occurrence, sources and health risks in Uganda, East Africa. Emerging Contaminants, Article in press. https://doi.org/10.1016/j.emcon.2026.100634
21. Nagawa CB, Kitiibwa IS, Kizito SS, Syofuna A, Kyarimpa CM, Omara T (2025) Chemical composition and insecticidal potential of Eucalyptus essential oils against Sitophilus zeamais (Motschulsky, 1855) and Acanthoscelides obtectus (Say, 1831). South African Journal of Botany 179, 48-55. https://dx.doi.org/10.1016/j.sajb.2025.02.002
22. Nagawa CB, Kitiibwa IS, Mubiru D, Syofuna A, Kyarimpa CM, Omara T, Mwavu EN, Kizito SS (2025) Physical and mechanical strength properties of resin tapped Pinus caribaea Timber. East African Journal of Forestry and Agroforestry 8(1), 406-414. https://doi.org/10.37284/eajfa.8.1.3511
23. Nakiguli CK, Kosgei VJ, Odda J, Omara T, Ajayi CO, Cherutoi JK (2025) Antimalarial activity and toxicity of

a novel chitosan Schiff-base scaffold of aloin isolated from Aloe barbadensis. Letters in Applied NanoBioScience 14(3), 194. https://doi.org/10.33263/LIANBS143.194

24. Nalweyiso, A., Nagawa, C. B., Yildiz, E., Uzman, S., Wanyama, J., Kirabira, J. B., Zziwa, A., Sagala, F., Ssebugere, P., Omwoma, S., Kyarimpa, C., Kiggundu, N., & Kabenge, I. (2025). Green synthesis of zero-valent iron nanoparticles from cape gooseberry (Physalis peruviana L.) biomass for oil spill remediation. Environmental Challenges, 19, 101146. https://doi.org/10.1016/j.envc.2025.101146
25. Nantinda C, Kisakye EL, Musana D, Ssessanga I, Ssenabulya U, Omara T, Kahwa I, Nalimu F (2025) Ethnobotany, floristic and phytochemical studies of medicinal plants used to treat uterine fibroids in Mbarara City, Uganda. Phytomedicine Plus 5, 100729. https://doi.org/10.1016/j.phyplu.2025.100729
26. Natuhwera, M., Shehu, Z., Špánik, I., Nyakairu, G. W. A., Mubiru, E., Nantaba, F., Sifuna, D., & Ssebugere, P. (2025). Pharmaceuticals and personal care products in sediments in Africa: Status, ecological risks, extraction and analytical techniques. Science of the Total Environment, 994, 180036. https://doi.org/10.1016/j.scitotenv.2025.180036
27. Natuhwera, M., Ssebugere, P., Arinaitwe, K., Oswald, P., Mubiru, E., Nantaba, F., Shehu, Z., Urban, K., Khvalbota, L., Alygizakis, A. N., Thomaidis, S. N., Gerokonstantis, T. D., Nyakairu, A. W. G., Muamba, T. R., & Špánik, I. (2026): Emerging organic pollutants in sediments from Lake Victoria: Spatial patterns, sources and ecological risks. Science of the Total Environment 1013, 181328.
28. Ocakacon, S., Nyenje, P. M., Kalibbala, H. M., Kulabako, R. N., Nagawa, C. B., Omara, T., Kyarimpa, C., Lugasi, S. O., & Ssebugere, P. (2025). Spatiotemporal dynamics of microplastics in Nakivubo Catchment: Implications for the pollution of Lake Victoria. Microplastics, 4(2), 21. https://doi.org/10.3390/microplastics4020021
29. Oloya, B., Namukobe, J., Krüger, M., Ssengooba, W., Sperlich, E., Kwesiga, G., Komakech, K., Heydenreich, M., Byamukama, R., & Schmidt, B. (2025, February 11). Antimycobacterial activities of the Zanthoxylum leprieurii metabolite adubangoamide and non-natural fagaramide analogues. Journal of Natural Products. Advance online publication. https://doi.org/10.1021/acs.jnatprod.4c01377
30. Omara T, Benetková B, Sumerskii I, Rosenau T, Nagawa CB, Böhmdorfer S. Spatiotemporal dynamics and trophic transfer of microplastics in some endemic fish species of Lake Victoria. MICROPLASTICdays 2025, March 25-27, 2025, Ljubljana, Slovenia.
31. Omara T, Benetková BM, Sumerskii I, Rosenau T, Nagawa CB, Böhmdorfer S. Microplastic analysis by complementary analytical techniques: μ-FTIR and pyrolysis GC-MS. ANAKON 2025, March 10-13, 2025; Leipzig, Germany.
32. Omara T, Yiga S, Nantaba F, Nagawa CB, Kiganda I, Okori F, Ntambi E (2026) Optical sensor-based nitrogen management and its budget in water bodies. In: Tonni Kurniawan, Abdelkader Anouzla (Eds). Point Source Nitrogen Pollution. Climate Mitigation and Sustainable Solutions for the Modern Era. 1st Edn. Elsevier, pp. 93-103. https://doi.org/10.1016/B978-0-443-27352-0.00006-9
33. Omoding, D., Nantume, T., Wasswa, J., Odongo, S., Kyarimpa, C., Karume, I., Matovu, H., Sillanpää, M., Kato, D. C., Nabuuma, J., Miiro, A., & Ssebugere, P. (2026): Organochlorine pesticides in placenta, blood and breast milk of mothers in Uganda: Concentrations and health risks to breast fed infants. Journal of Hazardous Materials Advances 21, 100949.
34. Sekandi, P., Namukobe, J., Byamukama, R., Nagawa, C. B., Bacher, M., Rosenau, T., Langat, L., Mas-Claret, E., & Mulholland, D. (2025). The antibacterial, antioxidant and sun protection potential of a benzophenone from Dolichopentas decora (S. Moore). Pharmacological Research - Natural Products, 6, 100135. https://doi.org/10.1016/j.prenap.2024.100135
35. Sifuna, D. B., Pembere, A., Lagat, S., Barasa, G., Manda, T., Ngeno, E., Ssebugere, P., Nagawa, C. B., Kyarimpa, C., & Omwoma, S. (2025). Acaricides in agriculture: Balancing livestock health and environmental well-being in Trans-Nzoia County, Kenya. Environmental Science and Pollution Research, 32, 8070–8083. https://doi.org/10.1007/s11356-025-12345-6
36. Simon Bbumba, Ibrahim Karume, Joan Talibawo, Gabriel Kasozi, George William Nyakairu, Muhammad Ntale, Geofrey Kaddu, Ivan Kiganda, Ruth Mbabazi and Moses Kigozi. Modeling of tetracycline removal from water using plastic waste-carbon nanomaterial: a study based on machine learning and mathematical models. Discover Chemical Engineering, 2026, https://doi.org/10.1007/s43938-026-00112-4
37. Simon Bbumba, Ibrahim Karume, Ronald Kayiwa, Joan Talibawo, Phillip Musoke, Godwin Aturagaba, Moses Kigozi. Activated carbon from banana peels for alizarin removal: understanding the adsorption process through isotherms, kinetics, and predictive modeling. BMC Chemistry, 2025, 19, 301. https://doi.org/10.1186/s13065-025-01667-z
38. Simon Bbumba, Ibrahim Karume, Ronald Kayiwa, Joan Talibawo, Phillip Musoke, Godwin Aturagaba, Moses Kigozi. Activated carbon from banana peels for alizarin removal: understanding the adsorption

process through isotherms, kinetics, and predictive modeling. BMC Chemistry, 2025, 19, 301. https://doi.org/10.1186/s13065-025-01667-z

39. Simon Bbumba, John Ssekatawa, Ibrahim Karume, Emmanuel Tebandeke, Moses Kigozi, Solomon Yiga, Robert Setekera, Joseph Ssebuliba, Steven Sekitto, Ruth Mbabazi, Ivan Kiganda, Maximillian Kato, Patrick Taremwa, Moses Murungi, Chinaecherem Tochukwu Arum, Collins Yiiki Letibo, Geofrey Kaddu, Margret Namugwanya, John Kusasira, Peace Mwesigwa and Muhammad Ntale. Prediction and optimization of Rhodamine B removal from water using metal-organic frameworks: RSM-CCD, ANN, non-linear kinetics, and isotherm studies. BMC Chemistry, 2025, 19;218. https://doi.org/10.1186/s13065-025-01590-3
40. Ssebugere, P., Miiro, A., Matovu, H., Odongo, S., Kato, D. C., Babirye, M. P., Nabuuma, J., Sillanpaä, M., Sifuna, D., & Nyakairu, W. G. (2025): Electronic wastes in sub-Saharan Africa: A critical review of environmental and health impacts, regulatory responses, and future perspectives. Journal of Hazardous Materials Advances 20, 100873.
41. Taiwo, A. M., Aigbodion, C., Oyedepo, J. A., Akinhanmi, T. F., & Ssebugere, P. (2025). Evaluating the bioremediation potential of Jatropha curcas and Ficus exasperata Vahl composts in removing phthalate esters from dumpsite soils: Implications for human health. Chemistry Africa, 8, 1817–1827. https://doi.org/10.1007/s42250-025-00500-4
42. Wanyama J, Kwetegyeka J, Twinomuhwezi H, Omara T, Kiganda I (2026) Fatty acid composition and cholesterol distribution in edible tissues of long-horned Ankole cattle. Journal of Food Composition and Analysis 146, 108725. https://doi.org/10.1016/j.jfca.2025.1087

