



COLLEGE OF NATURAL SCIENCES



2021 ANNUAL REPORT

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Chicken Fee



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

MISSION

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

CORE VALUES

Makerere University in the pursuit of its mission will be guided by the following core values:

- I. Accountability
- 2. Professionalism
- 3. Integrity
- 4. Respect
- 5. Inclusivity



AR	Academic Registrar
AY	Academic Year
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
CoNAS	College of Natural Sciences
CoTRA	Collaborative Training in Fisheries & Aquaculture in East Central and Southern Africa
EU	European Union
ISP	International Science Programme
Mak-RIF	Makerere University-Research and Innovations Fund
MSc.	Master of Science
MUELE	Makerere University E-learning Environment
NORAD	Norwegian Agency for Development Cooperation
ODEL	Open Distance and E-learning
PhD	Doctor of Philosophy
PMB	Plant Sciences, Microbiology and Biotechnology
SBS	School of Biosciences
SPS	School of Physical Sciences
ZEFS	Zoology, Entomology and Fisheries Sciences,

COLLEGE











Dr. Arthur K. Tugume, Dean, School of Biosciences







HEADS OF DEPARTMENT

Dr. Godwin Kakuba - Head, Department of Mathematics



Dr. John Wasswa - Head, Department of Chemistry



Dr. Denis Okello - Head, Department of Physics



Dr. Arthur Batte - Head, Department of Geology and Petroleum Studies



Dr. Katuura Esther - Head, Department of Plant Sciences, Microbiology and Biotechnology



Dr. Vuzi Peter - Head, Department of Biochemistry and Sports Science



Dr. Eric Sande - Head, Department of Zoology, Entomology and Fisheries Sciences



CoNAS Annual Report @2021

CoNAS Annual Report @2021

CONTENTS

	\sim
INTRODUCTION	9
TEACHING AND LEARNING	9
RESEARCH & INNOVATIONS	17
MOUS SIGNED	23
KNOWLEDGE SHARING	23
OUTREACH ACTIVITIES	31
CoNAS CONFERENCES & TRAININGS	35
AWARDS / RECOGNITIONS	36
HUMAN RESOURCES	38
CoNAS LEADERSHIP	40
KEY CHALLENGES	41
RECOMMENDATIONS	41
CoNAS PUBLICATION 2021	42

FOREWORD

2021 was largely a successful year.

Although COVID 19 continued to cast shadow over the Year, placing a lot of pressure on us, our staff and students continued to demonstrate agility, responsiveness and ability to deliver excellence in all the planned activities.

This edition of our Annual Report highlights activities and achievements registered in line with the 2020-2030 Strategic Plan of the University. It covers developments in teaching and learning, research and innovations, community engagements, local and international collaborations, and human resource management. Under teaching and learning, we bring you details on the planned and newly approved programmes, student enrolment and graduation statistics. It is gratifying to note that the University Council during its 154th sitting held on 19th December 2021 approved 11 programmes including; Bachelor of Science, Bachelor of Sports Science, Bachelor of Science in Biotechnology, Bachelor of Science in Conservation Biology, Bachelor of Science in Fisheries and Aquaculture, Bachelor of Science in Petroleum Geosciences and Production, Master of Science in Geology, Master of Science in Physics Master of Science in Biochemistry, Master of Science in Zoology, and Master of Science in Botany. Plans are underway to introduce 6 new programmes namely; Bachelor of Science in Molecular Biology, Bachelor of Science in Microbiology, Master of Science in Conservation Biology, Master of Science in Ethnobotany, Master of Science in Parasitology and Master of Science in Entomology. Special regards to all members of staff who work tirelessly to ensure our programmes align to the National Development Plan.

It is also pleasing to note that during the 71st graduation ceremony, our college presented 8 PhDs and 10 students with First Class Degrees.

Despite the challenges, our staff and students continue to actively engage in transformative research aimed at improving the livelihoods of wananchi. In this report, we share with you details of the different research and outreach activities undertaken by our staff and students in 2021. Our staff from the Department of Zoology, Entomology and Fisheries Sciences made significant contributions to the Fisheries and Aquaculture Bill, 2021 intended to strengthen the Fisheries Industry. Under the TWIGA Project (Transforming Water, weather, and climate information through in Situ observations for Geo-services in Africa), our staff from the same department trained sixteen (16) farmers (termed as citizen scientists) in Nakasongola District in crop management. The project provided trainees with smart phones to monitor crop health. With support from the Makerere University Research and Innovations Fund (Mak-RIF), our researchers launched a project to explore forage resources for stingless bees in Uganda with the aim of preserving the bees to improve their profitability.

Through the Department of Plant Sciences, Microbiology and Biotechnology, we launched the Natural Products Industry Advancement Network Africa (NAPIANA). The network aims to advance Africa's Natural Products Industry through Transdisciplinarity and Sustainable Innovations. Staff from the same department undertook research aimed at developing value-added phytogenic chicken feeds.

Our staff from the Department of Chemistry participated in the launch of the African Water Resources Mobility Network (AWaRMN) Project on 20th October 2021 and are fully engaged in the activities therein. AWaRMN is funded under the Intra-Africa Academic Mobility Scheme of the European Union. It supports students and staff mobility with the main objective of enhancing human capital development in Africa, while strengthening intra-African cooperation in higher education as called for by the Agenda 2063. The main focus of the program is on water resources with special emphasis on water resources management, improving water resources, water treatment and safety.

In this report, we share with you details of several other ongoing research projects supported by international partners and the Government of Uganda through Mak-RIF.

We are grateful to the Government of Uganda and our development partners for the support extended towards our programmes. We also appreciate the University Management for their commitment towards promoting research and innovation at the University.

I take this opportunity to congratulate our members staff who received various awards and appointments. These include Dr. John Mango Magero (Associate Professor), who was inducted as a Fellow of the Uganda National Academy of Sciences (UNAS) on the 29th October, 2021; Dr Charles Masembe (Associate Professor) appointed member of Kyambogo Senate; and Dr. B. Nanyonga who was appointed Member, Reference Group, Centre of Excellence for Sustainable Health.

2021 was my last year of service as Principal, CoNAS. I thank you all, especially the staff and students of CoNAS for the teamwork and support accorded to me during my eightyear term of office. As I settle back in my mother Unit – the Department of Mathematics, I remain available to serve the College and University.

I wish you a successful Year 2022.

Auplin

Prof. J.Y.T. Mugisha Outgoing Principal

INTRODUCTION

The College of Natural Sciences has two schools: School of Physical Sciences and School of Biosciences. The schools are further divided into seven (7) departments thus: School of Physical Sciences has four (4) departments (Department of Mathematics, Department of Chemistry, Department of Physics and Department of Geology and Petroleum Studies); the School of Biosciences has three (3) departments (Department of Zoology, Entomology and Fisheries Sciences, Department of Biochemistry and Sports Science, and Department of Plant Sciences, Microbiology and Biotechnology). This report is a presentation of the performance of the College of Natural Sciences in 2021.

TEACHING AND LEARNING

I.I Status of Teaching and Learning

The College of Natural Sciences offers programmes at undergraduate and graduate level. Additionally, CoNAS services other Colleges including courses in Biochemistry for students from the College of Health Sciences and College of Veterinary Medicine, Animal Resources and Biosecurity. Staff at the College also teach students from the College of Education and External Studies, College of Computing and Information Sciences and School of Statistics and Applied Economics a number of courses in Chemistry, Mathematics, and Physics.

1.2 Updates on Teaching and Learning

i) Following the approval of re-opening of universities for finalists and ODEL, staff registered for and attended training sessions on how to use MUELE.

ii) Owing to the CoVID19 pandemic, there were delays to teaching and exams. After reopening, online teaching was implemented to complete syllabi. Practical lectures were also held with special permission from the DVC/Academic Affairs as per directives by the National Council for Higher Education (NCHE) on re-opening universities.

iii) Upload of teaching courses on the MUELE platform continues.

iv)The continuing students sat for Semester 1 exams in May and early June as well as December 2021 and January 2022.

v) A number of programmes were submitted to Senate for review as required by the National Council for Higher Education. The programmes have been duly reviewed and approved as presented in this report.

vi) The orientation for First Year students was held on 25th February 2021 in the Conference Hall at JICA Building. Students were duly sensitized on various programmes at the College by both the Academic and Administrative leaders led by then Principal, Prof. J.Y.T. Mugisha.

vii) The Makerere University Restructuring Committee visited the CoNAS on 8th April 2021 to discuss the proposals submitted by the College.

Table I: Programmes offered at the College of Natural Sciences (CoNAS)

SCHOOL OF BIOSCIENCES			
NO	PROGRAMME	DURATION	
	UNDERGRADUATE		
Ι.	Bachelor of Science (Major or Minor in Biological Sciences – Zoology, Botany, Biochemistry)	3 Years	
2.	Bachelor of Science in Fisheries and Aquaculture	3 Years	
3.	Bachelor of Science in Biotechnology	3 Years	
4.	Bachelor of Science in Sports Science	3 Years	
5.	Bachelor of Science in Conservation Biology	3 Years	
	GRADUATE		
6.	Master of Science in Botany SPECIALISATIONS Natural Resources Ecology and Conservation Plant Physiology Plant taxonomy and biosystematics Molecular biology and Genetics Microbiology and Plant Pathology	2 Years	
7.	Master of Science in Zoology SPECIALISATIONS Parasitology Entomology Fisheries and Aquaculture Wildlife Ecology and Conservation	2 Years	
8.	Master of Science in Biochemistry SPECIALISATIONS Nutrition Biochemistry Medical Biochemistry Environmental and Industrial Biochemistry	2 Years	
9.	PhD in Botany	3 Years	
10.	PhD in Zoology	3 Years	
11.	PhD in Biochemistry	3 Years	
SCHOOL OF PHYSICAL SCIENCES			
Ι.	Bachelor of Science (Major or Minor in Physical Sciences – Mathematics, Physics, Geology, Chemistry)	3 Years	
2.	Bachelor of Science in Industrial Chemistry	3 Years	
3.	Bachelor of Science in Petroleum Geosciences and Production	4 Years	
4.	Master of Science in Physics	2 Years	
5.	Master of Science in Chemistry	2 Years	

6.	Master of Science in Petroleum Geosciences	2 Years
7.	Master of Science in Geology	2 Years
8.	Master of Science in Mathematics	2years
9.	Master of Science in Mathematical Modelling	2 Years
10.	PhD in Mathematics (thesis)	3 Years
11.	PhD in Mathematics (Coursework and dissertation)	4 Years
12.	PhD in Physics	3 Years
13.	PhD in Chemistry	3 Years
14.	PhD in Geology	3 Years

1.3 Newly Approved programmes

The University Council during its 154th meeting held on 19 December 2021 Approved the following programmes.

