



**MAKERERE UNIVERSITY  
COLLEGE OF COMPUTING & INFORMATION SCIENCES  
(CoCIS)**



**ANNUAL REPORT 2023**

## Message from the Principal



This period of the academic calendar normally excites me very much because I am able to share with the university community and general public, “the CoCIS amazing story through an annual report” by providing a written statement or report on College activities covering a period from 2023 to the early part of 2024. The College has continued to have a strong academic growth that indicates a great performance with a clear upward trajectory. As College Principal, I celebrate the key accomplishments of this academic year with special gratitude and incredible happiness. CoCIS continues to be on an upward trajectory of leading in research excellence and innovativeness. With super-excitement, I, therefore, present to our main stakeholders and alumni our 2023–2024 annual report.

Our staff are doing incredible work and constantly pursuing research work that is yielding quality publications and funded grants. I want to take this opportunity to thank them for their dedicated service and helping the College in successfully accomplishing the strategic goals of Makerere University. The research niche our College is now clearly well-established in four principal areas, that is 1) sense technologies, 2) artificial intelligence (AI), 3) human-computer interaction, usability and user interface design, and 4) information seeking behavior.

This academic year, I would like to highlight the enormous opportunities that Google has offered our College a unique opportunity to pursue cutting edge research and develop highly impactful innovations that will yield significant societal benefits and scientific advances in Uganda and beyond. For example, Google has invested US\$1.5 million in our Ocular project. This new project, led by Dr. Rose Nakasi uses artificial intelligence to automate Mobile microscopic diagnosis of malaria, breast cancer and tuberculosis. The project funding adds to our ongoing AirQo project that yielded a grant totaling up to US\$3 million. As indicated in our previous reports, the air monitoring project uses AI and low-cost technologies to generate and quantify data on air pollution in the designated areas in Uganda and elsewhere in 18 different African countries. We are grateful to Google's generosity, and believe that immensely investing in Makerere University research will

bring positive outcomes. This foresight investment is very impressive and will yield impactful outputs. We trust that the Google funds for research, especially in core areas of human health, will help promote low-cost technologies for disease diagnosis that will significantly improve health outcomes in Africa. We are massively proud of the Ocular and AirQo teams at Makerere AI Lab. I wish the two teams' success, as they provide quality research outputs to the global community.

Furthermore, I congratulate our 14 academic staff who have been promoted, including 12 lecturers, one senior lecturer, and one Associate Professor. This promotion will help in improving staff motivation and capacity in our staff establishment. In academia, staff growth is key to furthering staff's upward mobility and career trajectory. In addition, Drs. Sylvia Namujuzi and Diana Kacunguzi Twinoburyo from the East African School of Library and Information Sciences also obtained their PhDs. I thank them for these great accomplishments in their career development.

We continue to place a very strong emphasis in growing our graduate program. However, challenges associated with funding support continue to slow down our efforts and progress. This 74th graduation ceremony, we have collectively managed have slightly over 610 graduands covering this period, we had 4 PhDs (3 Males and 1 Female), 23 Masters (18 Male and 5 Females) and 571 (322 Male and 249 Female) undergraduate and 2 Post Graduate (Male) Diploma candidates. Additional work is required to increase the number of graduate students to match the strategic goals of the University of being research-led. Despite the low graduate numbers, we take pride in producing the best Science student for the 73rd graduation. Mr. Sanga Arnold Lukoda of the Bachelor of Information Systems and Technology emerged the overall best science student for the Makerere University at the 73rd Graduation ceremony with an overall CGPA of 4.85 out of 5.0. Mr. Sanga received the recognition convocation award during the 73rd session of the graduation, comprising the convocation plaque and one million Uganda shillings.

Our faculty continue to do incredible work that priorities our College's research agenda. Dr. Mark Abraham Magumba is doing his post doctorate training at the Technological University Dublin in the field of data science, natural language processing and machine learning in general. He recently published his manuscript in a highly reputed journal of big data with an impact factor of more than 10, entitled "Evaluation of different machine learning approaches and input text representations for multilingual classification of tweets for disease surveillance in the social web." Another of our junior faculty, Dr. Alice Mugisha was offered a post doctorate training for two years at South Africa's prominent university. Our young continue to excel in different areas and are making our college look great. For this, I wish to applaud their effortless efforts in promoting the college's research agenda.

Furthermore, the 'AirQo', one of the innovations spearheaded by Associate Professor Engineer Bainomugisha is manufacturing low-cost air monitors to empower communities to advance air quality management. This network has enabled hyperlocal air quality data collection. The project has developed cloud-based machine learning models to derive actionable insights for city dwellers and urban duty bearers to make decisions to reduce their exposure and take appropriate actions to improve air quality.