Geology and Petroleum Studies

1. Amerit, B., Ntayi, J. M., Ngoma, M., Bashir, H., Echegu, S., & Nantongo, M. (2025). African countries' regulations and guidelines for the production of biofuels: A quality control analysis of Uganda. In Biofuels and Sustainability: Life Cycle Assessments, System Biology, Policies, and Emerging Technologies (Woodhead Series in Bioenergy, pp. 221–236). https://doi.org/10.1016/B978-0-443-21433-2.00020-7
2. Mioumnde, A.P., Zhang, L-Q., Yan, Y-M., Twinomujuni, L., Ran, H-W., Sedziafa, V., Djuka, K.Z., Bessong, M., Kouame, E.M. (2025). Sedimentary facies architecture and terminal fan systems of the lower Palaeogene Shahejie Formation in Bonan Sag, Bohai Bay Basin, China: Implications for hydrocarbon exploration. Journal of Palaeogeography, 100268. https://doi.org/10.1016/j.jop.2025.100268.
3. Twinomujuni, L., Liu, K., Ahmed, K.S., Njabire, N., Sserubiri, T., Namara, B., (2025). Tectonostratigraphic Evolution and Petroleum Potential of the Lake Edward Basin, Uganda: Insights from Integrated Surface and Subsurface Data Analysis. Journal of Petroleum Geology 1–22. https://doi.org/10.1111/jpg.70020.
4. Twinomujuni, L., Liu, K., Hassan, H.A.R., Jia, K., Wang, S., Sserubiri, T., Summer, M. (2025). Tectono-Stratigraphic Framework and Hydrocarbon Potential in the Albert Rift, Uganda: Insights from Basin and Petroleum System Modeling. MDPI Applied Sciences, 15(6), 3130. https://doi.org/10.3390/app15063130.

Mathematics

1. Abebaw T, Mamo A, Ssevviiri D, Teshome T; On the Greenlees-May Duality and the Matlis-Greenlees-May Equivalence, Res. Math., 12(1), (2025), 1–11. https://doi.org/10.1080/27684830.2025.2469953.
2. Afazali Zabibu, Gundersen Kristian, Kasozi Juma, Omala Saint Kizito and Stove B˚ard (2025). "Dependence modeling in general insurance using local Gaussian correlations and hidden Markov models" Dependence Modeling, Vol. 13, N0. 1, pp. 20250014. https://doi.org/10.1515/demo-2025-0014. Publisher: De Gruyter Brill.
3. Bett, N., Kasozi, J., & Sebikabu, D. (2025). Hierarchical forecasting of causes of death with trend breaks in mortality modeling: Kenyan case. Insurance Markets and Companies, 16(1), 15–32. https://doi.org/10.21511/ins.16(1).2025.02
4. Erina Nanyonga, Juma Kasozi, Fred Mayambala, Hassan W Kayondo, Matt Davison (2025). A Stochastic Model for Illiquid Stock Prices and its Conclusion about Correlation Measurement. arXiv preprint arXiv:2509.10553
5. F. Namugera, R. Katende, O. Kurama, J. M. Magero, Long-range epidemic spreading with aging in structured networks, Physica A, 6767(2025) 130841. DOI: 10.1016/j.physa.2025.130841

6. Herbert Batte, Mahadi Ddamulira, Juma Kasozi, Florian Luca (2025). Multiplicative independence in the sequence of k-generalized Lucas numbers. Indagationes Mathematicae, Vol. 36, No. 3. 819 – 837. https://doi.org/10.1016/j.indag.2024.09.002.

7. Herbert Batte, Mahadi Ddamulira, Juma Kasozi, Florian Luca (2025). On a problem of Pillai involving S-units and Lucas numbers. Period Math Hung. https://doi.org/10.1007/s10998-025-00649-x

8. Katende, R., Kasumba, H., Kakuba, G., & Mango, J. (2025). On the error bounds for ReLU neural networks. IAENG International Journal of Applied Mathematics, 54, 2602–2611.

9. Kimuli P. I and Ssevviiri D. Modules with reduced endomorphism rings, J. Algebra Appl, (2026), 2650042, (25 pages), DOI: 10.1142/S0219498826500428

10. Nampeera, E. L., Kayondo, H. W., Sebikeje, T. M., Ddumba, G., Mubiru, S., & Gabriel, D. (2025). Farmers' pest management strategies in oil palm pro- duction in Lake Victoria Islands, Uganda. Agricultural Systems, 227, 104354. https://doi.org/10.1016/j.agsy.2025.104354

11. Namugera, F., Kurama, O., & Magero, J. (2025). Discrete time dynamics in a two-strain symbiotic contact process. International Journal of Biomathematics. https://doi.org/10.1142/S1793524525500512

12. Ndikubwayo, I., & Bamunoba, A. S. (2025). On the location of ratios of zeros of special trinomials. Quaestiones Mathematicae, 48(12), 1799–1822. https://doi.org/10.2989/16073606.2025.2547044

13. Nicholas Bett, Juma Kasozi and Daniel Ruturwa Sebikabu (2025). Hierarchical forecasting of causes of death with trend breaks in mortality modeling: Kenyan case. Insurance Markets and Companies, 16(1), 15 – 32. doi:10.21511/ins.16(1).2025.02

14. Saint Kizito Omala, Olive D. Buhule, Hassan W. Kayondo, Christabellah Na- mugenyi & Susan Habert Sendege (2025) Estimating the optimum number of attempts for any university examination: a negative binomial approach, Cogent Education, 12:1, 2554958, DOI: 10.1080/2331186X.2025.2554958

15. Ssali, C., Kabuye Batiibwe, M. S., Dahl, B., Magero, J., & Mayende, G. (2025). Problem-based learning in secondary school mathematics: A review. Educational Research, 67, 212–230. https://doi.org/10.1080/00131881.2025.2493255

16. Ssevviiri D and Kyomuhangi A. Nil modules and the envelope of a submodule, Quaest. Math., (2025), 1-9, https://doi.org/10.2989/16073606.2025.2536068

17. Zabibu Afazali, Bård Støve, Saint Kizito Omala and Juma Kasozi (2025). Modeling Insurance Claim Count Dynamics using Regime-Switching INGARCH Model. Asia-Pacific Journal of Risk and Insurance. https://doi.org/10.1515/apjri-2025-0011

Physics

1. Alex Okello, Brian Owino Owuor, Jane Namukobe, Denis Okello, Julius Mwabora. Effect of zirconium layer on electron transport properties in dye-sensitized solar cells. NEXRES 5 (2026) 101327. https://doi.org/10.1016/j.nexres.2026.101327

2. Chaciga, J., Okello, D., Nyeinga, K., & Nydal, O. J. (2025). Experimental analysis on a solar photovoltaic indoor cooker integrated with an energy storage system: A positive step towards clean cooking transition for Sub-Saharan Africa. Solar Compass, 13, 100109. https://doi.org/10.1016/j.solcom.2025.100109

3. Jimmy Chaciga, Denis Okello, Karidewa Nyeinga, Ole J. Nydal. 2025. Experimental analysis on a solar photovoltaic indoor cooker integrated with an energy storage system: A positive step towards clean cooking transition for Sub-Saharan Africa; Solar Compass; https://doi.org/10.1016/j.solcom.2025.100109

4. Karidewa Nyeinga, Jimmy Chaciga, Denis Okello, 2025. Solar Photovoltaic cooker: A Technical Analysis of a system suitable for institutional cooking. Energy 360 4 (2025) 100047 https://doi.org/10.1016/j.energ.2025.100047

5. Komakech, I., Okello, D., Kavuma, A., Abal, B., & Wygoda, A. (2025). Validation of ClearCalc for efficient patient-specific QA. Medical Dosimetry, 50(2), 161–168. https://doi.org/10.1016/j.meddos.2024.12.003

6. Okello, D., Chaciga, J., Nydal, O. J., & Nyeinga, K. (2025). Experimental Thermal Performance of Air-Based and Oil-Based Energy Storage Systems. Energy Storage and Applications, 2(4), 15.