Table 2: Newly approved programmes at CoNAS

NO.	PROGRAMME NAME	DURATION
Ι.	Bachelor of Science	3 Years
2.	Bachelor of Sports Science	3 Years
3.	Bachelor of Science in Biotechnology	3 Years
4.	Bachelor of Science in Conservation Biology	3 Years
5.	Bachelor of Science in Fisheries and Aquaculture	3 Years
6.	Bachelor of Science in Petroleum Geosciences and Production	4 Years
7.	Master of Science in Geology	2 Years
8.	Master of Science in Physics	2 Years
9.	Master of Science in Biochemistry	2 Years
10.	Master of Science in Zoology	2 Years
11.	Master of Science in Botany	2 Years

I.4 Planned programmes

- i) BSc in Molecular Biology
- ii) BSc in Microbiology
- iii) MSc in Conservation Biology
- iv) MSc in Ethnobotany
- v) MSc in Parasitology
- vi) MSc in Entomology

1.5 Students' registration status

Table 3: Registered Undergraduate Students for Semester 1 2020/2021 Aggregated by Gender

PROGRAMME	GENDER/ TOTAL	YEAR I	YEAR II	YEAR III	YEAR IV	GRAND TOTAL
	F	26	36	40	n/a	102
BSCI.	М	73	68	88	n/a	229
	Total	99	104	128	n/a	331
	F	13	22		n/a	46
BSIC	М	35	42	37	n/a	4
	Total	48	64	48	n/a	160
	F	7	8	4	n/a	19
BSFA	М	35	32	21	n/a	88
	Total	42	40	25	n/a	107
	F	-	-	2	n/a	2
BETB	М	-	-	2	n/a	2
	Total	-	-	4	n/a	4
	F			2	n/a	4
BSPC	М	6	8	9	n/a	23
	Total	7	9		n/a	27
	F	2	6	0	n/a	8
BSCB	М	10	17	15	n/a	42
	Total	12	23	15	n/a	50
	F	4	16	9	4	33
BBPG	М	32	27	31	24	4
	Total	36	43	40	28	147
	F	12	10	13	n/a	35
BSBT	М	26	19	22	n/a	76
	Total	38	29	35	n/a	102
TOTAL		282	312	306	28	928

Table 4: Registered Graduate Students in 2020/2021

DEPARTMENT	M.Sc.	PhD	TOTAL
Biochemistry and Sports Science	2	-	2
Chemistry	6	-	6
Geology and Petroleum Studies	24	-	24
Mathematics	2	10	12
Physics	-	6	6
Plant Sciences, Microbiology	2	2	4
Zoology, Entomology and Fisheries Sciences	3	7	10
TOTAL	39	25	64

1.3 2021 Graduation

I.6 Graduation statistics

The College of Natural Sciences (CoNAS) presented a total of 319 graduands (101 female and 218 male) for the award of degrees and diplomas at the 71st graduation ceremony of Makerere University held on 17 May 2021.

Table 5:Total graduates per programme

NO.	DEGREE	FEMALE	MALE	TOTAL
Ι.	Doctor of Philosophy (PhD)	3	3	6
2.	Master of Science - Zoology	2	8	10
3.	Master of Science – Biochemistry	0	2	2
4.	Master of Science - Botany			2
5.	Master of Science - Chemistry	2	4	6
6.	Master of Science – Petroleum Geoscience & Production	I	0	I
7.	Master of Science - Physics	0		
8.	Bachelor of Science	48	78	126
9.	Bachelor of Science in Industrial Chemistry	13	45	58
10.	Bachelor of Science in Sports Science	2	6	8
.	Bachelor of Science in Fisheries & Aquaculture	6	23	29
12.	Bachelor of Science Biotechnology	9	15	24
13.	Bachelor of Science in Conservation Biology	4	8	12
4.	Bachelor of Science in Petroleum Geoscience and Production	10	24	34
TOTAL		101	218	319

1.6.2 First Class Degree graduates

Eleven (11) Bachelors' degree graduands presented by CoNAS attained first class degrees (3 female and 8 male). The names, degree and CGPA are presented in the table below:

Table 6: Statistics of First Class degrees

NO.	NAME	DEGREE	CGPA
Ι.	Obongi Emmanuel (M)	Bachelor of Science	4.72
2.	Nkajja Godfrey (M)	Bachelor of Science	4.67
3.	Nakato Zora Joy (F)	Bachelor of Science	4.62
4.	Tukie Ivan (M)	Bachelor of Science in Petroleum Geoscience & Production	4.56
5.	Bakisuula Dalton (M)	Bachelor of Science in Industry Chemistry	4.55
6.	Kidega Francis Brian (M)	Bachelor of Science	4.46
7.	Buyondo Basil Paul (M)	Bachelor of Science	4.45
8.	Ayebare Ruth (F)	Bachelor of Science	4.44
9.	Mutahi Nicholas Silver (M)	Bachelor of Science in Petroleum Geoscience & Production	4.43
10.	Dembe Nicholas (M)	Bachelor of Science in Fisheries & Production	4.4

1.6.3 Staff awarded PhDs during 71st graduation ceremony – 17th May 2021

The table below highlights the staff who graduated with PhDs from Makerere and other Universities in 2021.

Table 7: Staff awarded PhDs in 2021

No.	NAME	DEPARTMENT	THESISTITLE
١.	Adia Madina Mohammed		Antiplasmodial, Toxicity and Phytochemistry of Selected Plant Species used by Rukararwe and Prometra Herbalists in Treatment of Malaria in Uganda
2.	Guma Brian Emmanuel	Geology & Petroleum Studies	Potential hydrogeological contaminants derived from petroleum activities in the Albertine Graben
3.	Lugolole Robert		Development of a Sensible Heat Packed Bed Energy Storage System for Medium Temprature Applications
4.	Masila Veronica Mutindi		Synthesis, Anti-Plasmodial and Anti- Microbial Properties of Carvotacetone Analogues
5.	Nantaba Florence	Chemistry	Occurrence, eco-toxicological risk assessment, sorption and degradation kinetics of selected emerging organic chemical pollutants in water and sediments of Lake Victoria, Uganda (PhD in Chemistry)

6.	Yiga Solomon	Chemistry	Synthesis, Catalysis and Nitrosyl Derivatives of Iron (II) Complexes Bearing Pentadentate Polypyridyl Ligands (PhD in Chemistry)
7.	Ocen William	Physics	Measurement and Modeling of Residual Stress in Porcelain Tiles Formulated from Different Quartz Practicle Sizes in Uganda (PhD in Physics)

1.6.4 Successful PhD defenses (Yet to graduate)

Table 8

DEPARTMENT OF MATHEMATIC			
NO.	NAME	INSTITUTION	
Ι.	Olivia Nabawanda (F)	Makerere University	
2.	Okello Joseph (M)	Makerere University	
3.	Nalule Rebecca (F)	Makerere University	
4.	Mayanja Edison (M)	Makerere University	
6.	Mwasa Abubaker (M)	Linköping University-Sweden	
7.	Abola Bernard (M)	Malardalen University - Sweden	
8.	Asaf Muhumuza (M)	Mälardalen University-Sweden	
9.	Ndikubwayuo Innocent (M)	Stockholm University – Sweden	
DEPARTMENT OF PHYSICS			
10.	Richard Ssenyunzi (M)	Makerere University	
11.	John Paul Eneku (M)	Makerere University	
12.	Peter Opio (M)	Makerere University	
DEPARTMENT OF CHEMISTRY			
13.	Christopher Eneku (M)	Makerere University	
	DEPARTMENT OF GEOLOG	Y & PETROLEUM STUDIES	
14.	Jacinta Nayebare (F)	Makerere University	
DEPA	RTMENT OF PLANT SCIENCES, MIC	ROBIOLOGY AND BIOTECHNOLOGY	
15.	Anywar Godwin (M)	Makerere University	
	DEPARTMENT OF BIOCHEM	IISTRY & SPORTS SCIENCE	
16.	Gumisiriza Robert (M)	Makerere University	
DEPARTMENT OF ZOOLOGY, ENTOMOLOGY AND FISHERIES SCIENCES			
17.	Inuwa Badamasi (M)	Makerere University	

I.7 2021/2022 Admissions

Table 9: 2021/2022 Undergraduate and Graduate Admissions statistics

PROGRAMMES	FEMALE	MALE	GRAND TOTAL
Bachelor of Science	70		181
Bachelor of Science (External)	5	21	26
Bachelor of Science in Biotechnology	36	47	83
Bachelor of Science in Conservation Biology	10	25	35
Bachelor of Science in Fisheries and Aquaculture	19	47	66
Bachelor of Science in Industrial Chemistry	44	68	112
Bachelor of Science in Petroleum Geoscience and Production	27	43	70
Bachelor of Sports Science	6	15	21
Doctor of Philosophy (School of Biological Sciences)	I	I	2
Doctor of Philosophy (School of Physical Sciences)	2	I	3
Master of Science in Applied Mathematics	3	8	
Master of Science in Biochemistry	5	13	18
Master of Science in Botany	I	11	12
Master of Science in Chemistry	5	21	26
Master of Science in Geology	2	3	5
Master of Science in Mathematics	I	6	7
Master of Science in Petroleum Geosciences	I	17	18
Master of Science in Physics	3	12	15
Master of Science in Zoology	13	21	34
GRAND TOTAL	254	491	745

RESEARCH AND INNOVATIONS

The College for purposes of furthering knowledge undertakes research in various areas under the individual departments. The projects are mainly funded by development partners or as collaborations with universities and research institutions in other countries. The research is jointly undertaken by staff and students at graduate (Masters and PhD) level. Various research activities are on-going at CoNAS.

1.2 Ongoing research projects

A total of nine (9) projects submitted by CoNAS staff were awarded funding in Round-3 of Mak-RIF as shown in table below.

Table 10: Mak-RIF supported projects

NO.	PROJECT TITLE	PRINCIPAL INVESTIGATOR	DEPARTMENT
١.	Using Astronomy and Space Science to Promote Science Education in Schools	Prof. Florence Mutonyi D'ujanga	Department of Physics
2.	Influence of Gut Microbiome on Nutritional and Disease status of children in Schistosomiasis endemic region of Albert Nile, Pakwach district	Dr. Julius Mulindwa	Department of Biochemistry and Sports Science
3.	Removing barriers to planting of multi-purpose tree species of Uganda	Dr. Samuel Ojelel	Department of Plant Sciences, Microbiology and Biotechnology
4.	Stochastic model for Sustainable Harvesting of Nile tilapia (Oreochromis niloticus) and Nile Perch (Lates niloticus) Fish Populations on Lake Victoria for Optimal Financial Returns and Monitoring	Assoc. Prof. Juma Kasozi	Department of Mathematics
5.	Valorisation of Waste Chicken Feathers for Water Purification: Designing and Constructing Low- Cost Keratin Based Nanofilters as Adsorbents of Heavy Metals and Nanosized Contaminants	Dr. Alice Nabatanzi	Department of Zoology, Entomology and Fisheries Sciences

6.	Providing Clean and Safe Water to Low-Income Communities using Activated Carbon-Cellulose membrane-based Water filters derived from Disposed Waste	Dr. Ibrahim Karume	Department of Chemistry
7.	Using the Internet to Incentivize Healthy Lifestyle Choices in Uganda	Dr. Rhona Baingana	Department of Biochemistry and Sports Science
8.	Production of Novel Eco-Charcoal Fuel for Urban dwellers using Municipal Vegetative Solid Waste and Volcanic Rocks	Dr. Robert Gumisiriza	Department of Biochemistry and Sports Science
9.	Exploring forage resources for stingless bees in Uganda:The case of Meliponula bocandei	Dr. Perpetra Akite	Department of Zoology, Entomology and Fisheries Sciences
10.	Grant amount UGX 100,000,000, from Government of Uganda and Makerere University, Research and Innovation Fund -RIF1 Extension, to support soil remediation studies in artisanal and small-scale gold mining areas of Uganda	Dr Emmanuel Tebandeke	Department of Chemistry
.	Capacity of Moringa oleifera and Eichhornia crassipes in removal of Endocrine Disrupting Chemicals from wastewater:Towards improved water quality and wastewater management	Dr Patrick Ssebugere	Department of Chemistry
12.	Production of Novel Eco-Charcoal Fuel for Urban dwellers Using Municipal Vegetative Solid Waste and Volcanic Rocks	Robert Gumisiriza	Department of Biochemistry & Sports Science