Our COCIS researchers have built ML-based calibration models to improve accuracy of low-cost sensors. One hundred devices have already been installed in many Ugandan municipalities and in at least 25 cities in 10 African countries including Dar es salaam, Senegal, in Doula Cameroon, and soon will be rolling out to Lagos, Nairobi, and other cities. The technology has featured on international media. During the UN General Assembly, it was one of the highlights of the technologies for climate change being produced in Africa. This preceding academic year, we have published over 78 scientific publications. Our staff are actively involved in generating and publishing significant publications and for the first time there is an increased interest among faculty in understanding and advancing the role of publishing quality articles.

Thank you very much for reading our Annual Report and when you are in Makerere University stop by and visit this amazing college. We, as a college, are very committed to be the leading regional hub for Data Science and AI research.

## **1.0 INTRODUCTION**

### **The College of Computing and Information Sciences (CoCIS)**

Makerere University, College of Computing and Information Sciences (CoCIS) is the main ICT training, research and consultancy Centre in Makerere University and the region. The University Council established it on 1 February 2011 through the merge of the Faculty of Computing and Informatics Technology (CIT) and the East African School of Library and Information Sciences (EASLIS).

The College has two schools with six academic departments.

### **1.1 The School of Computing and Informatics Technology (SCIT)**

School of computing and Informatics Technology (SCIT) is a center for ICT at Makerere University dealing with providing students with knowledge, skills and expertise in areas of computing and informatics Technology. The school is committed to fostering a conducive environment for teaching and learning. It offers a number of programs including Doctoral Programs, Masters Programs, Post Graduate Diplomas and Bachelor's Programs. Throughout this year, the School's grant, research and teaching portfolio has grown, with major successes in teaching outputs, grant funding, and research outputs.

The school of Computing and Informatics Technology comprises of four departments:

- Department of Computer Science
- Department of Networks
- Department of Information Technology
- Department of Information Systems

### **1.2 The East African School of Library and Information Science (EASLIS)**

The school was established in 1963, and this year it celebrated 60 years. EASLIS pioneered the training of Librarians and Information Scientists in the East African region who have diligently served in different capacities across the social stratum. School programs started from Certificate and Diploma levels that later were upgraded to Degrees and Post Graduate studies. Currently, the School offers Bachelors, Masters' Degrees (both in Library science and Records and Archives management) and Ph.D. in Information Science, producing a range of skilled professionals with competencies in Library Science, Records and Archive Management, Digital Libraries and Repository Managers, System analysts, Researchers, Information Literacy facilitators and trainer Publishers, among others. East African School of Library and Information Science (EASLIS) has two departments namely:

- Department of Records and Archives and the
- Department of Library Sciences.

Each department is engaged in teaching, supervising field attachment; conducting research, consultancy and outreach programs in the respective sub-disciplines.

### **1.3 Vision, Mission and Core values**

#### **Vision**

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


**Mission**

To provide first class teaching, research and services in Computing and Information Sciences responsive to national and international needs.

**Core values**

- Commitment, (Efficiency and Effectiveness)
- Transparency (Honesty and Integrity)
- Vibrancy (Enjoyment, Healthy environment and Sporting life)
- Respect (Friendly and Gender Sensitivity)
- Responsiveness

**1.4 College Leadership  
Principals, Deans and Heads of Departments**

TITLE & UNIT	NAMES , TEL. CONTACT & EMAIL ADDRESS
<p><b>Principal, College of Computing and Information Sciences</b></p>	 <p>Prof. Tonny Oyana, Principal Tel: +256756121329 Email (s): toyana@cit.mak.ac.ug/principal.cis@mak.ac.ug/ toyana@cis.mak.ac.ug</p>

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**Dean,  
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## 2.0 STUDENT ENROLMENT 2023/2024

2,386 students were enrolled for the academic year 2023/2024. We have so far registered 1,951 and 435 students are pending registration. Of these Table.1 below shows the students admission statistics in the academic year 2023/2024.

### 2023/2024 Intake Figures

**Table 1 Statistical Summary for Admission on Government Sponsorship 2023/2024**

PROGRAMME CODE	PROGRAMME TITLE	ADMITTED STUDENTS	MALE	FEMALE
BCSC	Bachelor of Science in Computer Science	24	14	10
BLIS	Bachelor of Library and information Science	34	10	24
BIST	Bachelor of Information Systems and Technology	41	18	23
BSSE	Bachelor of Science in Software Engineering	29	16	13

### Enrollment statistics for the Academic Year 2023/2024

**Table 2 STATISTICAL SUMMARY FOR ADMISSION ON PRIVATE SCHEME 2023/2024**

PROGRAMME CODE	PROGRAMME TITLE	ADMITTED STUDENTS	MALE	FEMALE
MSIS	Master of Science in Information Systems	56	39	17
GDSE	Postgraduate Diploma in Data Communication And Software Engineering	1	0	1
PCSC	PhD in Computer Science	2	2	0
MITE	Master of Information Technology	43	35	8
BSSE	Bachelor of Science in Software Engineering	185	116	69
PSIS	PhD in Information Systems	5	4	1
MDSE	Master of Science in Data Communication and Software Engineering	42	33	9
GISY	Postgraduate Diploma in Information Systems	1	1	0
GDCS	Postgraduate Diploma in Computer Science	3	2	1
BIST	Bachelor of Information Systems and Technology	482	328	154
MCSC	Master of Science in Computer Science	46	35	11