7. Pamella K. Kajumba, Jimmy Chaciga, Ole J. Nydal, Denis Okello, Karidewa Nyeinga. Experimental and

simulation analysis for different pot-in-pot indirect heating scenarios for cooking applications, Tanzania Journal of Science: Vol. 51: Vol. 51: Iss. 4, Article 21. https://doi.org/10.65085/2507-7961.1129

Biochemistry and Systems Biology

1. Adebayo, G., Ayanda, O. I., Rottmann, M., Ajibaye, O. S., Oduselu, G., Mulindwa, J., Ajani, O. O., Aina, O., Mäser, P., & Adebiyi, E. (2025). The importance of murine models in determining in vivo pharmacokinetics, safety, and efficacy in antimalarial drug discovery. Pharmaceuticals, 18(3), 424. https://doi.org/10.3390/ph18030424
2. Akurut E, Gavamukulya Y, Mulindwa J, Isiagi M, Galiwango R, Bbuye M, Lujumba I, Kiberu D, Nabisubi P, Kebirungi G, Kambugu A, Castelnuovo B, Nkurunungi G, Jjingo D, Oketch B, Kateete DP, Mboowa G. Design of a multi-epitope vaccine against drug-resistant mycobacterium tuberculosis and mycobacterium bovis using reverse vaccinology. Sci Rep. 2025 Jul 26;15(1):27298. doi: 10.1038/s41598-025-11768-3. PMID: 40715271; PMCID: PMC12297362.
3. Akuyenze, P., Muranga, F. I., Ssenku, J. E., Masawi, A. N., Nyakoojo, C., & Kirabira, J. B. (2025). Evaluation of potential industrial application of selected East African Highland cooking banana cultivars starches grown in Uganda. Cogent Food & Agriculture, 11(1), Article 2502392. https://doi.org/10.1080/23311932.2025.2502392
4. Bigabwa D., Isabirye D., Balyeidhusa A.S.P., Mukisa A. and Baingana R. Toxic Metal Contamination in Herbal Medicines: Assessing Lead and Cadmium Levels and Health Risks at Kalerwe Market, Kampala, Uganda. African Journal of Pharmaceutical and Herbal Research (2025); 1 (2): 61-80. https://doi.org/10.31920/2978-3321/2025/v1n2a4
5. Kalungi F, Mulindwa J, Mustafa AS, Namanya PB, Kubiriba J, Barekye A, Tindamanyire JM. Efficient CRISPR/Cas9-mediated genome editing of phytoene desaturase in Musa-AAA: a critical step for genetic improvement of east African highland bananas. Front Plant Sci. 2025 Sep 16;16:1677409. doi: 10.3389/fpls.2025.1677409. PMID: 41036397; PMCID: PMC12479461.
6. Leonard, A., Mulindwa, J. & Egonyu, J.P. The significance of molecular tools in the conservation and farming of edible insects. Int J Trop Insect Sci 45, 2513–2523 (2025). https://doi.org/10.1007/s42690-025-01643-z
7. Mary Namwanje, Agnes Nandutu Masawi, Margaret Masette, Esther Babirekere, Godfrey Kawooya Kubiriza, Jackson Efitre, Kashub S. Tumwesigye, Nathan Muchwa Semwanga, Robinson Odong : "Silver Cyprinid Fish-Enriched Snack for Pregnant Women's Nutrient Supplementation" has been published in the Research Journal of Food and Nutrition. ISSN: 2637-5583 | Volume 8, Issue 1, 2025 https://doi.org/10.22259/2637-5583.0801001
8. Mulindwa J, Lujumba I, Musiime C, Namulondo J, Kimuda MP, Nyangiri O, Cuu G, Mwubaha C, Tukwasibwe S, Ssemaganda A, Ssewanyana I, Nerima B, Baingana R, Noyes H, MacLeod A, Matovu E. High Schistosoma mansoni infection intensity is associated with distinct gut microbiota and low levels of systemic cytokines in children along the Albert-Nile, Northern Uganda. BMC Microbiol. 2025 Aug 14;25(1):506. doi: 10.1186/s12866-025-04252-5. PMID: 40814028; PMCID: PMC12351885.
9. Mulindwa, J., Kalungi, F., & Kyambadde, E. K. (2025). Identification of potential SGLT2 inhibitors for antidiabetic drug repositioning using machine learning (18 pages). SSRN. Posted June 19, 2025.
10. Musaya J, Nambala P, Nyirenda WT, Mulindwa J, Mabey D. 2025. Human African Trypanosomiasis. In: Mabey D, Weber MW, Nyirenda M, et al., eds. Principles of Medicine in Africa. Cambridge University Press; 2025:518-523. https://doi.org/10.1017/9781009052733.053
11. Muwonge, K. M., Ndagire, H., Mulindwa, J., & Twesigy, C. K. (2025). Multiple antimicrobial resistance indices of Staphylococcus aureus from the nares of goats and slaughterhouse attendants in Kampala city, Uganda – a cross sectional study. BMC Microbiology, 25(162). https://doi.org/10.1186/s12866-025-03891-y
12. Namuleme CB, Kato CD, Kasozi DM. IL10 (-1082 G>A, rs1800896) gene polymorphisms are associated with oxidative stress in sickle cell disease patients in Uganda. Biol Res. 2025 Sep 3;58(1):61. doi: 10.1186/s40659-025-00639-w.
13. Ndagire H, Muwonge KM, Mulindwa J, Twesigye CK. Assessment of Haematological Profile Clustering Differences in Brucella-Infected Goats across Urban, Peri-Urban, and Rural Areas of Central Uganda. Archives of Veterinary Science and Medicine. 8 (2025): 53-63.

14. Okwasiimire, R., Baingana, R. K., & Kasozi, D. M. (2025). Novel haplotypes of genetic polymorphisms in alcohol metabolizing enzymes in Kampala, Uganda. BMC Research Notes, 18(249). https://doi.org/10.1186/s13104-025-07331-y

15. Paul Akuyenze1,2*, Jamilu E. Ssenku1, Agnes Nandutu Masawi3, John Bosco Kawongolo2,4 and Florence I. Muranga2; Revolutionizing starch modification: the role of genetic engineering in enhancing starch properties for sustainable industrial applications – A review Open Access, Discover Biotechnology Journal; (2025) 2:28 https://doi.org/10.1007/s44340-025-00033-y

16. Won Kang JR, Kim YJ, Skead K, Soave D, Evans J, Bruat V, Harwood MP, Morris Q, Matovu E, Mulindwa J, Noyes H, McLeod A, Hazelhurst S, Lombard Z, Ramsay M, Fave MJ, Awadalla P. Geography, Ancestry, Age and Sex Shape Somatic Autosomal Mosaic Chromosomal Alterations in Blood. medRxiv [Preprint]. 2025 Oct 20:2025.10.19.25338239. doi: 10.1101/2025.10.19.25338239. PMID: 41282824; PMCID: PMC12633608.

Department of Plant Sciences, Microbiology, and Biotechnology

1. Adia, M. M., Asiimwe, S., Namukobe J., Mukwaya, J., Anywar, G., Kakudidi, E, K., & Byamukama, R. (2025). Medicinal plant species used for contraception and reproductive health care in rural Uganda. https://doi.org/10.1016/j.heliyon.2024.e41518

2. Akwongo, B., Kakudidi, E. K., Nsubuga, A. M., Andama, M., Namaganda, M., Tugume, P., ... & Katuura, E. (2025). Acute and sub-acute toxicity assessment of methanolic stem bark extract of Khaya anthotheca (Meliaceae) in Wistar rats. Tropical Medicine and Health, 53(1), 120.

3. Alice Nabatanzi. 2025. Nutritional, Pharmaceutical, and Antinutritional Properties of Wild Edible Plants. What Have We Learned from the Mediterranean Diet. In: Exploring Traditional Wild Edible Plants. Edited by Vibhor Agarwal, Sachidanand Sing, Rahul Datta. (Ed. 1). CRC Press. DOI: 10.1201/9781003395935-13

4. Anywar G, Ssegabo A, Wanyama J, Weckerle CS. A review of ethnoveterinary botanical medicines used in Uganda: Their phytochemistry, bioactivity and toxicity. J Ethnopharmacol 2025:120917. https://doi.org/https://doi.org/10.1016/j.jep.2025.120917.