CoNAS Annual Report @2021

NO.	PROJECT TITLE	PURPOSE	DURATION	PRINCIPAL INVESTIGATOR
Ι	Harnessing Dietary Nutrients of under-utilised fish and fish- based products in Uganda (NutriFish)	Makerere University in partnership with National Fisheries Resources Research Institute (NaFIRRI) of the National Agricultural Organization (NARO); NUTREAL Uganda Limited; and McGill University, Canada; won a research grant worth CAD2.7 million funded by the International Development Research Centre (IDRC) of Canada, and the Australian Centre for International Agricultural Research Centre (ACIAR), under the their Cultivate Africa's Future initiative. The grant was aimed at researching on Harnessing Dietary Nutrients of under-utilised fish and fish-based products in Uganda.	2019-2022	Dr. Jackson Efitre, Department of Zoology, Entomology and Fisheries Sciences
2.	African Water Resource Mobility Network (AWARMN)	Makerere University in collaboration with Rhodes University, South Africa; University of Technology, Nigeria; Higher School of Hydraulics, Algeria; Delfts University, Netherlands and University of Kinshasa, DR Congo, are implementing a project to address water-related pressing needs on the African continent worth EUROs 139,000,000 funded by European Union Commission. The grant was awarded under the Intra-Africa Academic Mobility Scheme. The project is intended to support both African scholars for PhD and MSc	2020-2024	Assoc. Prof. George William Nyakairu, Department of Chemistry
3.	Transforming Water, weather, and climate information through in Situ observations for Geo- services in Africa (TWIGA)	Makerere University in partnership with Technische Universiteit Delft, Netherlands; Imperial College of Science Technology and Medicine, UK; Kwame Nkrumah University of Science and Technology, Ghana; and Strathmore University, Kenya won a research grant worth \$166,273 to research on transforming water, weather, and climate information through in situ observations for geo- services in Africa.		Dr. Eric Sande, staff from the Department of Zoology, Entomology and Fisheries Sciences and Prof. Florence D'ujanga, staff from the Department of Physics

4.	Bee Pollinators Diversity Informatics Project	The Department of Zoology, Entomology and Fisheries Sciences in collaboration with DICTS-Makerere University, National Museum of Kenya, Metalmark Web and Data (USA), Bee Identification Services (USA), Belgian Museum of Natural History; won a research grant worth USD275,000 funded by JRS Foundation. Objectives: I) Enable access to biodiversity data through the development and launch of a database-driven website on bees of Uganda and related pollination information. 2) Expand the knowledge base on bee pollinators by engaging farmers and government agencies, conducting field surveys and sampling events to collect specimens. 3) Analysis of datasets with a focus on bee diversity, determinants of distribution, and bee-plant mutualisms in agricultural landscapes of the Southern Kyoga Basin and Central Lake Victoria Crescent. 4) Enhance capacity at Makerere University through the development of a bee genera of Uganda identification guide and training in bee identification skills and biodiversity informatics applications.	2020-2022	Assoc. Professor Anne Akol, Department of Zoology, Entomology and Fisheries Sciences
5.	Environmental Health	Makerere University in partnership with Helmholtz Zentrum München, Germany won a research grant of USD 36,079 funded by the World Academy of Sciences to undertake a research on Environmental Health	2020 – 2022	Dr. Patrick Ssebugere, staff from the Department of Chemistry
6.	Capacity building in Environmental Sciences	Makerere University in partnership with Slovak University of Technology, Bratislava, is training MSc. And PhD scholars supported by a research grant from ICM Erasmus+.	2020 to 2022	Dr. Patrick Ssebugere, staff from the Department of Chemistry
7.	Environmental Chemistry for Sustainable Development	Makerere University with financial support of € 373,050.15 from the Austrian Partnership Programme in Higher Education and Research for Development is implementing a three-year project on Environmental Chemistry for Sustainable Development. Partners are: University of Natural Resources and Applied Life Sciences, Austria; Jaramogi Oginga Odinga University of Science and Technology, Kenya	2022-2024	Dr. Patrick Ssebugere, staff from the Department of Chemistry

8.	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 Dar es Salaam between 2021-2026.	2021-2026	Assoc. Professor John M. Mango, Department of Mathematics
9.	SIDA grant of 39M SEK (approx. USD 4.5m) to Capacity building in Mathematics and its Applications		2015-2022	Assoc. Professor John M. Mango, Department of Mathematics
10.	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 EnergyTechnology. 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
11.	University Network on Energy Technology (UNET	UNET is co-funded by the Erasmus + Program of the European Union. "The main objectives of UNET include: Jointly develop PhD courses in support of the existing PhD programs in energy at the partner universities; Improve on specialized facilities at each university to offer Training Sites for PhD researchers; Conduct a pilot phase with PhD candidates benefiting from the Course Catalogue and the Training Sites.	2021-2023	Dr. Karidewa Nyeinga, Department of Physics
12.	Collaborative Training in Fisheries and Aquaculture in East, Central and Southern Africa (COTRA)	Makerere University in partnership with the University of Rhodes, South Africa; University of Eldoret, Kenya; Mzuzu University, Malawi; Bukavu University, DRC and BOKU University, Austria are implementing an Intra- Africa Mobility Scheme funded by European Union Commission worth EUROS1,399,875. The project supports training of PhD and MSc. Scholars at the partner Universities	2018-2022	Dr. Peter Akoll, Department of Zoology, Entomology and Fisheries Sciences

13.	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
14.	Access to Benefit Sharing- Sustainable use of Biodiversity (ABSBIO):	Makerere University in partnership with Leipzig University, Germany and IRGIB Africa University, Benin won a grant funded by DAAD. The grant supports entrepreneurship through use of biodiversity.	2019 to 2022	Prof. Eseza Kakudidi, Dr. Patience Tugume and Mr. Godwin Anywar, Department of Plant Sciences, Microbiology and Biotechnology
15.	Stochastic model for Sustainable harvesting of Nile tilapia and Nile Perch fish populations in Lake Victoria for optimal financial returns and monitoring	Mak-RIF supported project with funding of UGX100m		Dr Juma Kasozi, Department of Mathematics
15	ISP Grant of 313,590 SEK to EAUMP			Dr Juma Kasozi, Department of Mathematics

16.	ISP Grant of 539,000 SEK to EAALG			Pl- D. Ssevviiri
17.	IST Grant of 598,000 SEK -	Grant to support women in Mathematics and Gender Outreach Activities		Dr B. K. Nannyonga, Department of Mathematics
18.	NutriFish Project CAD2.7million	NutriFish aims to address the nutritional needs of the Ugandan population particularly the vulnerable groups who need high-quality nutritious diets but cannot afford expensive nutrient-rich foods	2019-2021	Dr Jackson Efitre – Department of Zoology, Entomology and Fisheries Sciences
19.	Dispersal of Antibiotic Resistance and antibiotics in Water ecosystems and Influence on livestock and aquatic wildlife (PAIRVVISE)''	The project is funded by Swedish International Development Agency (Sida), in partnership with:The European Union - Horizon 2020 Framework Programme Aquatic Pollutants, Joint Programming Initiative on Anti-microbial Resistance (JPIAMR), www.waterjpi.eu; and JPI Oceans - www.jpi-oceans.eu Grant amount: USD 285,000	eptember 2021- August 2023	The Makerere University Pl. is Assoc. Prof. Charles Masembe, Assisted by Dr. Robinson Odong

MOUS SIGNED

i) Makerere University Department of Mathematics, University of Bergen, Norway; University of Dar es Salaam and NORAD in 2021 signed a Memorandum of Understanding for the implementation of the Mathematics for Sustainable Development Project.

ii) China University of Petroleum renewed its Memorandum of Understanding with Makerere University College of Natural Sciences. Areas of collaboration include exchange of teaching staff and students, joint research activities, joint educational programmes, joint seminars and exchange of research materials. The MoU will be reviewed annually.

KNOWLEDGE SHARING

I.2 Research Activities

i) The 1st National Policy Forum on Science, Technology, and Innovation (STI) Advancement for Development

The Department of Plant Sciences, Microbiology and Biotechnology under the leadership of Assoc. Prof. Arthur Tugume organised and hosted a virtual STI forum attended by over 350 participants on August 26th and 27th, 2021 under the theme: "Positioning STI to address emerging threats to national development". The forum ended with a call to academia in

Uganda to take lead in the STI ecosystem by identifying talent, knowledge management as well as creation of links with industry to support innovations.

ii) RNPIA - 2021 Conference at Imperial Royale Hotel, Kampala

The 1st International Conference on Reimagining the Natural Products Industry in Africa under the patronage of Carnegie Corporation of New York through Future Africa, University of Pretoria, South Africa was convened by Dr. Alice Nabatanzi (5th – 7th July, 2021) at Imperial Royale Hotel. The theme of the conference was "Advancing Africa's Natural Products Industry through Transdisciplinarity and Sustainable Innovations". The 3-day RNPIA-2021 conference was attended by over 400 participants virtually from all over the world and 50 participants attended physically. During the 3 days, a total of 50 presentations (MSc, PhD, Early career scientists) were made by participants from different universities across Africa and the world.

iii) Virtual EAUMP-ICTP Summer School 2021

Assoc. Professor Juma Kasozi, represented the department in successful coordination of the Virtual EAUMP-ICTP conference held in Rwanda from 11th to 20th August 2021.

iv) RIF CoVID-19 Projects

Several staff from the Department of Mathematics were engaged in research to address the challenges resulting from the COVID-19 pandemic. This is an example of academia using knowledge to approach common societal challenges. Mathematical Model of COVID-19 dynamics in Uganda; A team from the Department of Mathematics presented a COVID-19 Intervention Model 'Using a locally parameterized system to enhance intervention policies'. The aim of the research from which the model was developed was to study the dynamics of COVID-19 in Uganda and use the results to provide comprehensive forecast of the disease' trends. Assoc. Professor John Magero Mango, Dr. Betty Nannyonga and Dr. Saul Hannington Nsubuga also published research models regarding the COVID-19 pandemic.

v) Research and Partnerships by Dr. Betty Nannyonga Kivumbi, a Senior Lecturer in the Department of Mathematics

Dr Betty Nannyonga Kivumbi has played a great role in as far as research and partnerships are concerned. She is currently working in partnership with a number of organisations / committees depicting how staff implement transfer and co-production of knowledge from their research work. Some of the organisations include: Uganda COVID-19 Scientific Advisory Committee Collaborating with National Immunization Technical Advisory Group, on COVAX Deployment plan; Collaboration with IBM-Research Africa on COVID-19 Uganda Project; Member, Reference Group – Centre of Excellence for Sustainable Health (CESH); and Special Collaboration to Address COVID-19 Pandemic — collaboration with Rwanda.

vi) Launch of project to explore forage resources for stingless bees in Uganda

The products from stingless bees may be little but are so valuable. Stingless bees have many benefits to various sectors of the economy, more especially the Health and Agricultural sectors. The project titled – "Exploring Forage Resources for Stingless Bees in Uganda: The Case of Meliponula bocandei" seeks to preserve them and to maximize their benefits to the economy. It is led by Dr Perpetra Akite, Lecturer in the Department of Zoology, Entomology and Fisheries Sciences and supported by the Government of Uganda through the Makerere Research and Innovations Fund (Mak-RIF). The project was launched on 18th November 2021 at the National Livestock Resources Research Institute (NaLIRRI) in Nakyesasa, Wakiso District.