BLIS	Bachelor of Library and Information Science	363	110	253
MRAM	MSc. in Records and Archives Management	12	4	8
BCSC	Bachelor of Science in Computer Science	248	164	84
GITE	Postgraduate Diploma in Information Technology	2	1	1
PITE	PhD in Information Technology	1	1	0
MISC	Master of Science in Information Science	32	10	22
PLIS	PhD in Information Science	7	3	4

### The 74th Graduation Statistics

Over 630 candidates have been cleared for the Makerere University 74<sup>th</sup> Graduation ceremony scheduled for January 2024. Table3 below show the statistical graduation summaries for undergraduate and graduate programs

**Table 3 Statistical Summary of undergraduate Candidates for the 74<sup>th</sup> Graduation Ceremony January 2024**

SN	UNDERGRADUATE PROGRAMME	CLASS OF AWARD		2 <sup>ND</sup> UPPER		2 <sup>ND</sup> LOWER		PASS		TOTAL BY GENDER		TOTAL
		1 <sup>ST</sup> CLASS		F	M	F	M	F	M	F	M	
		F	M									
	<b>UNDERGRADUATE</b>											
<b>1</b>	<b>BSSE</b>	3	5	17	29	14	44	0	1	34	79	<b>113</b>
<b>2</b>	<b>BCSC</b>	1	4	10	37	19	44	0	0	30	85	<b>115</b>
<b>3</b>	<b>BIST</b>	2	7	35	44	32	64	0	0	69	115	<b>184</b>
<b>4</b>	<b>BITE</b>	0	0	0	1	2	3	1	2	3	6	<b>9</b>
<b>5</b>	<b>BIST</b>	0	0	0	0	2	3	0	0	3	2	<b>5</b>
<b>6</b>	<b>BLIS</b>	2	2	17	7	37	11	6	0	61	20	<b>81</b>
<b>7</b>	<b>BRAM</b>	3	0	22	20	42	14	3	1	70	36	<b>106</b>
	<b>TOTALS</b>	<b>11</b>	<b>18</b>	<b>101</b>	<b>139</b>	<b>148</b>	<b>183</b>	<b>10</b>	<b>4</b>	<b>270</b>	<b>343</b>	<b>613</b>

**Table 4 Provisional List for Graduate Candidates from EASLIS**

SN	Name of student	Title of dissertation	Date of Viva Voce Examination
1.	Caroline Alako 2015/HD05/2972U PhD INF.SCI	Physical Space Utilisation in University libraries in Uganda. Mapping User Behaviours, Experiences and Meaning	27 <sup>th</sup> April 2023
2.	Susan Natterbo 2019/HD05/26114U MSC. INFO .SCI	Reading Habits of Students at Uganda College of Commerce, Tororo Uganda	30 <sup>th</sup> January 2023
3.	Namanda Grace 2015/HD05/730U MSC.INF.SCI.	Knowledge Management Practices at Uganda Cancer Institute	6 <sup>th</sup> March 2023
4.	Akello Brenda Komagum 2014/HD05/2137U MSC.INF.SCI.	Provision of Electronic Reference Services at Mildd may Institute of Health Science Library	19 <sup>th</sup> May 2023
5.	Khwaka Josephine 2016/HD05/290U MSC.INF.SC	The Role of Mobile Library Services in Promoting a Reading Culture. A case of Nambi Ssepuyee Community Resource Center	3 <sup>rd</sup> July 2023
6.	Vincent Lugobe 2016/HD05/391U MSC.INF.SC	Contribution of Carnegies Continuing Professional Development Programme To Service Delivery in Uganda's University Libraries	3 <sup>rd</sup> July 2023
7.	Enid Acen 2018/HD05/2046U MSC.INF.SC	Change Management in Academic Libraries: A case of Kyambogo University Library	3 <sup>rd</sup> July 2023
8.	Abong Kenneth 2017/HD05/81U MSC.INF.SC	Records Management Practices and Service Delivery in the Academic Registrar's office at the All-Saints University Lango	29 <sup>th</sup> August, 2023
9.	Nabugosiri Phyllis Mukasa 2016/HD05/3344U. MSC. RAM	Examination of the Documentation of Uganda Martyrs' Museum Collections	29 <sup>th</sup> August, 2023
10.	Baguma M Alex 2006/HD055370U MSC.INF.SCI	E Records Management Practices in Wakiso District Local Government	29 <sup>th</sup> August, 2023
11.	Akankwasa Doreen 2020/HD05/21532U MSC.INF.SCI	Knowledge Management Practices at Uganda National Oil Company	29 <sup>th</sup> August, 2023
12.	Kireeba Amuza 2020/HD05/24091U MSC.INF.SCI	Digitalization of Library Services at IGAD Sheikh Technical Veterinary School (ISTVS) Somaliland	29 <sup>th</sup> August, 2023
13.	William Out 2010/HD05/1415U MSC.INF.SCI Plan B	Design of Records Management System for Amuria District Local Government Headquarters	29 <sup>th</sup> August, 2023