5. Anywar, G., Adepoju, A. O., Kaggwa, B., & Mukungu, N. A. (2025). Antidiabetic drugs and marketed formulations from natural products. In Antidiabetic Drug Discovery from Natural Products (pp. 569–613). https://doi.org/10.1016/B978-0-443-30086-8.00001-2

6. Arnold, M., Esezah, K. K., & Anywar, G. (2025). Medicinal plants traditionally used in treatment of rheumatoid arthritis in Uganda. Vegetos. https://doi.org/10.1007/s42535-025-01193-2

7. Bayiyana, I., Bua, A., Namuddu, A., Ozimati, A., Omara, T., Wamani, S., Opio, S. M., Apio, S., Kabaalu, R., Kemigisha, D., Colvin, J., & Omongo, C. A. (2025). Farmer uptake of cassava-whitefly management technologies and implications for future breeding and promotional efforts. Crop Protection, 195, 107252. https://doi.org/10.1016/j.cropro.2025.107252

8. Byarugaba, I., Nabatanzi, A., Muhumuza, E., & Kyambadde, J. (2025). Impact of heavy metals on antibiotic resistance of Escherichia coli from slum wastewater in Kawempe division, Kampala district, Uganda: A case study. BMC Microbiology, 25(310). https://doi.org/10.1186/s12866-025-04024-1

9. Esezah, K. K., Patience, T., Savina, A., & Anywar, G. (2025). Natural products in antidiabetic drug discovery: a historical perspective. In Antidiabetic Drug Discovery from Natural Products (pp. 3-38). Elsevier.

10. Gamba, D., Lorts, C.M., Haile, A., Sahay, S., Lopez, L., Xia, T., Takou, M., Kulesza, E., Elango, D., Kerby, J., Yifru, M., Bulafu, C.E., Wondimu, T., Glowacka, K. and Lasky, J.R. (2024), The genomics and physiology of abiotic stressors associated with global elevational gradients in Arabidopsis thaliana. New Phytol, 244: 2062-2077. https://doi.org/10.1111/nph.20138

11. Gizaw, A., Dimitrov, D., Masao, C. A., Tusiime, F. M., Wondimu, T., Abdi, A. A., Chala, D., Gussarova, G., Mirré, V., Kebede, M., Piñeiro, R., Namaganda, M., Catalán, P., Pimentel, M., Taberlet, P., Linder, H. P., Popp, M., Eilu, G., Munishi, P., Mwachala, G., Nemomissa, S., Brochmann, C., (2025). Genetic diversity is not correlated with species diversity: A multispecies study in a continental habitat island system. Journal of Biogeography. Advance online publication. https://doi.org/10.1111/jbi.15185

12. Godwin, A., Samuel, O., Patience, T., Jamilu, S., & Esezah, K. (2025). Beach Moonflower (Ipomoea violacea L. Convolvulaceae). In Comprehensive Guide to Hallucinogenic Plants (pp. 101-105). CRC Press.

13. Kafeero, H. M., Ocama, P., Ndagire, D., Walusansa, A., Namusoke, M., Kudamba, A., Muwanda, F., & Sendagire, H. (2025). The status of occult HBV infection in a high endemic region: Risk of community HBV trans-

mission and reactivation. BMC Research Notes, 18(255). https://doi.org/10.1186/s13104-025-07337-6

14. Kakudidi K. Esezah, Tugume P., Asiimwe., Anywar G (2025) Natural Products in Antidiabetic Drug Discovery: Historical Perspective Elsevier In: Antidiabetic Drug Discovery from Natural Products. Eds. Shailendra S. G., Uchenna E. O., Nilambari S. G., Yogesh A. K., Rupesh V. C., London, UK DOI: https://doi.org/10.1016/B978-0-443-30086-8.00018-8
15. Kalungi, F., Anywar G (2025). Kava (Piper methysticum G. Forst. Piperaceae). In Comprehensive Guide to Hallucinogenic Plants (pp. 292-297). CRC Press. Boca Raton DOI: https://doi.org/10.1201/9781003460336
16. Kalungi, F., Mulindwa, J., Mustafa, A. S., Namanya, P. B., Kubiriba, J., Barekye, A., & Tindamanyire, J. M. (2025). Efficient CRISPR/Cas9-mediated genome editing of phytoene desaturase in Musa-AAA: a critical step for genetic improvement of east African highland bananas [Original Research]. Frontiers in Plant Science, Volume 16 - 2025. https://doi.org/https://doi.org/10.3389/fpls.2025.1677409
17. Kalungi, F., Tindamanyire, J. M., Ntui, V. O., Mustafa, A. S., Nerima, B., Nandutu, A., Ozimati, A., Bwesigye, P. N., & Anywar, G. (2025). Plant molecular pharming in Africa for sustainable health and economic development. Vegetos. https://doi.org/https://doi.org/10.1007/s42535-025-01466-w
18. Kanyandago, P., Anywar G (2025) Resilience of African Medicine: From Marginalisation by, to Integration with Western Type of Medicine. The Uganda Journal- ISSN 004-574X Vol54 (1)2024 https:/ugsst.nicepage.io/) https://ugsst.nicepage.io/JOURNALS.html
19. Kaweesa S P, Lukwago W T, Odoki M, Anywar G, Guya B, Ombaka J (2025) The Therapeutic Potential of Psorospermum febrifugum Spach against Acne vulgaris Disease Aggravations. The Scientific World Journal Wiley, 2025, 4016492, 12 pages, 2025. https://doi.org/10.1155/tswj/4016492
20. Kawuma, C., Stedje, B., Katuura, E., Ipulet, P., Mulumba, J. W., Kakudidi, E., Mugizi, F. T., Bello, A. O., & Namaganda, M. (2025). Diversity, distribution and habitat suitability assessment of Solanum species of the Leptostemonum clade in Uganda. African Journal of Ecology. https://doi.org/10.1111/aje.70021
21. Kemigisa J, Arinaitwe IK, Kubiriba J, TUGUME AK, Tumuhimbise R (2025). Analysis of selected diploid banana genotypes for resistance to weevil damage and pollen quantity as key elements of banana breeding. Frontiers in Plant Science, Section: Plant Breeding,16:1620276. https://doi.org/10.3389/fpls.2025.1620276
22. Lopez, L., Lang, P.L.M., Marciniak, S., Kistler, L., Latorre, S.M., Haile, A., Vasquez Cerda, E., Gamba, D., Xu, Y., Woods, P., Yifru, M., Kerby, J., McKay, J.K., Oakley, C.G., Ågren, J., Wondimu, T., Bulafu, C., Perry, G.H., Burbano, H.A. and Lasky, J.R. (2025), Museum Genomics Reveals Temporal Genetic Stasis and Global Genetic Diversity in Arabidopsis thaliana. Mol Ecol, 34: e70081. https://doi.org/10.1111/mec.70081
23. Malugge, A., Kakudidi, E. K., & Anywar, G. (2025). Medicinal plants traditionally used in treatment of rheumatoid arthritis in Uganda. Vegetos. Springer Nature https://doi.org/10.1007/s42535-025-01193-2
24. Masika FB, Mahipal SK, Alicai T, Shimelis H, Ddamulira G, Athman SY, Ipulet P, Osingada F, Salman FA, TUGUME AK (2025) First report of Moroccan watermelon mosaic virus and other viruses infecting watermelon (Citrullus lanatus) in Uganda. New Disease Reports, 51(2), e70036. https://doi.org/10.1002/ndr2.70036
25. Masika FB, TUGUME AK, Kesawat MS, Shimelis H, Ddamulira G, Athman SY, Ipulet P, Alicai T (2025). High-throughput sequencing analysis reveals Moroccan Watermelon Mosaic Virus and Tobacco Streak Virus isolates infecting pumpkins in Uganda. CABI Agriculture and Bioscience, 6:1, 0055. https://doi.org/10.1079/ab.2025.0055
26. Matovu, P., Ballesteros, J. A. C., Namaganda, M., Nordal, I., & Bjorå, C. S. (2025). Chlorophytum (Asparagaceae) of Uganda—a molecular phylogenetic approach and the resurrection of Chlorophytum elgonense Bullock. Phytotaxa, 701(1), 1–21. https://doi.org/10.11646/phytotaxa.701.1
27. Moses Opio, Kenedy Kiyimba, Catherine Nabitandikwa, Richard Maseruka, Tony Lukwago Wotoyitidde, Moses Andima, Mercy Chebijira, Sharon Tracy Edeya, Alice Nabatanzi, Yahaya Gavamukulya, Dan Kibuule, Paul Waako, Richard Oriko Owor, Samuel Baker Obakiro. Unraveling the therapeutic potential of Tephrosia linearis: Anti-inflammatory, analgesic activity, and molecular docking approaches. Pharmacological Research - Natural Products. Volume 9, 2025, 100389, ISSN 2950-1997, https://doi.org/10.1016/j.prenap.2025.100389.
28. Moses Opio, Kenedy Kiyimba, Catherine Nabitandikwa, Richard Maseruka, Tony Lukwago Wotoyitidde, Moses Andima, Mercy Chebijira, Sharon Tracy Edeya, Alice Nabatanzi, Yahaya Gavamukulya, Dan Kibuule, Paul Waako, Richard Oriko Owor, Samuel Baker Obakiro. Unraveling the therapeutic potential of Tephrosia linearis: Anti-inflammatory, analgesic activity, and molecular docking approaches. Pharma-

cological Research - Natural Products. Volume 9, 2025, 100389, ISSN 2950-1997, https://doi.org/10.1016/j.prenap.2025.100389.