Left: The Principal Investigator, Dr Perpetra Akite

3.2 Outreach Activities

i) Mak-CoNAS proposes amendments to the Fisheries and Aquaculture Bill, 2021

Fish has been identified as one of the 10 priority agricultural commodities to foster a sustainable agroindustrialization agenda in Uganda because of its contribution to national GDP (3%), agricultural GDP (12%), employment (5.3 million people), nutrition (about 50% of animal protein), and foreign exchange revenues (USD \$147.75m, September 2020). Despite the enormous potential for fish production, with approximately 44,000 km2 (20%) of Uganda's total surface area covered by freshwaters (lakes, rivers and swamps), the fisheries resources are currently under-exploited due to over-reliance on capture fisheries and limited investments in aquaculture. As of 2018, production from capture fisheries and aquaculture stood at 447,059 tonnes and 120,000 tonnes, respectively. In a bid to consolidate and reform the law relating to the management of Fisheries, fisheries products and aquaculture as a measure to transform the sector in the country, the Sectoral Committee of Parliament on Agriculture, Animal Industry and Fisheries is engaging several stakeholders for amendments to the proposed Fisheries and Aquaculture Bill, 2021. On 2nd November 2021, members of staff from the Department of Zoology, Entomology and Fisheries Sciences at Makerere University, together with their counterparts from Busitema University and the FisheriesTraining Institute, Entebbe presented their proposed amendments to members of the Committee.



Dr Jackson Efitre (C), Dr Eric Sande (R) and Dr Juliet Nattabi Kigongo (L) during the presentation at Parliament

ii) Commemorating World Fisheries Day

As key stakeholders in Uganda's fishing industry, the NutriFish project team led by Dr Jackson Efitre actively participated in the exhibition to mark World Fisheries Day in Gulu City on 21st November 2021. At their stall, the researchers showcased some of their products from small pelagic fish, actively engaging and explaining to participants the nutritional benefits and the product flow process of the fish. Some of the products showcased included, composite flour enriched with mukene (silver fish), Baghia from Nile Perch, fish sauce with mukene, instant porridge enriched with mukene, fish seasoning with mukene, mukene snack and the solar tent drier.



The State Minister for Fisheries, Hon Hellen Adoa touring the NutriFish stall

iii) Launch of AwaRMN project

African Water Resources Mobility Network (AWaRMN) project was launched virtually on 20th October 2021 at an event hosted by Rhodes University, South Africa, the lead partners of the project. AWaRMN is a project funded under the Intra-Africa Academic Mobility Scheme of the European Union. It supports students and staff mobility with the main objective of enhancing human capital development in Africa, while strengthening intra-African cooperation in higher education as called for by the Agenda 2063. The main focus of the program is on water resources with special emphasis on water resources management, improving water resources, water treatment and safety. The partner institutions on the AWaRMN project include: Makerere University, Uganda; Rhodes University, South Africa; University of Technology, Nigeria; University of Kinshasa, Congo, School of Hydraulics, Algeria and Delft University, Netherlands. The mobility network funds students to study from another partner institution in order to promote the idea of mobility with emphasis on knowledge transfer, resource sharing, information sharing and mentoring. Currently the programme is sponsoring three (3) graduate students in Uganda, one (1) PhD student from Kenya, one (1) PhD student from Nigeria and one (1) master's student from Nigeria. Uganda sent three (3) PhD students to Rhodes University, South Africa; one (1) student to Nigeria and one (1) to Algeria.

4. AWaRMN partner institutions and project management committee Prof. Meddi Prof. Slinger Prof. Prof.





Makerere Staff during a courtesy visit to the Minister of State for Higher Education, Hon. Dr. J.C. Muyingo (2nd L)

x) Mak-RIF refurbishes CoNAS Aquarium under the Ornamental Fish Project With the aquarium refurbished up to 80%, the University through the Department of Zoology, Entomology and Fisheries Sciences will keep collecting fish and maintaining the 18 ornamental fish species; and will strengthen training of both students and members of the public in how to look after indoor fish. The Ornamental Fish Project is coordinated by Dr Juliet Nattabi.



Dr Juliet Nattabi (right) at the refurbished aquarium

iv) Ist National Policy Forum for STI

Makerere University through the College of Natural Sciences (CoNAS) hosted the 1st National Policy Forum on Science, Technology, and Innovations (STIs) Advancement for Development on the August 26th and 27th, 2021 under the theme "Positioning STI to address emerging threats to national development". Makerere University deemed it strategic to initiate a national multi-stakeholder dialogue with an aim of contributing to the discourse on the role of STI in socio-economic transformation of the country even in the face of global and national challenges such as Covid – 19. The event ended with calls for academia in Uganda to take lead in the STI ecosystem by identifying talent, knowledge management as well as creation of links with industry to support innovations.

COLLEGE OF NATURAL SCIENCES



v) Development of Value-Added Phytogenic Chicken Feeds

A research led by Dr. Alice Nabatanzi, the Principal Investigator of the project titled: "Development of Value-Added Phytogenic Chicken Feeds", discovered that the widespread use of antibiotics in chicken feeds has promoted development of drug-resistant bacteria that have been passed from chicken to humans. This increased the rate of disease outbreaks in chicken causing losses to poultry farmers and

income insecurity. In search for a solution, Dr. Alice Nabatanzi together with her team identified 132 poultry farmers in Najjembe sub-county, Buikwe district who were using chicken treating plants. The poultry farmers identified 50 chicken treating plant species of which 3 species were prioritized for Laboratory analyses. The three priority species were Capsicum frutescens, Nicotiana tabacum and Cannabis sativa. The priority species were subjected to analyses (proximate, mineral, vitamin, antioxidant, heavy metal, antinutrient). Feeding tables were then developed from which a phytogenic chicken feed was formulated. The formulation for layers deferred from that of broilers and also differed according to the age of the chicken.



The Principal Investigator, Dr Alyce Nabatanzi

vi) RNPIA 2021 Conference

The 1st International Conference on Reimagining the Natural Products Industry in Africa under the patronage of Carnegie Corporation of New York through Future Africa, University of Pretoria, South Africa was convened by Dr. Alice Nabatanzi (5th – 7th July, 2021) at Imperial Royale Hotel. This year's theme was "Advancing Africa's Natural Products Industry through Transdisciplinarity and Sustainable Innovations". The 3-day RNPIA-2021 conference was attended by over 400 online participants from all over the world and 50 physical participants. During the 3 days, a total of 50 presentations (MSc, PhD, Early career) were made by participants from different universities across Africa. The conference featured the launch of the Natural Products Industry Advancement Network Africa (NAPIANA).



Launch Of Napiana

vii) Virtual EAUMP-ICTP Summer School

This is an EMA (Ecole Mathematique Africaine) School of CIMPA. This hybrid School is nominally based at the ICTP-East African Institute for Fundamental Research [EAIFR] in Kigali, Rwanda; it will offer students concrete and effective mathematical tools from algebra, group theory and geometry that can be

applied to any scientific field. Consisting of 8 working days 12-15 August and 17-20 August, with one rest day the 2+2 courses shall be running concurrently. Lectures will be given remotely by video link.

viii) TWIGA Project (Transforming Water, weather, and climate information through in Situ observations for Geoservices in Africa)

Implemented in the Department of Zoology, Entomology and Fisheries Sciences trained sixteen (16) farmers (termed as citizen scientists) in Nakasongola District in February 2021. The project provided trainees with smart phones to monitor crop health, and related activities in their maize farms, for transmission to Makerere University for analysis. The farmers are required to identify unhealthy crops, and the cause of poor health. TWIGA funded by the European Union's Horizon 2020 Research and Innovation Programme is intended to introduce farmers in Nakasongola District to satellite-aided farming as a channel to improve production.

ix) Mak-RIF Dissemination meeting by the Department of Zoology, Entomology and Fisheries Sciences - 30th May 2021

The presentations included:

i) Utilization of the Potential of Ornamental fish species for training and business development in Uganda – Principal Investigator – Dr Juliet Kigongo Nattabi

ii) Engaging fishing communities to address the socio-cultural and behavioural risk factors that may facilitate transmission and spillover of COVID-19 (BEFA) – Principal Investigator – Dr Godfrey Kubiriza Kawooya

iii) Complementary approaches to strengthen COVID-19 preventive measures among fishing communities – Principal Investigator – Dr Peter Akoll

iv) Promoting Urban fish farming of catfish in aquaponics recirculated aquaculture system – Principal Investigator – Dr Rose Nalwanga

x) Biochemistry Seminar series hosted by the Department of Biochemistry and Sports Science

i) The Place of Values and Character in Science and Development – held on 6th May 2021 - Presenter – Eng. Stephen Langa, Executive Director, Family Life Network

ii) Transmutation of scientific milestons as a key component in building resilience and fighting unemployment in the science community in Uganda – held on 22nd April 2021 – Presenter – Mr. Bashir Lumala, Business Development Manager for Molbio at Science Logistics

iii) Domesticating the edible grasshopper, Ensene – held on 25th March 2021. Presenter – Dr Karlmax Rutaro, Lecturer Department of Biochemistry and Sports Science

iv) Healthy Crops and Foods: What is the Role of a Plant Pathologist? – held on 15th April 2021 – Presenter – Dr Pamela Paparu, Senior Research Officer, Legumes Programme, National Crop Resources Research Institute, NARO

OUTREACH ACTIVITIES

i) Department of Mathematics

Uganda, like any other country was not spared by the Covid 19 epidemic. This led to the closure of schools in March 2020. Bearing in mind that most of the activities of UMS take place when the schools are open as it is student centered, this meant that UMS also closed most of its scheduled activities for the years 2020 and 2021 except organizing and conducting national mathematics contests that are used to select the top students who later participate in the Pan African Mathematics Olympiad (PAMO) and the International Mathematics Olympiad (IMO).

ii) Pan African Mathematics Olympiad (PAMO) - 2021

The following table shows the performance of participants that represented Uganda at PAMO Tunisia. The contestants joined the PAMO hall of fame list with one silver medal and two bronze medals and Uganda was ranked 9th out of 12 countries that participated this year.