**Table 5 Provisional List of Graduate Candidates from SCIT**

<b>DRAFT GRADUATION LIST JANUARY 2024</b>					
<b>S N</b>	<b>REG. NO</b>	<b>NAME</b>	<b>DATE OF VIVA</b>	<b>TITLE OF DISSERTATIO N/THESIS</b>	<b>OPTION</b>
<b>PHD</b>					
<b>PHD INFORMATION SYSTEMS</b>					
1	2018/HD05/ 1907U	Alunyu Andrew Egwar	28th September, 2023	Standards for Digital Communication Infrastructure to Support Health Information Exchange in Uganda's Health System	Coursework and Dissertation
<b>MSC. COMPUTERE SCIENCE</b>					
1	2019/HD05/ 25253U	Nambaale Raymond	31st October, 2023	Using Convolutional Neural Networks for Data-Driven Weather Forecasting	Plan A
2	2020/HD05/ 17678U	Suuna Conrad	07th November, 2023	Gender Bias Mitigation and Evaluation in Luganda to English Machine Translation Models	Plan A
3	2021/HD05/ 2289U	Businge Joshua Muleesi	02nd November, 2023	Machine Learning Approach for Split-Agent Deposit Fraud Detection in Mobile Money Transactions	Plan A

4	2019/HD05/ 25235U	Atwiine Simon Alex	02nd November, 2023	A Multi-Level Image Denoising Architecture and Toolkit Using Autoencoders	Plan A
5	2016/HD05/ 345U	Sserubiri Byron	31st October, 2023	Poultry Disease Detection Using Deep Convolutional Neural Networks	Plan B
<b>MSC. DATA COM &amp; SOFTWARE ENGINEERING</b>					
1	2013/HD05/ 467U	Thembo Jimmy	31st March,2023	Modeling Robust Internet of Things Enabled Healthcare Monitoring System by Incorporating System Failure	Plan A
2	2018/HD05/ 1997U	Kamwesigye Edwinah	31st March,2023	An E-Government Framework for Integration of Labour Migrants into the Job Sector: A Case Study of Uganda	Plan A
3	2015/HD05/ 706U	Frank Nkwasiabwe	03rd October, 2023	Auxiliary Cluster Head Protocol for Availability of Mobile Wireless Sensor Networks	
<b>MASTER OF INFORMATION TECHNOLOGY</b>					
1	2019/HD05/ 25396U	Ajambo Kwoshaba Linda	28th March, 2023	An E-Government Framework for Integration of Labour Migrants into the Job Sector: A Case Study of Uganda	Plan A
2	2018/HD05/ 1929U	Mulinde Peterson	30th November, 2023	Mobile Phones Adoption Model for Self- Management of	Plan A

				the Elderly of the Elderly Outside Hospital	
3	2014/HD05/2089U.	Ochan Jacob Benon	30th November, 2023	A Mobile Technology-Based Dissemination (MOBTID) Framework for Non-Communicable Diseases in Uganda	Plan A
4	2016/HD05/313U	Kirangwa Peter	25th September, 2023	A Framework for Sharing Information Among Criminal Justice Agencies: A Case of Uganda Police and Judiciary	Plan A
5	2017/HD05/1287U	Mukhaye Elizabeth	28th March, 2023	A Model for Automated Monitoring of Cervical Cancer Patients in Resource Constrained Environments	Plan A
6	2010/HD18/1474U	Azena Amina Abbas Katuramu	05th December, 2023	Guidelines to Address E-Tax System Complexities to Enhance E- Tax E-Tax Payment Compliance by SMEs in Uganda	Plan B
<b>MSC. INFORMATION SYSTEMS</b>					
1	2018/HD05/3746U	Neema Catherine	26th September, 2023	A Tele-radiology System for Rural and Semi-urban Health Care Centres in Uganda	Plan A

2	2018/HD05/ 2120U	Namuyonga Priscilla	02nd October, 2023	An Information Technology Governance Framework for Micro, small and medium enterprises under the Youth Livelihood Program	Plan A
3	2012/HD05/ 930U	Kahwa Agnes	1th October, 2023	A Framework for Enhancing Citizen Participation in The Smart City Design Process: A Case of Kampala Capital City Authority	Plan A
4	2020/HD05/ 17717U	Mutekanga Ivan	11th October, 2023	A Framework for Sharing Information Among Criminal Justice Agencies: A Case of Uganda Police and Judiciary	Plan A
5	2017/HD05/ 2973U	Mujuni Peter	06th December, 2023	A Data Quality Management Framework to Support Electronic Customer Relationship Management (e- CRM) in the Telecommunicati ons Industry	Plan A
6	2017/HD05/ 143U	Ahimbisibwe Denis	06th December, 2023	A security framework for Preventing Man- in-the-Middle attacks in Mobile Banking Applications: A case of Mobile	Plan A