29. Muhumuza E. & Anywar G (2025) Muhumuza, E., & Anywar, G. (2025). Tabernanthe iboga Baill. Apocynaceae. In Comprehensive Guide to Hallucinogenic Plants (pp. 33-36). CRC Press.,Boca Raton DOI: https://doi.org/10.1201/9781003460336

30. Mulema, J., Nankinga, C., Kagorora, J. P. K., Tusiime, G., Amayo, R., Chemonges, M., Shahasi Y. Athman ..... & Ochwo, M. (2025). Prioritising non-native pest species to inform plant health biosecurity policy decisions and to safeguard agriculture, forestry, biodiversity, and livelihoods in Uganda. Frontiers in Agronomy, 7, 1601845, https://doi.org/10.3389/fagro.2025.1601845

31. Nabatanzi, A. (2025). Nutritional, pharmaceutical, and antinutritional properties of wild edible plants: What have we learned from the Mediterranean diet. In Exploring Traditional Wild Edible Plants (1st ed., pp. 1–12). CRC Press.

32. Nabatanzi, A., Obakiro, S.B., Walusansa, A. Nambejja C., Anywar, G (2025). Knowledge and practices of traditional treatment of chicken diseases using medicinal plants by indigenous communities in Najjembe sub-county, Buikwe district central Uganda. BMC Vet Res 21, 551 (2025). https://doi.org/10.1186/s12917-025-05008-z

33. Norah Gulaita, Rebecca Nalubega, Immaculate Nakalembe, Francis Ejobi, Alice Nabatanzi, Jesca Lukanga Nakavuma. Plants and procedures used for traditional processing of sour milk (Amakamo) by the Bahima of Kiruhura District, Uganda. East African Journal of Science, Technology and Innovation, 2025, 7(1). https://doi.org/10.37425/bt2x4057.

34. O'Sullivan, F., Richards, S. L., Kalema, J., Ojelel, S., & Darbyshire, I. (2025). The useful plants of Uganda: Conserving socio-economically valuable plant species using Important Plant Areas (IPAs). Economic Botany, 79(2), 151–170. https://doi.org/10.1007/s12231-025-09631-7

35. Ojelel, S., Katuura, E., Mucunguzi, P., & Kalema, J. (2025). Comparative analysis of floristic richness and diversity in six central forest reserves of north eastern Uganda. BMC Ecology and Evolution, 25(12). https://doi.org/10.1186/s12862-024-02323-1

36. Oloya, B., Andama, M., Akwongo, B., Amagu, P., Opoke, R., Candia, M., Samanya, R., Taban, P., Okello, E.A., Anywar, G., (2025). Indigenous knowledge and plant species used as mosquito repellents in the West Nile Subregion, Uganda. Tropical Medicine and Health, 53(1), 155. https://doi.org/10.1186/s41182-025-00831-4

37. Samuel Baker Obakiro, Catherine Nabitandikwa, Kenedy Kiyimba, Moses Ocan, Yahaya Gavamukulya, Moses Andima, Tonny Wotoyitide Lukwago, Richard Maseruka, Chebijira Mercy, Moses Opio, Joseph Hokello, Dan Kibuule, Alice Nabatanzi, Stephen Orena, Paul Waako, Oriko Richard Owor. In vitro antiplasmodial activity, acute toxicity and phytochemical quantification of selected medicinal plants used for the management of uncomplicated malaria in eastern Uganda. Journal of Ethnopharmacology, 2025, 121015, ISSN 0378-8741, https://doi.org/10.1016/j.jep.2025.121015.

38. Schultz, F., Dworak-Schultz, I., Wald, F., Grohs, L., Iker, T., Anywar, G., Kalema-Zikusoka, G., McLennan, M., Hobaiter, C., Marquez, L., Woo, S., Pieters, L., Caljon, G., Quave, C., Freymann, E., & Garbe, L.-A. (2025). Behavioral and pharmacological investigation of putative self-medicative natural materials used by wild chimpanzees and mountain gorillas. Phytochemistry Letters, 69, 103069. https://doi.org/https://doi.org/10.1016/j.phytol.2025.103069

39. Tugume, P., Anywar, G., Asiimwe, S., & Kakudidi, E. K. (2025). Secondary Metabolites Used in Pest Control. In Bioactive Secondary Metabolites from Medicinal Plants of Africa (pp. 117-150). Singapore: Springer Nature Singapore.

40. Tugume, P., Ssenku, J. E., Asiimwe, S., Mustafa, A. S., & Walusansa, A. (2026). Indigenous knowledge on the uses and conservation of medicinal plants in Namutumba District, Eastern Uganda. BMC Complementary Medicine and Therapies. https://doi.org/https://doi.org/10.1186/s12906-025-05235-

Zoology, Entomology, and Fisheries Sciences

1. Abiriga, D., Odong, R., Bakyayita, G. K., Semyalo, R., Okello, W., & Grossart, H.-P. (2025). The microbiology of Uganda's large freshwater lakes experiencing anthropogenic and climatic perturbations: Why it matters—a review. Proceedings of the Royal Society B: Biological Sciences. https://doi.org/10.1098/rspb.2024.3072

2. Atuhaire, C., Semyalo, R., Manga, M., Kayondo, L. M., Nabende, J., & Gidudu, A. (2025). Prospects of remote sensing for monitoring plastic litter in freshwater environments: A systematic review. Scientific African, 29, e02833. https://doi.org/10.1016/j.sciaf.2025.e02833

3. Baker, T. R., Adu-Bredu, S., Affum-Baffoe, K., Aiba, S.-i., Akite, P., Alexiades, M., Almeida, E., et al. (2025). Large range sizes link fast life histories with high species richness across wet tropical tree floras. Scientific Reports.

4. Barak, F., Efitre, J., Odong, R., & Melgar-Quiñonez, H. (2024). Intrahousehold empowerment patterns, gender power relations, and food security in Uganda. World Food Policy, 10(1), 7-32.

5. Besigye, F., Rowel, C., Adriko, M., Muyodi, F. J., Kisakye, J. J., Nalwanga, R., Vennervald, B. J., Nuwaha, F., Tukahebwa, E. M., & Wilson, S. (2025). School-aged Schistosoma mansoni infection levels after long-term programmatic control show failure to meet control programme targets and evidence of a persistent hotspot: Evaluation of the FibroScHot trial baseline data (Version 2). PLOS Neglected Tropical Diseases. https://doi.org/10.1371/journal.pntd.0012708

6. Byabasaija, S., Limuwa, M., & Semyalo, R. (2023). Optimizing small-scale aquaculture systems in the Lake Victoria Basin, Uganda: Insights into profitability drivers [Preprint]. Research Square. https://doi.org/10.21203/rs.3.rs-5541053/v1

7. Byabasaija, S., Limuwa, M., & Semyalo, R. (2025). Unlocking potential: An assessment of small-scale aquaculture viability in the Lake Victoria Basin, Uganda. Discover Agriculture Research.

8. Charity Kanyika-Mbewe, Chikumbusko Kaonga, Russel Chidya, Elijah Wanda, Robinson Odong, Godfrey Kawooya Kubiriza, Peter Akoll (2025). Pesticide handling practices and associated ecotoxicological and human health risks among rice farmers in Karonga district, Malawi. BMC Environmental Science; 2(1), 6.