Table I 2: Performance of participants that represented Uganda at PAMO Tunisia

SN	NAME	POINTS	AWARD
01	Kawala Racheal Georgia	4	
02	Mbalire Shawal		Bronze medal
03	Kiirya Karen Kisa		
04	Mukalazi Jonathan Benoni		Bronze medal
05	Ngabirano Muganzi Jonathan	24	Silver medal
06	Nagujja Rosler		

A section of the PAMO 2021 Ugandan team with their medals L – R Muganzi Jonathan Ngabirano (silver), Mbalire Shawal (bronze) and Mukalazi Jonathan Benoni (bronze)

iii) The International Mathematics Olympiad (IMO) - 2021

The following table shows the performance of participants that represented Uganda at IMO Russia. Uganda was ranked 101 out of 107 countries that participated this year.

Table 13: Performance of participants that represented Uganda at IMO Russia

SN	NAME		POINTS	AWARD
01	Kawala	Racheal Georgia		
02	Mbalire	Shawal		
03	Mwendeze	Desire Marion	I	
04	Mukalazi	Jonathan Benoni	2	
05	Ngabirano	Muganzi Jonathan		
06	Wandera	Jonathan Ralph Felix		



The IMO team members. L-R Ismail Mirumbe, Team leader (President UMS), Shawal Mbalire, Mukalazi Jonathan Benoni, Muganzi Jonathan Ngabirano, Wandera J. Felix Ralph, Desire Mwendeze and Kawala Racheal with their IMO certificates, caps and T-shirts sent to them by IMO Russia team

The IMO team this year was fully sponsored by:

i) The Romanian Society for Mathematical Sciences under the leadership of Prof. Dr. Radu Gologan.

ii) Prof. Sergiu Moroianu of Romania in collaboration with the friends of Uganda Mathematical society worldwide.

The trainers who did a good job for the team include the following persons

- i) The Romanian Mathematical society team
- ii) Mr.Tugume Andrew (IMO alumni-Uganda)
- iii) Prof. Sergiu Moroianu
- iv) Uganda Women Mathematicians

Outreachactivities under Uganda Women Mathematicians include;

i) School visits - talks to teachers, Head teachers, parents and students to improve the teaching of mathematics to be learner centred



ii) RUN4MATH marathons to celebrate the International Day of Mathematics.



iii) Math camp to provide links of mathematics

iv) Eastern Africa Network for Women in Basic Sciences (EANWoBAS)

Outreach activities under Eastern Africa Network for Women in Basic Sciences include;

i) Mentoring girls, in Kalangala and Mayuge districts to strengthen and support the success of women in basic sciences



ii) Providing tuition support to MSC math and physics female students who have enrolled but financially challenged

iii) Providing social support to young mothers to return to school.



vi) Department of Geology and Petroleum Studies

i) Mr. Lauben Twinomujuni is involved in the airborne geophysical survey, geological mapping, geochemical surveys and mineral resources assessment of Karamoja and Lamwor. The project is conducted by Xcalibur Multiphysics of Spain and the Ministry of Energy and Mineral Development of Uganda through the Directorate of the Geological Survey

and Mines. This project intends to involve more staff members and the students in the department for the upcoming activities

ii) Dr. M. Owor is involved in the Preparation of the Shared Aquifer Diagnostic Analysis (SADA) Report for the Mt Elgon aquifer system funded by UNDP/GEF through the Nile Basin Initiative Secretariat, Entebbe.

CONAS CONFERENCES & TRAININGS

I) Patrick Ssebugere

i) Virtual 2nd Commonwealth Chemistry Posters Building Networks to Address the Goals. Held September 30, 2021 – October 1, 2021. Author AID Webinar (virtual) organized from the United Kingdom, Held October 5, 2021. Theme: "Hot topics in publishing ethics".

ii) ISP Gender workshop (virtual) organized from Sweden, Held September 9-10, 2021. Theme: Gender, diversities and unconscious bias: how to master the playground rules in Academia.

iii) National Policy Forum on Science, Technology and Innovation (STI) Advancement for Development (virtual webinar) organized from Makerere University, Kampala, Uganda, and Held August 26-27, 2021. Theme: "Positioning STI to address emerging threats to national development".

iv) ASM - AAAS - TWAS Regional Course on Science Diplomacy (virtual workshop) organized from Kuala, Malaysia, Held March 16-19, 2021. Supported by the Academy of Sciences Malaysia (ASM), the American Association for the Advancement of Science (AAAS) and The World Academy of Sciences (TWAS).

2) Dr Simon Echegu

i) Dr. Simon Echegu participated in the Quarterly Skills Development Dialogue for the Oil and Gas Sector meetings (February 24th, June 24th, October 8th, and December 16th, 2021.

ii) Dr. Michael Owor participated in the following research workshops organized through the Nile Basin Secretariat, Entebbe; SADA Inception Report Presentation, 14th July 2021, Kisumu, Kenya; SADA Local Stakeholders Workshop, 8-9 November 2021, Bungoma, Kenya; SADA Progress Hybrid Workshop, 13-14 September 2021, Dar es Salaam, Tanzania; Groundwater Project Second Steering Committee Meeting, 22-23 November 2021, Juba; South Sudan; SADA National Stakeholders Workshop, 6 December 2021, Eldoret, Kenya; SADA Mt. Elgon Aquifer Ugandan Local Consultative Workshop at Mbale, Uganda on 10 December 2021

3) Dr Moses Chemurot

i) Apiculture Multi-stakeholders Platform (MSP) organized by The Uganda National Apiculture Development Organisation (TUNADO), and held on Wednesday 15th / 12/2021 at Nob View Hotel, Ntinda

4) Dr Tugume Patience

i) IstInternational conference on Reimagining the Natural Products Industry in Africa

(RNPIA– 2021), 5th – 7th July 2021, Imperial Royale Hotel, Kampala, Uganda. Presented poster on: "Traditional therapeutic uses of Aloe spp. in Eastern Africa and their potential for drug discovery"

ii) Access to Benefit Sharing- Sustainable use of Biodiversity (ABSbio) Training of Trainers course on sustainable entrepreneurship promotion, 28th – 29th January, 2021, Makerere University, Kampala.

Training Courses attended by Dr Tugume Patience

i) Sept- November 2021: Research and Proposal writing skills in Sciences: EASTECO cohort AuthorAid course.

ii) July 2021: Strategy Development at entrepreneurship centers at higher education institutions: International SEPT Competence Centre- Universitat Leipzig.

iii) June 2021: Developing Entrepreneurial courses at Higher Education Institutions: Institute of Applied Sciences (INES-Ruhengeri), Rwanda & Universitat Leipzig.

AWARDS/ RECOGNITIONS

i) Assoc. Prof. John Mango Magero inducted as UNAS Fellow

Our own Dr. John Mango Magero (Associate Professor), was inducted as a Fellow of the Uganda National Academy of Sciences (UNAS) on the 29th October, 2021. This award was in recognition of his record of excellence in supporting the development of mathematics in Uganda and the region over the past two decades. Dr. Mango joins other faculty of the College of Natural Sciences (CoNAS) who have already been awarded as fellows of UNAS. John Mango is widely published and has mobilized resources resulting into the training of close to 30 Doctor of Philosophy (PhD) degrees in Mathematics in Uganda, this is an outstanding record in Makerere's 100years of existence due to be celebrated in 2022. The products of Prof. Mango's efforts are staff members at public universities of Uganda including Makerere, Busitema, Gulu, Kyambogo and Mbarara University.



ii) Assoc. Prof. Charles Masembe appointed member of Kyambogo Senate

The Minister of Education and Sports Hon. Janet Kataaha Museveni appointed Dr. Charles Masembe (Associate Professor) Department of Zoology, Entomology and Fisheries Sciences to the Kyambogo University Senate for a term of 3years. Dr. Masembe is a veterinarian, molecular geneticist and Associate Professor, with teaching and research experience in molecular genetics, diagnostics, evolution and epidemiology of important diseases of domestic animals, mainly Foot-and-Mouth Disease, African swine fever, and pathogen discovery.



iii) Dr. B. Nanyonga appointed Member, Reference Group, Centre of Excellence for Sustainable Health



iv) Dr Patrick Ssebugere awards

-January 2022 – December 2022: Georg Forster Fellowship for Senior Researchers at Helmholtz Centre for Environmental Research – UFZ in Leipzig, Germany, supported by the Alexander von Humboldt Foundation.

-September – October 2021: Poster Prize Winner at the 2nd Commonwealth Chemistry Posters – Building Networks to Address the Goals' virtual poster event. Awarded a certificate and cash prize in the Water and Environmental Chemistry theme.



i) Mr. Hillary Mwongyera, Assistant Lecturer was offered a PhD fellowship at the University of Kansas, USA with effect from 2 August 2021.

ii) Mr. Lauben Twinomujini, Assistant Lecturer was offered a PhD fellowship at the China University of Petroleum (East China) with effect from 1 September 2021.

iii) Mr. Denis Mutebi, Assistant Lecturer was offered a PhD fellowship at the Kyushu University, Japan with effect from 1 October 2021.

iv) Four of our BPG final year students in the Department of Geology and Petroleum Studies: Mr. Gerald Oyire, Mr. Michael Mugoya, Ms. Diana Busingye and Mr. Solomon Kusolo Matanda secured sponsorship to attend the 2022 International Petroleum Technology Conference (IPTC) education week. This will take place in Dhahran, Kingdom of Saudi Arabia from 21–23 February 2022, with Saudi Aramco as the exclusive host.

HUMAN RESOURCES

The College human resource base comprises of Academic, Technical, administrative and support staff. The College has registered loss of staff through retirement, resignations and death, however most of the positions have not been filled. The college management has requested University management to urgently advertise the positions to avoid challenges in teaching.

The main issues noted in the human resource area include:

i) Senior staff with varied experience have retired which leads to depletion of staff numbers at departments. The few staff that have been recruited are at junior level.

ii) There is a depletion of Technicians which affects teaching and learning. Technicians who have retired or died have not been replaced, for example in the Department of Chemistry where they used to have 26 technicians, at the moment they have only 8 technicians; the Department of Biochemistry has an establishment of 18 technicians but only 5 posts are filled. This is representative of the scenario in all the other departments. Practicals are a key part of science classes therefore with depletion of staff, learning is affected.