				Banking Services in Uganda	

### 3.0 HUMAN RESOURCES

The college has three categories of staff namely: Academic, Administrative and Support. The College has several service departments that focus on: ICT Support Services; Innovations and Software Development; Finance; Registry; Research; Human Resource; International/Corporate/Public Relations; and Quality Assurance. The tables below provide a breakdown of these categories as of November 2023

**Table 6: CoCIS Establishment structure as of November 2023**

Category	Establishment	Filled	Vacant	%Filled
Academic	308	84	224	26.3%
Administrative	26	4	22	15.3%
Support	36	27	9	80.3%
<b>Total</b>	<b>370</b>	<b>114</b>	<b>253</b>	<b>30.8%</b>

#### Academic staff

The established academic strength of the College is 84 teaching staff, many of these hold doctorates, and others enrolled or in advanced stages of completing their PhD studies. Tables below show the academic staff statistics in the college in the respective departments.

**Table 7: Summary of CoCIS Academic staff establishment**

Department	Approved	Filled	Male	Female	Vacant
Computer Science	96	12	8	4	84 (87.5)%
Information Systems	38	16	5	11	22 (57.8%)
Information Technology	100	18	8	10	82 (81%)
Networks	36	17	12	5	19 (52.7%)
Records and Archives	12	7	5	2	5 (41.6%)
Library and Information Science	26	13	4	9	13 (50%)
<b>Total</b>	<b>308</b>	<b>84</b>	<b>43</b>	<b>41</b>	<b>224</b>

#### Academic staff establishment in the School of Computing and Informatics Technology

**Table 8: Approved and filled positions for academic staff in the Department of Computer Science (CS)**

Position	Approved	Filled	M	F	Vacant
Professor	10	0	0	0	10
Associate Professor	12	1	1	0	11
Senior Lecturer	19	2	1	1	17
Lecturer	27	4	2	2	23
Assistant Lecturer	28	5	4	1	23
<b>Total</b>	<b>96</b>	<b>12</b>	<b>8</b>	<b>4</b>	<b>84</b>

**Table 9: List of the academic staff in the Department of Computer Sciences**

	<b>Name</b>	<b>Title</b>	<b>Highest Qualification</b>	<b>Awarding institution(s)</b>	<b>Area of specialization</b>
1.	Engineer Bainomugisha	HoD, Associate Professor	PhD	Vrije Universiteit Brussel	Programming Language Engineering Cloud & Mobile Computing Secure Programming Distributed Systems Artificial Intelligence
2.	John Ngubiri	Senior Lecturer	PhD	University of Groningen	Software Security Parallel Systems Process Modelling Algorithms
3.	Joyce Nabende Nakatumba	Senior Lecturer	PhD	Eindhoven University of Technology	Data & Process Mining Business Process Management Process Modelling Artificial Intelligence and Machine learning
4.	Daudi Jjingo	Lecturer	PhD	Georgia Institute of Technology	Bioinformatics of Infectious and Chronic Diseases Health Informatics Artificial Intelligence
5.	Michael Kizito	Lecturer	PhD	University of Gothenburg	IT Governance Computer Security Digitalization Health Informatics
6.	Marriette Atuhuriire Katarahweire	Lecturer	PhD	Makerere University	Computer Security Privacy Software Engineering Mobile health
7.	Rose Nakibuule	Lecturer	PhD	Makerere University	Computer Vision Image processing Artificial Intelligence Data Science

8.	John Kizito	Assistant Lecturer	MSc	University of Groningen	Distributed Systems Programming Languages Theoretical computing
9.	Swaib Dragule	Assistant Lecturer	MSC	University of Mysore	Robotics Data structures and algorithm's Programming languages
10.	Barbara Nansamba	Assistant Lecturer	MSC	Makerere University	Computer Architecture Computer Networks and Data communications Theoretical computing
11.	Emmanuel Lule	Assistant Lecturer	MSC	Makerere University	Computer Networks Operating systems Internet of Things
12.	Marvin Ggaliwango	Assistant Lecturer	MSC	BRAC University	Responsible Artificial Intelligence systems Health systems

**Table 10: Approved and filled positions for academic staff Department of Information Systems (IS)**

Position	Approved	Filled	M	F	Vacant
Professor	2	0	0	0	2
Associate Professor	4	3	0	3	1
Senior Lecturer	6	3	1	2	3
Lecturer	12	6	2	4	6
Assistant Lecturer	14	4	2	2	10
<b>Total</b>	<b>38</b>	<b>16</b>	<b>5</b>	<b>11</b>	<b>22</b>