9. Dinhobl, M., Spinard, E., Birtlery, H., Tesler, N., Masembe, C., Ribeca, P., Borca, M. V., & Gladue, D. P. (2024). African swine fever virus biotype identification tool. Microbiology Resource Announcements, 14(2). https://doi.org/10.1128/mra.00530-24

10. Drake Ssempijja, Haraldur Arnar Einarsson, Godfrey Kawooya Kubiriza, Jerome Sebadduka Lugumira, Pingguo He (2025). An Assessment of Legislative, Regulatory and Policy Gaps in the Management of Abandoned, Lost, and Otherwise Discarded Fishing Gear in Lake Victoria, East Africa. Environmental Development;

11. Kanyika-Mbewe, C., Kaonga, C., Chidya, R., Wanda, E., Odong, R., Kubiriza, G. K., & Akoll, P. (2025). Pesticide handling practices and associated ecotoxicological and human health risks among rice farmers in Karonga district, Malawi. BMC Environmental Science, 2(6). https://doi.org/10.1186/s44329-025-00019-5

12. Kwikiriza, G., Tibihika, P. D., Abaho, I., Nattabi, J. K., Vijayan, T., Rupprecht, C., Curto, M., Melcher, A., & Meimberg, H. (2025). Genetic characterization and interspecies gene flow among the Oreochromis species in the Lake Victoria and Kyoga basins, Uganda: Implications for conservation. Journal of Great Lakes Research, 51(2), 102535. https://doi.org/10.1016/j.jglr.2025.102535

13. Meki, I. K., Adedeji, A. J., Ouoba, L. B., Koffi, Y. M., Diakité, A., Settypalli, T. B. K., Habibata-Zerbo, L., Kouakou, K. V., Diakité, M. A., Masembe, C., Sidi, M., Douyeri, T. O., Dembelé, F., Luka, H. E., Hamidou-Ouandaogo, S., Dembelé, C., Weka, R., Bazimo, G., Dakouo, M., … Lamien, C. E. (2025). Detection of African Swine Fever Virus Genotype II in West Africa (2020) and its co-circulation with endemic Genotype I: Implications for pig production. Transboundary and Emerging Diseases. https://doi.org/10.1155/tbed/5396227

14. Musa, S., Aura, C. M., Tomasson, T., Sigurgeirsson, Ó., Kubiriza, G. K., & Thorarensen, H. (2025). The influence of various feeding and pond fertilization strategies on Nile tilapia (Oreochromis niloticus L.) production and the selectivity for natural versus supplementary diet in semi-intensive aquaculture systems. Aquaculture, Fish and Fisheries. https://doi.org/10.1002/aff2.70031

15. Nakadai, R., Akite, P., Holm, S., Kigenyi, R., Korkiatupa, E., Leinonen, L., Malinga, G. M., Nyafwono, M., van Goor, W., & Valtonen, A. (2025). Individual-level size distribution patterns in fruit-feeding butterfly communities along a forest restoration gradient in the Afrotropics. Global Ecology and Conservation, 62, e03679. https://doi.org/10.1016/j.gecco.2025.e03679

16. Namwanje, M., Masawi, A.N., Masette, M., Babirekere, E., Kubiriza, G.K., Efitre, J., Tumwesigye, K.S., Semwanga, N.M., Odong, R. (2025). Silver Cyprinid Fish-Enriched Snack for Pregnant Women's Nutrient Supplementation. Research Journal of Food and Nutrition, ISSN: 2637-5583; 8 (1): https://doi.org/10.22259/2637-5583.0801001

17. Nansumbi, F., Weigelhofer, G., Odong, R., & Hein, T. (2025). Cascading effects of land use on ecosystem function in Afrotropical headwater streams: Aquatic Sciences, 87(4), 93.

18. Niwandinda, E., Hasahya, E., Bugenyi, A. W., Bogere, P., Byaruhanga, J., Alarcón, P., Kirunda, H., Heo, J., & Masembe, C. (2025). Porcine Reproductive and Respiratory Syndrome Virus transmission among smallholder pig farms in western Uganda. Preventive Veterinary Medicine, 242, 106590. https://doi.org/10.1016/j.prevetmed.2025.106590

19. Obubu, J. P., Odong, R., Mengistou, S., Fetahi, T., Alamerew, T., & Samuel, E. (2025). Influence of spatio-temporal variations in precipitation and temperature on the productivity of Eastern Lake Kyoga, Uganda. African Journal of Aquatic Science, 50(1), 33-47.

20. Odong, R., Okoth, R., Masembe, C., Kubiriza, G. K., Akoll, P., Nantege, D., & Kansiime, F. (2025). Utility of integrated papyrus-bivalve for bioremediation of aquaculture wastewater. Environmental Science and Pollution Research, 32(1), 383–402

21. Onen, H., Kaindoa, E. W., Akite, P., Kayondo, J. K., Kaddumukasa, M. A., Akol, A. M., & Tripet, F. (2025). Semi-field experiments highlight importance of maize and rice pollen on oviposition site choice and larval development in An. arabiensis [Preprint]. Research Square. https://doi.org/10.21203/rs.3.rs-6596996/v1

22. Owuor, M. A., Seehausen, O., Borokini, I. T., Abila, R., Githiora, Y. W., Speranza, C. I., Njau, M. G., Ngila, P., Chiawo, D., Valenzano, D. R., Alawa, G. N., Akite, P., Gross, R. B., Alila, D. O., Agonvonon, G. A., & Mahulu, A. (2022). Ecology in Africa: Historical perspectives, present state and prospects. https://doi.org/10.32942/X24S7F

23. Robinson Odong, Ronald Okoth, Charles Masembe, Godfrey Kawooya Kubiriza, Peter Akoll, Diana Nantege, Frank Kansiime(2025). Utility of integrated papyrus-bivalve for bioremediation of aquaculture wastewater.Environmental Science and Pollution Research, 32 (1), 383-402.

24. Safina Musa, Christopher Mulanda Aura, Tumi Tomasson, Ólafur Sigurgeirsson, Godfrey Kawooya Kubiriza, Helgi Thorarensen (2025). Aquaculture, Fish and Fisheries; 5(1), e70031.

25. Siya, A., Rwego, I. B., Sande, E., Kityo, R. M., Masembe, C., & Kading, R. C. (2025). Household perceptions regarding bats and willingness to pay for their conservation within Mount Elgon Biosphere Reserve of Uganda. Frontiers in Conservation Science, 6, Article 1527844. https://doi.org/10.3389/fcosc.2025.1527844

26. Ssempijja, D., Einarsson, H. A., Kubiriza, G. K., Lugumira, J. S., & He, P. (2025). An assessment of legislative, regulatory and policy gaps in the management of abandoned, lost, and otherwise discarded fishing gear in Lake Victoria, East Africa. Environmental Development, 56, 101249. https://doi.org/10.1016/j.envdev.2025.101249

27. Ssenkuba, F., Tumusiime, J., Akite, P., Toloa, E., Ndimulodi, J., Dusabe, M.-C., Albrecht, C., & Kagoro-Rugunda, G. (2023). Unveiling management implication for Odonata assemblages in the Albertine Tropical Rain Forests, Uganda [Preprint]. Mbarara University of Science and Technology; Makerere University; University of Giessen. https://doi.org/10.21203/rs.3.rs-5889665/v1

28. Tuhamize, B., Tusubira, D., Masembe, C., Bessong, P. O., Byarugaba, F., & Bazira, J. (2025). High prevalence of multidrug-resistant Enterobacteriaceae uropathogens among outpatients in rural southwestern Uganda. Cureus. https://doi.org/10.7759/cureus.78094

29. Tuhamize, B., Tusubira, D., Masembe, C., Bessong, P., Byarugaba, F., & Bazira, J. (2025). Epidemiology of carbapenem-resistant Enterobacteriaceae in households of UTI outpatients in Southwestern Uganda: An urgent need for one health approach. Advances in Infectious Diseases, 15(1). https://doi.org/10.4236/aid.2025.151011

10 HUMAN RESOURCES

10.1 Appointments, Promotions, Confirmations, & Resignations

Promotions			
NO	**NAME**	**DEPARTMENT**	**RANK**
1	Dr Winston Tumps Ireeta	Physics	Professor
2	Dr. Charles Masembe	Zoology, Entomology, and Fisheries Sciences	Professor
3	Dr. Alice Nabatanzi	Plant Sciences, Microbiology, and Biotechnology	Senior Lecturer
4	Dr. Patience Tugume	Plant Sciences, Microbiology, and Biotechnology	Senior Lecturer
5	Dr. Karume Ibrahim	Chemistry	Senior Lecturer
6	Dr. Claire Aguttu	Biochemistry and Systems Biology	Lecturer
7	Dr. Samuel Ojelel	Plant Sciences, Microbiology, and Biotechnology	Lecturer
8	Dr. Denis Mutebi	Geology and Petroleum Studies	Lecturer
9	Dr. Ernest Peter Maiki	Chemistry	Lecturer
10	Dr. Betty Kirenga	Mathematics	Lecturer
11	Mr. Kawumba Moses	Physics	Assistant Technician