NO. NAMES RANK DEPARTMENT/UNIT PROMOTIONS Ι. Dr Muhammed Ntale Professor Chemistry Geology & Petroleum 2. Dr Michael Owor Assoc, Prof. Studies 3. Dr Patrick Sebugere Senior Lecturer Chemistry 4. Senior Lecturer Dr. Karidewa Nyeiga Physics 5. Dr Emmanuel Tebadeke Senior Lecturer Chemistry 6. Dr Alex Samuel Bamunoba Senior Lecturer **Mathematics Biochemistry & Sports** 7. Dr Denis Matovu Kasozi Senior Lecturer Science Zoology, Entomology & 8. Dr Juliet Nattabi Kigongo Lecturer **Fisheries Sciences** 9. **Mathematics** Dr Denis Wokiyi Lecturer 10. Dr Dan Egesa Lecturer Chemistry Biochemistry & Sports Dr Karlmax Rutaro 11. Lecturer Science POST RETIREMENT CONTRACT Ι. Dr Joseph Y.T. Mugisha Professor **Mathematics NEW APPOINTMENTS** Plant Sciences, Microbiology Dr Shahasi Yusuf Athman Ι. Lecturer & Biotechnology Plant Sciences, Microbiology 2. Dr Alfred Ozimati Lecturer & Biotechnology 3. Ms. Nabiyinga Mercline Principal Technician Physics

Table 14: Staff Promotions, appointments, confirmations and transfers

NO.	NAMES	RANK	DEPARTMENT/UNIT		
4.	Ms. Peace Natumanya	Senior Technician	Chemistry		
Ι.	Mr. William Mukama	Technician	Biochemistry & Sports Science		
2.	Ms. Bridget Kibingo	Technical Assistant	Physics		
3.	Ms. Namulonfo Gertrude	Technical Assistant	Biochemistry & Sports Science		
4.	Mr. Godfrey Ssengendo	Technician	Plant Sciences, Microbiology & Biotechnology		
CONFIRMATIONS					
Ι.	Mr. Tom Adriko	Laboratory Attendant	Chemistry		
2.	Mr Francis Ssemujju	Laboratory Attendant	Department of Biochemistry and Sports Science		
3.	Ms. Ruth Nakaggwa	Sanitary Cleaner	Office of the Principal, CoNAS		
	TRANS	FERS TO CoNAS			
Ι.	Ms. Claire Birungi	College Bursar	Office of the Principal		
2.	Mr. Baringa Epaphra	Clerical Officer (Accounts)	Office of the Principal		
3.	Mr. David Ikomo	Procurement Officer	Office of the Principal		
4.	Ms. Hasifa Kabejja	Principal Communication Officer	Office of the Principal		
5.	Mr. John Nuwagaba	Web Administrator	Office of the Principal		
	TRANSF	ERS FROM CoNAS			
Ι.	Mr. Andrew Bruno Malagala	College Bursar	Office of the Principal		
2.	Ms. Miriam Ndimala	Clerical Officer (Accounts)	Office of the Principal		
3.	Ms. Zaam Ssali	Principal Communication Officer	Office of the Principal		
4.	Ms. Mariam Kasemiire	Web Administrator	Office of the Principal		

CONAS LEADERSHIP

The assessment/search process was overseen by a Special Committee of the University Council led by Mr John Chris Ninsiima. Other members of the Committee included; Rt. Hon. Dan Fred Kidega; Counsel Jude Mbabaali; Dr Fredrick Edward Kitoogo; Dr Helen Nambalirwa Nkabala; and Her Worship Doreen Nyanjura. Aspiring candidates for the position of Principal, CoNAS are: Dr Fredrick Jones Muyodi, Dr John Magero Mango, and Dr Winston Tumps Ireeta. Aspirants for the position of Deputy Principal include; Dr Arthur K. Tugume, Dr Joseph Kyambadde, Dr Juma Kasozi and Dr Jackson Efitre. During the presentations, all candidates expressed commitment to improve the College infrastructure, research, ICT, and resource mobilization. They also committed to strengthen national, international and inter-university collaborations. The candidates pledged to promote learner centred curriculum; teamwork; equal opportunities, and gender equality. Other key commitments included; enhancing industry partnerships; and ensuring full implementation of the 2020-2030 Strategic Plan that aims to transform Makerere into a research-led University. Once appointed, the Principal and Deputy Principal will serve a four-year renewable term.



The aspirants for Principal, CoNAS position: Dr Fredrick Jones Muyodi (Left), Dr John Magero Mango (Centre), and Dr Winston Tumps Ireeta (Right)



The aspirants for Deputy Principal, CoNAS position: Dr Arthur K. Tugume (Left), Dr Joseph Kyambadde (2nd Left), Dr Juma Kasozi (2nd Right) and Dr Jackson Efitre (Right)

KEY CHALLENGES

- CoNAS registered its major challenge for the period under review as staffing shortages arising from retirements, resignations and deaths especially for academic, technicians and secretarial staff. The positions have not been filled even though they have been declared vacant due to the recruitment freeze by University Council.

- Rising number of students over the last two decades against non-change of staff levels and facilities. Staff like technicians when they retire or die are never replaced. For example, the Department of Chemistry has an establishment of 26 technicians but only 8 posts are filled; Department of Biochemistry has an establishment of 18 technicians but only 2 posts are filled.

- The College Library requires more space and equipment like ICT to ably support teaching and learning.

- The limited laboratory space and obsolete equipment against the increasing number of students affects teaching and learning more especially in changing global trends for sciences. We are not able to give our students the required hands-on experience for them to compete on the international stage. The health and safety issues in laboratories should be given consideration as well.

- The poor security in the college arising from poor lighting, lack of custodians and security guards.

- Teaching space for the Sports Science unit should be looked into for better hands-on experience for the learners. Setting up of a gymnasium is a high priority to support teaching, staff health and income generation.

- The Physics Building is one of the oldest at Makerere University and requires renovation.

RECOMMENDATIONS

It is the belief of the College that the following can be considered to make performance of staff, teaching and learning better.

The process of recruiting staff to fill the vacant posts should be expedited for better handling of work at the CoNAS.

The university should consider introducing a post of Tutorial Assistants as happens in other universities. The increased student numbers would be better supported with such an initiative.

CoNAS PUBLICATION 2021

I. Department of Geology and Petroleum Studies

- 1. Nakajigo, J. and Kiberu, J.M. (2021). Determination of Reservoir Properties of the Semliki Basin Using Rock Physics Templates. Conference paper presented at Fifth EAGE Eastern Africa Petroleum Geoscience Forum, Mar 2021, Volume 2021, 1–6. DOI: https://doi.org/10.3997/2214-4609.2021605046.
- 2. Simon Echegu, Adry K. Bissada, and Louis Elrod (2021). Geochemical characterization and classification of crude oils of the Permian Basin, west Texas and southeastern New Mexico. AAPG Bulletin, v. 105, no. 1 (January 2021), pp. 223–246. DOI:10.1306/07072018176.
- 3. Xinru Mu, Jianping Huang, Jidong Yang, Zhenchun Li and Mukiibi Ssewannyaga Ivan (2021). Viscoelastic wave propagation simulation using the new spatial variable-order fractional laplacians: Bulletin of the seismological Society of America (2021). https://doi.org/10.1785/0120210099.
- 4. M.W.Tumushabe, W. Helland-Hansen, B. Nagudi, S. Echegu and K. Aanyu (2021). Quantification of reservoir rock properties (Porosity, Permeability and Vshale) in the reservoir rock units of South Lake Albert Basin, Albertine Rift, Western Uganda. Journal of African Earth Sciences, Volume 185, January 2022, 104410.
- 5. Batte, A.G., Schumann, A. and Twesigomwe, E.M. (2021). Seismic anisotropy accrued by seven unusually deep local earthquakes (between 50 and 60 km) in the Albertine Rift: implications of asthenospheric melt upwelling. Journal of Seismology. https://doi.org/10.1007/s10950-021-10007-2.
- 6. Erica Pitcavage, Tanya Furman, Wendy R. Nelson, Peggy K. Kalegga and Erasmus Barifaijo (2021). Petrogenesis of primitive lavas from the Toro Ankole and Virunga Volcanic Provinces: Metasomatic mineralogy beneath East Africa's Western Rift. Lithos 396–397 (2021) 106192. https://doi.org/10.1016/j.lithos.2021.106192.
- Guma, B.E., Muwanga, A. and Owor, M. (2021). Hydrogeochemical evolution and contamination of groundwater in the Albertine Graben, Uganda. Journal of Environmental Earth Sciences 80, 303 (2021). https://doi.org/10.1007/s12665-021-09587-6.
- James P.R. Sorensen, Jacintha Nayebare, Andrew F. Carr, Robert Lyness, Luiza C. Campos, Lena Ciric, Timothy Goodall, Robinah Kulabako, Catherine M. Rushworth Curran, Alan M. MacDonald, Michael Owor, Daniel S. Read, Richard G. Taylor. (2021). In-situ fluorescence spectroscopy is a more rapid and resilient indicator of faecal contamination risk in drinking water than faecal indicator organisms. Water Research 206 (2021) 117734, https://doi.org/10.1016/j. watres.2021.117734.
- 9. Jacintha Gumoteyo Nayebare; Michael M. Owor; Robinah Kulabako; Richard Graham Taylor (2021). Faecal contamination pathways of shallow groundwater in low-income urban areas: implications for water resource planning and management. Water Practice and Technology wpt2021110. https://doi.org/10.2166/wpt.2021.110.
- Owor, M, Muwanga, A., Tindimugaya, C. and Taylor, R.G. (2021). Hydrogeochemical processes in groundwaters of Uganda: a national - scale analysis. Journal of African Earth Sciences. Volume 175, March 2021, 104113. https://doi. org/10.1016/j.jafrearsci.2021.104113.

2. Department of Plant Sciences, Microbiology & Biotechnology

- 1. Anywar, G., Tugume, P., & Kakudidi, E. K. (2021). A review of Aloe species used in traditional medicine in East Africa. South African Journal of Botany.
- 1. Mucunguzi, P., Tugume, P., & Ogola, L. (2021). Environmental Management by Faith Based Organizations in Uganda: A SWOT Analysis. International Journal of Environmental Protection and Policy, 9(1), 5.
- 2. Asiimwe, S., Anywar, G. U., Kakudidi, E. K., & Tugume, P. (2021). Medicinal Plants in Uganda as Potential Therapeutics against Neurological Disorders. Medicinal

CoNAS Annual Report @2021

Herbs and Fungi, 421-44

- 3. Waniale A, Mukasa SB, Tugume AK, Tumuhimbise R, Kubiriba J, Tushemereirwe WK, Uwimana B, Gram G, Amah D, Swennen R (2021). Use of timelapse photography to determine flower opening time and pattern in banana (Musa spp.) for efficient hand pollination. Scientific Reports, 11, 19480. https://doi. org/10.1038/s41598-021-98500-z
- 4. Waniale A, Swennen R, Mukasa SB, Tugume AK, Kubiriba J, Tushemereirwe WK, Batte M, Brown A, Tumuhimbise R (2021) Seed set patterns in East African Highland Cooking bananas are dependent on weather before, during and after pollination. Horticulturae 7(7), 165. https://doi.org/10.3390/ horticulturae7070165.
- 5. Waniale A, Swennen R, Mukasa SB, Tugume AK, Kubiriba J, Tushemereirwe WK, Amah D, Tumuhimbise R (2021) Application of pollen germination media on stigmas during pollination increases seed set in East African Highland Cooking Bananas (Musa spp.). Agronomy 11(6): 1085. https://doi.org/10.3390/agronomy11061085.
- 6. Asiimwe, Savina, Godwin U. Anywar, Esezah Kyomugisha Kakudidi, and Patience Tugume. "Medicinal Plants in Uganda as Potential Therapeutics against Neurological Disorders." In Medicinal Herbs and Fungi, pp. 421-443. Springer, Singapore, 2021.
- 7. Namukobe, Jane, Anthony Lutaaya, Savina Asiimwe, and Robert Byamukama. "An ethnobotanical study of medicinal plants used in the management of dermatological disorders in Buyende and Kayunga Districts, Uganda." European Journal of Medicinal Plants (2021): 15-40.
- 8. Asiimwe, Savina, Jane Namukobe, Robert Byamukama, and Betty Imalingat. "Ethnobotanical survey of medicinal plant species used by communities around Mabira and Mpanga Central Forest Reserves, Uganda." Tropical medicine and health 49, no. 1 (2021): 1-10.
- 9. Namukobe, Jane, Peter Sekandi, Robert Byamukama, Moses Murungi, Jennifer Nambooze, Yeremiah Ekyibetenga, Christine Betty Nagawa, and Savina Asiimwe. "Antibacterial, antioxidant, and sun protection potential of selected ethno medicinal plants used for skin infections in Uganda." Tropical Medicine and Health 49, no. 1 (2021): 1-10.
- Walusansa, Abdul, Savina Asiimwe, Hussein M. Kafeero, Iramiot J. Stanley, Jamilu E. Ssenku, Jesca L. Nakavuma, and Esezah K. Kakudidi. "Prevalence and dynamics of clinically significant bacterial contaminants in herbal medicines sold in East Africa from 2000 to 2020: a systematic review and meta-analysis." Tropical Medicine and Health 49, no. 1 (2021): 1-14.
- 11. Walusansa, Abdul, Savina Asiimwe, Jamilu E. Ssenku, Godwin Anywar, Milbert Namara, Jesca L. Nakavuma, and Esezah K. Kakudidi. "Herbal Medicine used for the treatment of diarrhea and cough in Kampala city, Uganda." (2021).
- Mustafa, A. S., Tugume, B., Ssenku, J., Ssemanda, P., Athman, S., Oryem-Origa, H., Kubiriba, J., Dinesh-Kumar, S. and Tugume, A (2022). Xanthomonas campestris pv. musacearum bacterial infection induces organ-specific callose and hydrogen peroxide production in banana. PhytoFrontiers™, 0(ja), null. doi: https://doi. org/10.1094/phytofr-11-21-0073-r
- Ssenku, J. E., Nabyonga, L., Kitalikyawe, J., Ntambi, S., Aguttu, G., & Mustafa, A. S. (2021). Potential of Azolla pinnata R. Br. green manure for boosting soil fertility and yield of terrestrial crops in Uganda: a case study of Eleusine coracana (L.) Gaertn. Journal of Crop Science and Biotechnology. doi: http://doi.org/10.1007/ s12892-021-00108-2