**Table 11: List of staff in the Department of Department of Information systems**

	Name	Title	Highest Qualification	Awarding institution(s)	Area of specialisation
1.	Agnes Rwashana Semwanga	Assoc. Prof.	PhD	Makerere University	Information Systems, Systems Modeling, Health Informatics
2.	Josephine Nabukenya	Assoc. Prof	PhD	Radboud University Nijmegen, Netherlands	Health Informatics, Information Systems, Enterprise Architecture, Business Process Management

3.	Rehema Baguma	Assoc. Professor	PhD	Radboud University Nijmegen, Netherlands	Human Computer interaction, digital inclusion, responsible/ethical AI & data governance
4.	Agnes Nakakawa	HoD, Senior Lecturer	PhD Computer Science	Radboud University Nijmegen, Netherlands	Enterprise Architecture Development, e-Government, e-Health or Digital Health Interventions, Strategic Management of Information Systems, IT Service Management Approaches
5.	Emily Bagarukayo	Senior Lecturer	Ph.D	Radboud University Nijmegen, Netherlands	Higher order cognitive skills development, eLearning, eservices, ICT4D, security
6.	Peter Nabende	Senior Lecturer	Ph.D	University of Groningen, Netherlands	Computational Linguistics/NLP; Intelligent Systems/AI; Data Mining
7.	Peter Wakholi	Lecturer	Ph.D,	University of Bergen, Norway	Business Process Management, Health Information Systems, Enterprise Systems, System Design
8.	Namatovu Hasifah Kasujja	Lecturer	Ph.D	University of Groningen, Netherlands	Spatial analysis, Health Informatics, Water Informatics, Systems Dynamics, Information Systems Analysis and Design.
9.	Grace Kobusinge	Lecturer	Ph.D in Informatics	University of Gothenburg, Sweden	Health Informatics, Information Systems Interoperability, Human computer Interaction, ICT4D
10.	Arinaitwe Irene	Lecturer	PhD	Makerere University	GIS, Persuasive technology, E-government and e-participation, system modelling
11.	Mercy Rebekah Amiyo	Lecturer	PhD	University of Groningen, Netherlands	Information Systems Design, Business Process Management

12.	Mark Abraham Magumba	Lecturer	Ph.D	Makerere University	Machine Learning / Artificial Intelligence/ Natural Language Processing / Health Informatics
13.	Katende Jacob	Assistant Lecturer	MSc. IS	Makerere University	Information Systems, Computer Networks, AI/NLP/Deep Learning
14.	Fiona Ssozi	Assistant Lecturer	MSc. IS	London South Bank University	Information Systems Design, Human computer Interaction, Participatory Design
15.	Asio Evelyn Patra K	Assistant Lecturer	MSc	Korea Advanced Institute of Science and Technology	Knowledge Service Engineering: Data Science, Knowledge systems, Information Systems, Human computer Interaction, Intelligent User Interface design, Interaction Design, User centered Design, Health Informatics, Human factors, ergonomics and Cognitive Engineering,
16.	Asiimwe Paddy Junior	Assistant Lecturer	MSc	Makerere University	Information Systems, Computer Networks, Localization, IoT, Wireless Sensor Networks, Mobile Application Development, Embedded systems

**Table 12: Approved and filled positions for academic staff Department of Information Technology (IT)**

Position	Approved	Filled	M	F	Vacant
Professor	6	0	0	0	6
Associate Professor	12	0	0	0	12
Senior Lecturer	18	2	0	2	16
Lecturer	36	9	4	5	27
Assistant Lecturer	28	7	4	3	21
<b>Total</b>	<b>100</b>	<b>18</b>	<b>8</b>	<b>10</b>	<b>82</b>

**Table 9: List of academic staff in the Department of Information Technology**

	Name	Title	Highest Qualification	Awarding institution(s)	Area of specialization
1.	Tulinayo P. Fiona	HoD, Senior Lecturer	PhD	Radboud University	Method engineering, Information Systems Engineering, Causal reasoning, System dynamics, domain and conceptual modelling
2.	Evelyn Kigozi Kahiigi	Senior Lecturer	PhD	DSV, Stockholm University	E-learning, ICT4D and Digital Transformation
3.	Florence Nameere Kivunike	Lecturer	PhD	DSV, Stockholm University	Development Informatics - Digital Government, Health; Ethics in informatics
4.	Annabella H. D. Basaza	Lecturer	PhD	University of Groningen (PhD)	Digital Transformation, Health Informatics, Machine Learning, Evaluation studies, Mining SME's, Information Security, Decision Enhancement Services, AI
5.	Golooba Moses	Lecturer	PhD	International Islamic University, Malaysia	AI, IoT, and their applications within: e-Health, e-Agricultural, e-Learning, e-Governance and Cyber Security.
6.	Namiremb e Esther	Lecturer	PhD	University of Cape Town	E-learning and ICT for development
7.	Hawa Nyende	Lecturer	PhD	University of Gothenburg	Informatics- Health , Service Innovation , web systems, data warehousing and business intelligence, Ethics in IT
8.	Innocent Ndibatya	Lecturer	PhD	Stellenbosch University	Sustainable and Intelligent Transport Systems, Agent-Based Modeling, Artificial Intelligence
9.	Chongomweru Halimu	Lecturer	PhD	Universiti Teknologi Brunei (UTB)	Artificial Intelligence, Machine Learning and Data Science
10	Alice Nandawula Mugisha	Lecturer	PhD	University of Bergen	Digital health systems, systems modelling and Health Data Science