Contract appointments			
1	Dr. Juma Kasozi	Mathematics	Assoc. Professor
2	Dr. John Magero Mango	Mathematics	Assoc. Professor
3	Mr. Joshua Ainembabazi	Biochemistry and Systems Biology	Assistant Technician
4	Dr. Jamil Serwanja	Biochemistry and Systems Biology	Lecturer
5	Dr. Catherine Nassozi Lwanira	Biochemistry and Systems Biology	Lecturer
6	Dr. Martin Nsubuga Mayanja	Zoology, Entomology, and Fisheries Sciences	Lecturer
7	Mr. Bernard Matovu	Zoology, Entomology, and Fisheries Sciences	Assistant Lecturer
8	Mr. Hillary Mwongyera	Geology and Petroleum Studies	Assistant Lecturer
9	Mr. William Mukama	Biochemistry and Systems Biology	Technician
10	Mr. Geofrey Ssengendo	Plant Sciences, Microbiology, and Biotechnology	Technician
11	Ms. Bridget Kibingo	Physics	Assistant Technician
12	Mr. Ronnie Tumwesigye	Chemistry	Assistant Technician
13	Mr. Abias Asasira	CoNAS	Chief Custodian
Confirmations			
1	Mr. Ivan Kiganda	Chemistry	Assistant Lecturer
2	Mr. Herbert Ssemwanga	Chemistry	Assistant Lecturer
3	Mr. David Kisitu	College of Natural Sciences	IT Office
4	Mr. Robert Kirugge	Plant Sciences, Microbiology, and Biotechnology	Groundsman
Resignations			
1	Dr. Simon Echegu	Geology and Petroleum Studies	Senior Lecturer
2	Dr. Alex Samuel Bamunoba	Mathematics	Senior Lecturer
3	Dr. Alex Okello	Physics	Lecturer
4	Ms. Stellah Joanita Kugonza	Geology and Petroleum Studies	Assistant Lecturer
5	Dr. Herber Kasozi	Zoology, Entomology, and Fisheries Sciences	Lecturer
Deceased			
1	Mr. Besweri Wandera	Exercise and Sports Science	Lecturer

10.2 Staff Establishment

College of Natural Sciences

Principal: Prof. Winston Tumps Ireeta
Deputy Principal: Prof. Juma Kasozi

S/N	Name of Staff	Position
MATHEMATICS DEPARTMENT		
School of Physical Sciences		
Head of Department: Dr. Geoffrey Ismail Mirumbe		
1	Prof. Joseph Y. T. Mugisha	Professor
2	Prof. John Magero Mango	Associate Professor
3	Prof. Juma Kasozi	Associate Professor (Deputy Principal)
4	Prof. David Ssevviiri	Associate Professor
5	Prof. Betty Kivumbi Nannyonga	Associate Professor
6	Prof. Godwin Kakuba	Associate Professor
7	Dr. Saul Hannington Nsubuga	Lecturer
8	Dr. Ismail Geoffrey Mirumbe	Senior Lecturer/ HoD
9	Dr. Joseph Ssebuliba	Senior Lecturer
10	Dr. Hassan Ddumba	Lecturer
11	Dr. Henry Kasumba	Lecturer
12	Dr. Fred Mayambala	Lecturer
13	Dr. Alex Behakanira Tumwesigye	Lecturer
14	Dr. Onesfole Kurama	Lecturer
15	Dr. Mahad Ddamulira	Lecturer
16	Dr. Juliet Nakakawa Nsumba	Lecturer
17	Dr. Denis Wokiyi	Lecturer
18	Mr. Yasin Kikabi	Assistant Lecturer
19	Dr. Betty Nabiyonga Kirenga	Lecturer
20	Dr. Hassan Wasswa Kayondo	Lecturer
21	Mr. David Ddumba Walakira	Assistant Lecturer
22	Dr. Nathan Muyinda	Lecturer
23	Dr. Innocent Ndikubwayo	Lecturer
SUPPORT STAFF		
24	Nakku Goretti	Stenographer Secretary
25	Habarurema Andrew	Lecture Room Attendant
26	Namembwa Agnes	Lecture Room Attendant
27	Kabanda Fredrick	Office Attendant
CHEMISTRY DEPARTMENT		
School of Physical Sciences		
Head of Department: Dr. Emmanuel Tebandeke		

28	Prof. Robert Byamukama	Professor
29	Prof. Muhammad Ntale	Professor
30	Dr. George William Nyakairu	Assoc. Professor
31	Dr. John Wasswa	Senior Lecturer
32	Dr. Gabriel Kasozi	Senior Lecturer
33	Dr. Betty B. Naziriwo	Senior Lecturer
34	Dr. Emmanuel Tebandeke	Senior Lecturer (HoD)
35	Dr. Patrick Ssebugere	Senior Lecturer
36	Dr. Jane Namukobe	Senior Lecturer
37	Mr. James Sekamatte	Lecturer
38	Dr. Ibrahim Karume	Lecturer
39	Dr. Job Samuel Kasule	Lecturer
40	Dr. Edward Mubiru	Lecturer
41	Dr. Dan Egesa	Lecturer
42	Dr. Peter Ernest Maiki	Lecturer
43	Dr. Madina Mohammed Adia	Lecturer
44	Dr. Solomon Yiga	Lecturer
45	Mr. Richard Ochieng	Assistant Lecturer
46	Dr. Florence Nantaba	Lecturer
47	Dr. Fahad Matovu	Lecturer
48	Dr. Ruth Mbabazi	Lecturer
49	Mr. Patrick Mulindwa	Assistant Lecturer
50	Mr. Timothy Omara	Assistant Lecturer
51	Mr. Herbert Kivumbi Ssemwanga	Assistant Lecturer
52	Dr. Ivan Kiganda	Lecturer
SUPPORT STAFF		
53	Mr. Bonny Balikuddembe	Principal Technician
54	Mr. Ibrahim Nalukuba	Senior Technician
55	Mr. Jjagwe Nkalubo Geoffrey	Senior Technician
56	Mr. Brian Kusiima	Technician
57	Mr. Benson Openy	Technician
58	Mr. Kavuma Peter	Technician
59	Mr. Ssensamba Dan	Laboratory Assistant
60	Ms. Nabachwa Margaret	Stenographer Secretary
61	Mr. Kasozi John	Laboratory Assistant
62	Mr. Amanya Jackson	Assistant Technician
63	Mr. Mukasa Edward	Assistant Technician
64	Ms. Medron Balengesya	Assistant Technician
65	Mr. Mutenyo M.	Laboratory Attendant
66	Mr. Ronnie Tumwesigye	Assistant Technician

GEOLOGY AND PETROLEUM STUDIES DEPARTMENT

School of Physical Sciences		
Head of Department: Dr. Arthur Batte		
67	Dr. Michael Owor	Assoc. Prof./Dean(SPS)
68	Dr. Arthur Batte	Senior Lecturer/ HoD
69	Dr. John Mary Kiberu	Lecturer
70	Dr. Kevin Aanyu	Lecturer
71	Ms. Peggy Kalegga Kulyanyingi	Lecturer
72	Mr. Lauben Twinomujini	Assistant Lecturer
73	Mr. Wycliff Kawule	Assistant Lecturer
74	Dr. Ivan Mukiibi Ssewannyaga	Lecturer
75	Ms. Joan Nakajigo	Assistant Lecturer
76	Mr. Hillary Mwongyera	Assistant Lecturer
77	Dr. Denis Mutebi	Assistant Lecturer
78	Ms. Susan Kigozi	Chief Technician
79	Mr. Moses Kasaka	Principal Technician
80	Mr. Willy Kasule	Assistant Technician
SUPPORT STAFF		
81	Ms. Jeninah Tumwebaze	Stenographer Secretary
82	Ms. Grace Ssekamanya	Laboratory Attendant
83	Mr. Enock Emodock	Laboratory Attendant
PHYSICS DEPARTMENT		
School of Physical Sciences		
Head of Department: Dr. Denis Okello		
84	Winston Tumps Ireeta	Professor/Principal
85	Taddeo Ssenyonga	Associate Professor
86	Okello Denis	Senior Lecturer/HoD
87	Ssebiyonga Nicolausi	Senior Lecturer
88	Mukiibi Daniel	Senior Lecturer
89	Oruru Bosco	Senior Lecturer
90	Karidewa Nyeinga	Senior Lecturer
91	Zawedde Annet Eva	Lecturer
92	Eneku John Paul	Lecturer
93	Ayugi Gertrude	Lecturer
94	Muyimbwa Dennis	Lecturer
95	Kwarikunda Nicholas	Lecturer
96	Elizabeth Naluminsa	Lecturer
97	Nelson Ndugu	Lecturer
98	Twinamasiko Benon Fred	Assistant Lecturer
99	Sembito Alex	Assistant Lecturer