3. Department of Chemistry A) Articles in peer reviewed journals

- 1. Abayi, J. J. M., Gore, C. T., Nagawa, C., Bandowe, B. A. M., Matovu, H., Mubiru, E., Ngeno, E. C., Odongo, S., Sillanpää, M., & Ssebugere, P. (2021): Polycyclic aromatic hydrocarbons in sediments and fish species from the White Nile, East Africa: Bioaccumulation potential, source apportionment, ecological and health risk assessment. Environmental Pollution 278, 116855.
- Mukiibi, S. B., Nyanzi, S. A., Kwetegyeka, J., Olisah, C., Taiwo A. M., Mubiru, E., Tebandeke, E., Matovu, H., Odongo, S., Abayi, J. J. M., Ngeno, C. E., Sillanpää, M., & Ssebugere, P. (2021): Organochlorine pesticide residues in Uganda's

honey as a bioindicator of environmental contamination and reproductive health implications to consumers. Ecotoxicology and Environmental Safety 214, 112094.

- 3. Simon Lukato, Ola.F.Wendt, Reine Wallenberg, Gabriel N. Kasozi, Betty Naziriwo, Axel Persson, Laura C. Folkers, Emmanuel Tebandeke, Selective oxidation of benzyl alcohols with molecular oxygen as the oxidant using Ag-Cu catalysts supported on polyoxometalates, Results Chem. 3 (2021) 100150. https://doi. org/https://doi.org/10.1016/j.rechem.
- 4. Simon Lukato, Gabriel N. Kasozi, Betty Naziriwo, Emmanuel Tebandeke, Glycerol carbonylation with CO2 to form glycerol carbonate: A review of recent developments and challenges, Curr. Res. Green Sustain. Chem. 4 (2021) 100199. https://doi.org/https://doi.org/10.1016/j.crgsc.2021.100199.
- Mulindwa J, Ssentamu G, Matovu E, Kamanyi Marucha K, Aresta-Branco F, Helbig C, Clayton C. In vitro culture of freshly isolated Trypanosoma brucei brucei bloodstream forms results in gene copy-number changes. PLoS Negl Trop Dis. 2021 Sep 13;15(9):e0009738. doi: 10.1371/journal.pntd.0009738. PMID: 34516555; PMCID: PMC8459984.
- 6. Mwesigwa S, Williams L, Retshabile G, Katagirya E, Mboowa G, Mlotshwa B, Kyobe S, Kateete DP, Wampande EM, Wayengera M, Mpoloka SW, Mirembe AN, Kasvosve I, Morapedi K, Kisitu GP, Kekitiinwa AR, Anabwani G, Joloba ML, Matovu E, Mulindwa J, Noyes H, Botha G; Collaborative African Genomics Network (CAfGEN); TrypanoGEN Research Group, Brown CW, Mardon G, Matshaba M, Hanchard NA. Unmapped exome reads implicate a role for Anelloviridae in childhood HIV-1 long-term non-progression. NPJ Genom Med. 2021 Mar 19;6(1):24. doi: 10.1038/s41525-021-00185-w. PMID: 33741997; PMCID: PMC7979878.
- Tushabe P, Howard W, Bwogi J, Birungi M, Eliku JP, Kakooza P, Bukenya H, Namuwulya P, Gaizi J, Tibanagwa M, Kabaliisa T, Mulindwa J, Muhanguzi D, Suchard M, Gumede N, Bakamutumaho B. Molecular characterization of nonpolio enteroviruses isolated from acute flaccid paralysis patients in Uganda. J Med Virol. 2021 Aug;93(8):4720-4728. doi: 10.1002/jmv.26804. Epub 2021 Feb 9. PMID: 33458840.

B) Book chapter

- Nyairo, W. N., Ng'eno, E., Shikuku, V. O., & Ssebugere, P. (2021): Application of Metal-Organic Framework Adsorbents for Water Defluoridation. In Emerging Applications and Implementations of Metal-Organic Frameworks (pp. 74-91). IGI Global.
- 1.1 Department of Zoology, Entomology and Fisheries Sciences
- 1. Chemurot, M., Otim, A.S., Namayanja, D., Onen, H., Angiro, C., Mugume, R., Kajobe, R., Macharia, J., Gikungu, M., Abila, P.P. and Kasangaki, P. (2021). Stingless beekeeping in Uganda: an industry at its infancy. African Entomology 29(1), 1–8.
- Labu, S., Subramanian, S., Khamis, F.M., Akite, P., Kasangaki, P., Chemurot, M., Tanga, C.M., Ombura, F.L.O., and Egonyu, J.P. (2021). Microbial contaminants in wild harvested and trade edible long-horned grasshopper, Ruspolia differens (Orthoptera: Tettigoniidae) in Uganda. Journal of Insects as Food and Feed, 2021; 7 (7): 1131-1141.
- 3. Sengendo, F., Subramanian, Chemurot, M., Tanga, C.M., and Egonyu, J.P. (2021). Efficient harvesting of safe edible grasshoppers: Evaluation of modified drums and light emitting diode bulbs for harvesting Ruspolia differens (Orthoptera: Tettigonidae) in Uganda. Journal of Economic Entomology 114(2):676-683.
- 4. Sengendo, F., Subramanian, Chemurot, M., Tanga, C.M., and Egonyu, J.P. (2021). Cost-benefit analysis of improved light trap for harvesting the edible grasshopper, Ruspolia differens (Orthoptera: Tettigoniidae): Evidence from Uganda. International Journal of Tropical Insect Science 41(3):1-9.
- 5. Obubu, J.P., Mengistou, S., Fetahi, T., Odong, R., Ekwacu, S. (2021). Recent Climate Change in the Lake Kyoga Basin, Uganda: An Analysis using Short-term and Long[1]term data with Standardized Precipitation and Anomaly Indexes. Climate 2021, 9(12), 179; https://doi.org/10.3390/cli9120179
- 6. Onen, H., Odong, R., Chemurot, M., Tripet, F. & Kayondo, J.K., (2021). Predatory and competitive interaction in Anopheles gambiae sensu lato larval breeding habitats in selected villages of central Uganda. Parasites Vectors 14 (420):1-15. https://doi.org/10.1186/s13071-021-04926-9

- 7. Obubu, J.P., Mengistou, S., Fetahi, T., Graf, W. & Odong, R. (2021). A critical review of macroinvertebrate-based bioassessment approaches in Africa's lotic systems: developments, challenges, and legal requirements, African Journal of Aquatic Science, DOI: 10.2989/16085914.2021.1924609
- 8. Ochieng, H., Gandhi, W. P., Magezi, G., Okot-Okumu, J., & Odong, R. (2021). Diversity of benthic macroinvertebrates in anthropogenically disturbed Aturukuku River, Eastern Uganda. African Zoology, 56(2), 1-19.
- Obubu, J.P., Mengistou, S., Fetahi, T., Odong, R., Ekwacu, S. (2021). Recent Climate Change in the Lake Kyoga Basin, Uganda: An Analysis using Short-term and Long[1]term data with Standardized Precipitation and Anomaly Indexes. Climate 2021, 9(12), 179; https://doi.org/10.3390/cli9120179
- Onen, H., Odong, R., Chemurot, M., Tripet, F. & Kayondo, J.K., (2021). Predatory and competitive interaction in Anopheles gambiae sensu lato larval breeding habitats in selected villages of central Uganda. Parasites Vectors 14 (420):1-15. https://doi.org/10.1186/s13071-021-04926-9
- Obubu, J.P., Mengistou, S., Fetahi, T., Graf, W. & Odong, R. (2021). A critical review of macroinvertebrate-based bioassessment approaches in Africa's lotic systems: developments, challenges, and legal requirements, African Journal of Aquatic Science, DOI: 10.2989/16085914.2021.1924609
- 12. Ochieng, H., Gandhi, W. P., Magezi, G., Okot-Okumu, J., & Odong, R. (2021). Diversity of benthic macroinvertebrates in anthropogenically disturbed Aturukuku River, Eastern Uganda. African Zoology, 56(2), 1-19.

4. Department of Mathematics

- 1. Mathematical model for COVID-19 management in crowded settlements and high-activity areas, Ssematimba, A., Nakakawa, J.N., Ssebuliba, J., Mugisha, J.Y.T. International Journal of Dynamics and Control, 2021, 9(4), pp. 1358–1369
- 2. Mathematical modelling of COVID-19 transmission dynamics in a partially comorbid community Ssebuliba, J., Nakakawa, J.N., Ssematimba, A., Mugisha, J.Y.T. Partial Differential Equations in Applied Scieneces, 2022, 5, 100212
- 3. Mathematical modeling of COVID-19 transmission dynamics in Uganda: Implications of complacency and early easing of lockdown
- Mugisha, J.Y.T., Ssebuliba, J., Nakakawa, J.N., Kikawa, C.R., Ssematimba, A. PLoS ONE, 2021, 16(2 February), e0247456
- 4. Outbreak and control of Foot and Mouth Disease within and across adjacent districts—A mathematical perspective Sseguya, I., Mugisha, J.Y.T., Nannyonga, B. Results in Control and Optimization, 2022, 6, 100074
- 5. Determining the effects of wind-aided midge movement on the outbreak and coexistence of multiple bluetongue virus serotypes in patchy environments Mugabi, F., Duffy, K.J., Mugisha, J.Y.T., Collins, O.C.
- Mathematical Biosciences, 2021, 342, 108718
- 6. Optimal control analysis of bluetongue virus transmission in patchy environments connected by host and wind-aided midge movements
- Mugabi, F., Duffy, K.J., Mugisha, J.Y.T., Collins, O.C.