11	Raymond Mugwany a	Lecturer	PhD	University of Cape Town	Digital Health, ICT4D, Human Centered Design, Digital Transformation
12	Nagwovu ma Margaret	Assistant Lecturer	PhD	Makerere university	eServices, performance evaluation, ICT4D, digital Innovation and ethics
13	Bitwire George Albert	Assistant Lecturer	Masters	Makerere university	Artificial Intelligence, Data Science, Web system development
14	Komugisha Lilian	Assistant Lecturer	Masters	Makerere university	Collaboration Engineering
15	Emmanuel Mugejjera	Assistant Lecturer	PhD	Makerere university	ICT in Agriculture, Computer Programming, Business Intelligence.
16	Male Vincent	Assistant Lecturer	Masters	Nkumba University	Web based systems and services, Data Analytics, Network security
17	Flavia Namagembe	Assistant Lecturer	Masters	Makerere university	Digital health, Implementation Science, Enterprise Architecture
18	Serugunda Henry Mukalazi	Assistant Lecturer	MSc , MBA	Makerere University, Amity University	Health Systems and Artificial Intelligence

**Table 13: Approved and filled positions of academic staff in the Department of Networks**

Position	Approved	Filled	M	F	Vacant
Professor	2	0	0	0	2
Associate Professor	4	1	1	0	3
Senior Lecturer	6	3	2	1	3
Lecturer	12	12	8	4	0
Assistant Lecturer	12	1	1	0	11
<b>Total</b>	<b>36</b>	<b>17</b>	<b>12</b>	<b>5</b>	<b>19</b>

**Table14: List of staff in the Department of Networks**

	Name	Title	Highest Qualification	Awarding institution(s)	Area of specialization
1.	Benjamin Kanagwa	Associate Professor	PhD	Radboud University Nijmegen, Netherlands	Software engineering, Software architectures, Cloud computing, AI



2.	Swaib Kyanda Kaawaase	HoD, Senior Lecturer	PhD	Harbin Engineering University, China	Wireless networks, wireless network protocols, wireless network security
3.	Julianne Sansa Otim	Senior Lecturer	PhD	Radboud University Nijmegen, Netherlands	Internet of things for developing regions, ICT4Development Communications network protocol design, Internet and Telecommunication policies, Quality of service and Quality of experience, Systems security
4.	Joseph Kikombo Balikuddembe	Dean, Senior Lecturer	PhD	University of Cape Town	Software Development, Systems Analysis and Design, Software Sizing & Estimation, Requirements engineering, Strategic Project Management, Business Intelligence
5.	Tonny Eddie Bulega	Lecturer	PhD	South China University of Technology, Guangzhou China	Mobile wireless networks, wireless sensor networks, communication systems
6.	Johnson Mwebaze	Lecturer	PhD	Radboud University Nijmegen, Netherlands	Data communications and networks, scientific data processing, web and computer programming
7.	Drake Patrick Mirembe	Lecturer	PhD	University of Groningen, Netherlands	Mobile and wireless technologies, Cyber security, Requirements engineering, Software systems design and integration, educational technologies, ICT innovation and Incubation, Policy and Strategy, ICT4Development, Web Technologies, Data science

8.	Moses Ntanda Kyebambe	Lecturer	PhD	Xiangtan University, China	Machine learning, deep learning, data science
9.	Ruth Mbabazi Mutebi	Lecturer	PhD	Makerere University	Persuasive technologies, wireless networking, Requirements engineering
10.	Joab Ezra Agaba	Lecturer	PhD	Makerere University	Software Development, re-usability in instructional design for e-learning environments
11.	Odongo Steven Eyobu	Lecturer	PhD	Kyungpook National University, South Korea	Deep learning Systems, Localization and Navigation, Vehicular Communications, Internet of Things, Intelligent Transportation Systems
12.	Nasser Kimbugwe	Lecturer	PhD	Xiangtan University, China	AI (Machine learning and Deep learning), software engineering, internet of things, programming languages, data science
13.	Mary Nsabagwa	Lecturer	PhD	Makerere University	Wireless sensor networks and embedded systems
14.	Rashidah Kasauli Namisanvu	Lecturer	PhD	Chalmers University of Technology, Sweden	Software engineering, requirements engineering, large-scale systems development, safety-critical systems development, big data analytics, communications engineering, agile software development
15.	Benard Muwonge Sajjabbi	Lecturer	PhD	Xiangtan University, China	Optimization of communication Networks, Cognitive Radio Networks, Multimedia communication systems, Computer Networks and system

					security, Tele-health and telemedicine, IoT
1	Grace Bugembe Kamulegeya	Lecturer	PhD	Makerere University	Software architectures, Business Process Management, Software Innovation, Software Innovation commercialization, software start-ups
1	Alex Mwotil	Assistant Lecturer	Masters	Makerere University	Computer networks, cloud computing, distributed systems