100	Tusiime Swaleh	Assistant Lecturer
101	Nayibinga Mercline	Principal Technician
102	Ssebukyu Joseph Buyondo	Technician
103	Mr. Ronald Bwambale	Assistant Technician
104	Kawumba Moses	Assistant Technician
105	Kibingo Bridget	Assistant Technician
106	Nannungi Eva	Stenographer Secretary
107	Asasira Abias	Chief Custodian
108	Kobusingye Stella	Lecture Room Attendant
BIOCHEMISTRY AND SYSTEMS BIOLOGY DEPARTMENT		
School of Biosciences		
AG. Head of Department: Dr. Agnes Nandutu Masawi		
109	Dr. Kyambadde Joseph	Senior Lecturer
110	Dr. Hawumba Joseph Fuuna	Associate Professor
111	Dr. Alibu Pius Vincent	Senior Lecturer
112	Dr. Masawi Agnes Nandutu	Senior Lecturer/HoD
113	Dr. Kasozi Denis Matovu	Senior Lecturer
114	Dr. Isabirye Dan	Lecturer
115	Dr. Baingana Rhona	Senior Lecturer
116	Dr. Isanga Joel	Lecturer
117	Dr. Balyeidhusa Apollo Simon Peter	Lecturer
118	Dr. Rutaro Karlmax	Lecturer
119	Dr. Nerima Barbara	Lecturer
120	Dr. Mulindwa Julius	Senior Lecturer
121	Dr. Gumisiriza Robert	Lecturer
122	Dr. Aguttu Claire	Lecturer
123	Lwanira Nassozi Catherine	Lecturer
124	Ms. Butungi Hellen	Assistant Lecturer
125	Mr. Okol Moses	Assistant Lecturer
126	Mr. Omara John	Assistant Lecturer
127	Dr. Mukisa Ambrose	Chief Technician
128	Mr. Niwagaba Stuart	Principal Technician
129	Mr. Mugenyi Godfrey	Senior Technician
130	Mr. Ainembabazi Joshua	Assistant Technician
131	Mr. Mukama William	Technician
SUPPORT STAFF		
132	Khainza Beatrice Shillah	Lecture Room Attendant
133	Ssemuju Francis	Laboratory Attendant
EXERCISE AND SPORTS SCIENCE DEPARTMENT		
School of Biosciences		

AG. Head of Department: Dr. Bernadette Nakabazzi		
134	Dr. Nakabazzi Bernadette	Lecturer (Ag. HoD)
135	Dr. Kasoma Sandra Sarah	Senior Lecturer
136	Mr. Bamweyana Deogratious	Assistant Lecturer
137	Mr. Oola Stephen Kidega	Assistant Lecturer
138	Mugisha Lillian	Assistant Lecturer
139	Nakazibwe Winifred	Assistant Lecturer
SUPPORT STAFF		
140	Mr. Kyomukama Robinah	Lecture Room Attendant
ZOOLOGY, ENTOMOLOGY AND FISHERIES SCIENCES DEPARTMENT		
School of Biosciences		
Head of Department: Dr. Godfrey Kawooya Kubiriza		
141	Prof. Muyodi Fredrick Jones	Professor
142	Dr. Anne Margaret AKOL	Associate Professor
143	Dr. Charles Masembe	Professor
144	Dr. Efitre Jackson	Senior Lecturer
145	Dr. Bwanika Gladys Namuswe	Senior Lecturer
146	Dr. Sande Eric	Assoc. Professor
147	Dr. Kisakye John Joseph Mbago	Lecturer
148	Dr. Akoll Peter	Senior Lecturer
149	Dr. Ronald Semyalo	Lecturer
150	Dr. Robinson Odong	Lecturer
151	Dr. Perpetra Akite	Lecturer
152	Dr. Nalwanga Rosemary	Lecturer
153	Dr. Godfrey Kawooya Kubiriza	Senior Lecturer (HoD)
154	Dr. Nattabi Juliet Kigongo	Lecturer
155	Mr. Drake Ssempijja	Assistant Lecturer
156	Matovu Bernard	Assistant Lecturer
157	Dr. Martin Mayanja Nsubuga	Lecturer
158	Ms. Ndagire Noeline	Chief Technician
159	Mr. Niyonzima Eustace	Principal Technician
160	Ms. Namagala Virginia	Senior Technician
161	Mr. Sseddyabane Nsubuga David	Laboratory Attendant
162	Mr. Muchunguzi Joshua	Laboratory Assistant
163	Mr. Odur Luka	Assistant Technician
SUPPORT STAFF		
164	Ms. Ruth Katushabe	Stenographer Secretary
165	Ms. Nakayiza Mary	Lecture Room Attendant
166	Ms. Atwijukire Mercy	Lecture Room Attendant

PLANT SCIENCES, MICROBIOLOGY AND BIOTECHNOLOGY DEPARTMENT		
School of Biosciences		
Head of Department: Dr. Jamilu Edirisa Ssenku		
167	Dr. Arthur Kajungu Tugume	Assoc. Professor (Dean, SBS)
168	Prof. James Kalema	Professor
169	Dr. Esther Katuura Mwebesa	Senior Lecturer
170	Dr. Shahasi Yusuf Athman	Lecturer
171	Dr. Jamilu Edirisa Ssenku	Senior Lecturer (HoD)
172	Dr. Esther Nakamatte	Lecturer
173	Dr. Patience Tugume	Senior Lecturer
174	Dr. Collins Edward Bulafu	Lecturer
175	Dr. Dorothy Ndagire	Lecturer
176	Dr. Alice Nabatanzi	Lecturer
177	Dr. Byarugaba Savina Asiimwe	Lecturer
178	Dr. Mary Namaganda	Principal Herbarium Curator
179	Dr. Godwin Anywar	Lecturer
180	Dr. Abubaker Sadik Mustafa	Lecturer
181	Teddy Mary Asiimwe Tindyebwa	Assistant Lecturer
182	Dr. Lydia Nabyonga	Assistant Lecturer
183	Ms. Margaret Atim	Assistant Lecturer
184	Dr. Cyprian Osinde	Assistant Lecturer
185	Dr. Samuel Ojelel	Lecturer
186	Moses Zziwa	Principal Technician
187	David Muhereza Begumya	Senior Technician
188	Christian Abba	Technical Assistant
189	Mr. Stanley Ofwono	Laboratory Assistant
190	Mr. Geofrey Ssegendo	Technician
SUPPORT STAFF		
191	Grace Wandera	Stenographer Secretary
192	Richard Mfitumukiza	Lecture Room Attendant
PRINCIPAL'S OFFICE		
193	Ms. Joyce Nyiramahoro	Senior Assistant Registrar
194	Ms. Hasifa Mukyala	Assistant Administrative Officer
195	Ms. Eleanor Nandutu	Senior Assistant Registrar
196	Ms. Shivon Atwine	College Procurement Officer
197	Ms. Sarah Nakayima	College Librarian
198	Ms. Hasifa Kabejja	Principal Communication Officer
199	Mr. David Kisitu	IT Officer
200	Ms. Claire Birungi	College Bursar
201	Ms. Kevin Nabiryo Mikwano	College Human Resource Officer

202	Ms. Loyce Amoding	Administrative Secretary
203	Mr. Moses Kasagga	Computer Technician
SUPPORT STAFF		
204	Ms. Emily Namatovu	Secretary/ Dep. Principal
205	Ms. Stephanie Kiddu	Assistant Administrative Officer /Dean SPS
206	Mr. Joel Masereka	Stenographer Secretary/Dean SBS
207	Mr. Epaphra Barenga	Assistant Accountant
208	Ms. Brenda Akwel	Library Assistant
209	Mr. Samuel Omaset	Library Assistant
210	Mr. James Sserwada	Technician
211	Mr. Phillip Kagoro Mujwisa	Driver
212	Ms. Betty Kyamuhangire	Records Assistant
213	Mr. Charles Kiyingi	Machine Operator
214	Mr. Charles Munyamasoko	Lecture Room Attendant
215	Ms. Allen Ssanyu Nalyazi	Lecture Room Attendant
216	Mr. Saul Segawa Semyalo	Office Attendant
217	Ms. Anne Nakintu	Lecture Room Attendant
218	Mr. Stephen Mugisa	Lecture Room Attendant
219	Ms. Regina Nakabuye	Lecture Room Attendant
220	Mr. Girisomu Ndaada	Security Guard
221	Mr. Yazid Lubanga	Lecture Room Attendant
222	Ms. Asina Tibesigwa	Lecture Room Attendant
223	Mr. Anthony Kawongolo	Lecture Room Attendant
224	Mr. Siraki Igulu	Lecture Room Attendant
225	Mr. Davis Amanya	Lecture Room Attendant
226	Mr. Nobert Bagaba	Lecture Room Attendant
227	Mr. Isma Kalinaki	Lecture Room Attendant
228	Ms. Naswiba Nakasolow	Lecture Room Attendant
229	Ms. Ruth Nansubuga	Lecture Room Attendant
230	Mr. Stephen Egaru	Lecture Room Attendant
231	Mr. Onesmus Ndamurira	Lecture Room Attendant
232	Mr. Junior Francis	Lecture Room Attendant
233	Mr. Abusorom Gumisiriza	Lecture Room Attendant
234	Ms. Gorreti Kagoya	Lecture Room Attendant
235	Ms. Shiba Asiimire	Lecture Room Attendant
236	Ms. Agnes Mwiyikinwa	Lecture Room Attendant
237	Ms. Emily Turyamuhaki	Lecture Room Attendant
238	Ms. Aidah Katwijukye	Lecture Room Attendant
239	Mr. Byron Mayanja	Lecture Room Attendant

College Of Natural Science Report 2025

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