Journal of Applied Mathematics and Computing, 2021

- 7. Employing phylogenetic tree shape statistics to resolve the underlying host population structure Kayondo, H.W., Ssekagiri, A., Nabakooza, G., ...Galiwango, R., Kitayimbwa, J.M.BMC Bioinformatics, 2021, 22(1), 546
- 8. Perturbed Markov Chains with Damping Component

Silvestrov, D., Silvestrov, S., Abola, B., Mango, J.M., Kakuba, G.

Methodology and Computing in Applied Probability, 2021, 23(1), pp. 369–397

- Solving the Cauchy problem for the Helmholtz equation using cubic smoothing splines Nanfuka, M., Berntsson, F., Mango, J. Journal of Applied Mathematics and Computing, 2021
- 10. An algorithm for computing a stationary flow in a binary bifurcation tree
- Kakuba, G., Berntsson, F., Kozlov, V. Applied Numerical Mathématics, 2021, 159, pp. 125–137
- Solving a Cauchy problem for the heat equation using cubic smoothing splines Nanfuka, M., Berntsson, F., Kakuba, G. Applicable Analysis, 2021
- 12. Generalised reduced modules Kyomuhangi, A., Ssevviiri, D. Rendiconti del Circolo Matematico di Palermo, 2021
- 13. A search for c-Wieferich primes Bamunoba, A.S., Bergström, J. International

Journal of Number Theory, 2021, 17(7), pp. 1599–1616

- On the exponential Diophantine equation related to powers of two consecutive terms of Lucas sequences Ddamulira, M., Luca, F. Ramanujan Journal, 2021, 56(2), pp. 651–684
- Padovan numbers which are palindromic concatenations of two distinct repdigits Chalebgwa, T.P., Ddamulira, M. Revista de la Real Academia de Ciencias Exactas, Fisicas y Naturales - Serie A: Matematicas, 2021, 115(3), 108
- 16. Padovan numbers that are concatenations of two distinct repdigits
- Ddamulira, M. Mathematica Slovaca, 2021, 71 (2), pp. 275–284
- 17. On the x-coordinates of Pell equations that are sums of two Padovan numbers Ddamulira, M. Boletin de la Sociedad Matematica Mexicana, 2021, 27(1), 4
- 18. On the Shorey–Tijdeman Diophantine equation involving terms of Lucas sequences Ddamulira, M., Luca, F., Tichy, R. Indagationes Mathematicae, 2021
- 19. Nonreal Zeros of Polynomials in a Polynomial Sequence Satisfying a Three-Term RecurrencepRelationpNdikubwayo, I. Journal of Contemporary Mathematical Analysis, 2021, 56(2), pp. 87–93.
- 20. Stability analysis of the coexistence equilibrium of a balanced metapopulation model Rao, S., Muyinda, N., De Baets, B.

Scientific Reports, 2021, 11(1), 14084

- 21. Asset liability management for the parliamentary pension scheme of Uganda by stochastic programming Mukalazi, H., Larsson, T., Kasozi, J., Mayambala, F. Afr. Stat. 16 (2021), no. 2, pp. 2689–2717.
- 22. A comparative analysis of machine learning models for the prediction of insurance uptake in kenya Yego, N.K., Kasozi, J., Nkurunziza, J. Data, 2021, 6(11), 116
- 23. Prediction of prevalence of type 2 diabetes in Rwanda using the metropolishasting sampling Dukunde, A., Ntaganda, J.M., Kasozi, J., Nzabanita, J. African Health Sciences, 2021, 21(2), pp. 702–709
- 24. 24. Feasibility of using a mobile App to monitor and report COVID-19 related symptoms and people's movements in Uganda Mugenyi, L., Nsubuga, R.N., Wanyana, I., ...Tumwesigye, N.M., Nsubuga, S.H. PLoS ONE, 2021, 16(11 November), e0260269
- 25. Modelling prevention and control of jigger infestation in Mayuge district: a mathematical approach. Nannyonga, B., Mango, J. M., Rugeihyamu, S. Journal of Mathematics and Computer Science, 22, no. 3 (2021): 252–265
- 26. The Ugandan Severe Acute Respiratory Syndrome -Coronavirus 2 (SARS-CoV-2) Model: A Data Driven Approach to Estimate Risk Betty Nannyonga, Henry Kyobe Bosa, Yonas Tegegn Woldermariam, Pontiano Kaleebu, John M Ssenkusu, Tom Lutalo, Willford Kirungi, Fredrick Edward Makumbi, Vincent A Ssembatya, Henry G Mwebesa, Diana Atwine, Jane Ruth Aceng, Rhoda K Wanyenze doi: https://doi.org/10.1101/2020.12.28.20248922
- Infodemic: How an Epidemic of Misinformation Could Lead to a High Number of the Novel Corona Virus Disease Cases in Uganda. Nannyonga, B.K.; Wanyenze, R.K.; Kaleebu, P.; Ssenkusu, J.M.; Sengooba, F.; Lutalo, T.; Kirungi, W.; Makumbi, F.E.; Kyobe Bosa, H.; Ssembatya, V.A.; Mwebesa, H.; Atwine, D.; Aceng, J.R.; Tegegn Woldermariam, Y.
 - 2020, 2020060009 (doi: 10.20944/preprints202006.0009.v1).

28. A new similarity-based classifier with Dombi aggregative operators Kurama, O. Pattern Recognition Letters, 2021, 151, pp. 229–235

5. Department of Physics

- 1. Bosco Oruru, Harriet Najjemba, Caroline Joyce Atim, Ronald Nteziyaremye, and Merciline Nayibinga, 2021. Cultural astronomy in Uganda from the perspectives of the Acholi, Banyankole, Iteso and Lugbara. African Journal of History and Culture, 13(2): 88-101
- 2. Ayugi, G., Oruru, B., Kiragga, F., Kisembo, H., Kyagulanyi. H, 2021. Establishment of Computed Tomography Diagnostic Reference Levels on Paediatric Patients in Uganda. Journal of Radiation and Nuclear Applications, 6(3): 189-192
- 3. William Ochen, Florence Mutonyi D'ujanga , Bosco Oruru, Peter Wilberforce Olupot, 2021. Physical and mechanical properties of porcelain tiles made from raw materials in Uganda. Results in Materials, 11: 100195
- 4. Ssenyunzi, C.R., Oruru, B., Florence D'ujanga, M.F., 202 I. Linear regression models to predict the tropospheric parameters at the Global Positioning systems' sites

over the East African region. East African Journal of Science, Technology and Innovation, 2(3)

- 5. William Ochen, Florence Mutonyi D'ujanga , Bosco Oruru, 2021. Influence of residual stress on the mechanical behavior of ceramics with various quartz sizes. Scientific African, 11: e00648
- 6. Alex Okello , Brian Owino Owuor , Jane Namukobe , Denis Okello , Julius Mwabora, (2021), Influence of concentration of anthocyanins on electron transport in dye sensitized solar cells, Heliyon, Vol.7, https://doi.org/10.1016/j. heliyon.2021.e06571
- Ssenyonga, T., Frette, Ø., Hamre, B., Stamnes, K., Muyimbwa, D., Ssebiyonga, N., & Stamnes, J. J. (2022). A New Algorithm for Simultaneous Retrieval of Aerosols and Marine Parameters. Algorithms, 15(1), 4.
- 8. Winston Tumps Ireeta, Esther Nabadda and George Isoe "Digital High-Speed Data Modulation Techniques", Engineering and Applied Science Letters, Volume 4, No. 4, pp. 1-4, 2021.
- 9. Edward Bwayo, Willy Okullo, Daniel Mukiibi, Denis Okello, Robert Lugolole and Winston Tumps Ireeta, "Dependence of Reflectance on Angular Deposition and Film Thickness of ZnS/Ag Nanolayers", Engineering and Applied Science Letters, Volume 4, No. 4, pp. 26-42, 2021.
- 10. Winston Tumps Ireeta, Achire Tito and Yusto Kaahwa, "Multirate Digital Signal Processing for Image Reconstruction using Error Optimization Techniques: The Combined Adaptive Weiner Filter and the MDBUTMF", International Journal of Computer Applications, volume 183, No. 20, 2021.
- Peter Opio, Akisophel Kisolo, Willy Okullo, Gertrude Ayugi, Muhereza Bobrich Mwecumi, and Tumps W. Ireeta, "Radiofrequency Intensity Exposure Levels from the Digital Terrestrial Television (DTTV) Broadcasting Transmitter in Kampala Metropolitan; Uganda", Technium, vol. 3(3), pp. 1-12, 2021.
- Peter Opio, Akisophel Kisolo, Willy Okullo, and Tumps W. Ireeta, "Variation of Radiofrequency Intensities from the DTTV-Transmitter in Kampala Metropolitan; Uganda", Engineering and Applied Science Letters, vol. 4(1), pp. 21-29, 2021.

S/NW	NAME OF STAFF	POSITION			
	DEPARTMENT OF MATHI SCHOOL OF PHYSICAL S HEAD OF DEPARTMENT: DR. GO	EMATICS CIENCES DWIN KAKUBA			
Ι.	Prof. Joseph Y.T. Mugisha	Professor			
2.	Dr. John Magero Mango	Associate Professor			
3.	Dr. Juma Kasozi	Associate Professor			
4.	Dr. Godwin Kakuba	Senior Lecturer/ HoD			
5.	Dr. David Ssevviiri	Senior Lecturer			
6.	Dr. Betty Kivumbi Nannyonga	Senior Lecturer			
7.	Dr. Ismail Geoffrey Mirumbe	Senior Lecturer			
8.	Dr.V. A. Ssembatya	Senior Lecturer			
9.	Dr. Alex S. Bamunoba	Senior Lecturer			
10.	Dr. Saul Hannington Nsubuga	Lecturer			
11.	Dr. Joseph Ssebuliba	Lecturer			
12.	Dr. Hassan Ddumba	Lecturer			
13.	Dr. Henry Kasumba	Lecturer			
4.	Dr. Fred Mayambala	Lecturer			
15.	Dr. Alex Behakanira Tumwesigye	Lecturer			
16.	Dr. Onesfole Kurama	Lecturer			
17.	Dr. Mahad Ddamulira	Lecturer			
18	Dr Iuliet Nakakawa Nsumba	lecturer			

Table I 15: Appendix: CoNAS Staff List

19.	Dr. Denis Wokiyi	Lecturer	
20.	Mr.Wilber Grace Naigambi	Lecturer	
21.	Mr. Yasin Kikabi	Assistant Lecturer	
22.	Mrs. Betty Nabiyonga Kirenga	Assistant Lecturer	
23.	Dr. Hassan Wasswa Kayondo	Assistant Lecturer	
24.	Mr. David Ddumba Walakira	Assistant Lecturer	
25.	Mr. Nathan Muyinda	Assistant Lecturer	
26.	Dr. Innocent Ndikubwayo	Assistant Lecturer	
SUPPORT STAFF			

27.	Nakku Goretti	Secretary
28.	Abel Wandera	Book bank Librarian
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