### Academic staff establishment in the East African School of Library and Information Sciences

**Table15: Approved and filled positions for academic staff in the Department of Records and Archives**

Position	Approved	Filled	M	F	Vacant
Professor	1	1	1	0	0
Associate Professor	1	1	1	0	0
Senior Lecturer	2	0	0	0	0
Lecturer	4	2	1	1	4
Assistant Lecturer	4	3	2	1	1
<b>Total</b>	<b>12</b>	<b>7</b>	<b>5</b>	<b>2</b>	<b>5</b>

**Table 16: List of academic staff in the Department of Records and Archive Management**

	Name	Title	Highest Qualification	Awarding institution(s)	Area of specialization
1.	Magara Elisam	Professor	PhD	University of South Africa UNISA	Records and Archives Management
2.	Luyombya David	HoD, Assoc. Professor	PhD	University College London, UK	Records and Archives Management
3.	Namujuzi Sylvia	Lecturer	PhD	Makerere University	Records and Archives Management
4.	Kacunguzi Twinoburyo	Lecturer	PhD	University of Illinois, USA	Records and Archives Management
5.	Kiconco Christine	Assistant Lecturer	Masters	Uganda Martyrs University	Records and Archives Management

6.	Ekwaro Francis	Assistant Lecturer	Masters	Makerere University	Records and Archives Management
7.	Ssekitto Francis	Assistant Lecturer	Masters	Makerere University	Records and Archives Management

**Table 17: Approved and filled positions for academic staff in the Department of Library and Information Science**

Position	Approved	Filled	M	F	Vacant
Professor	2	1	1	0	1
Associate Professor	3	0	0	0	3
Senior Lecturer	4	2	0	2	2
Lecturer	8	1	0	1	7
Assistant Lecturer	9	9	3	6	0
<b>Total</b>	<b>26</b>	<b>13</b>	<b>4</b>	<b>9</b>	<b>13</b>

**Table 18: List of academic staff in the Department of Library and Information Science**

	Name	Title	Highest Qualification	Awarding institution(s)	Area of specialization
1.	Okello-Obura Constant	Professor	PhD in Information Science	University of South Africa, Pretoria	Business Information Systems and Services; Information Science Education; Records and Information System Security; Bibliometrics; Indigenous Knowledge Management Systems; User Studies
2.	Bukirwa Joyce Muwanguzi	Senior Lecturer	PhD Information Science	Makerere University	Automation of Library and Information Systems, Digital Libraries, Information Processing, Management of Electronic Records/Documents, Grey Literature Studies
3.	Kaddu Sarah Birungi	Dean, Senior Lecturer	PhD Information Science	Makerere University	Information Storage & Retrieval, Information Ethics, Management of information institutions
4.	Lutaaya Clement Nabutto	Chair, Lecturer	PhD Information Studies	University of KwaZulu-Natal	University Library management, training and development, information storage and retrieval,

					Bibliometrics, information literacy,
5.	Agabirwe Patience	Assistant Lecturer	Masters of Library and Information Science-Digital library learning	Oslo Metropolitan University, formerly Oslo University college and Arkeshus University Norway	Knowledge organization and management (Cataloguing, classification and Web content Management), information technology applications in libraries, information storage and retrieval, Digital librarianship, Automation of libraries, special libraries, National, public and community libraries, information practices, information seeking behavior, information security and management, universal access to information.
6.	Amanda Irene Birungi	Assistant Lecturer	Master's Degree in information services	London Metropolitan university , UK	Library automation, library services for children and young people, Library science
7.	Batte Richard	Assistant Lecturer	Master of Science Information Systems	Makerere University	Publishing, Systems Dynamics and ICTs for development
8.	Kutyamuk ama Alice Gitta	Assistant Lecturer	Master of science in information science	Makerere University	Health information access, information service, information literacy, digital libraries, ICTs in libraries, information entrepreneurship, applied organization psychology
9.	Kulisooma Ezera	Assistant Lecturer	Masters of Library and Information Science-Digital library learning	Oslo Metropolitan University, formerly Oslo University college and Arkeshus University Norway	Information and Knowledge Management, Information and Digital literacy, Digital librarianship

10	Mutibwa Lois Nankya	Assistant Lecturer	Masters in Library and information Science	Makerere University	Museum and heritage studies; information resources and services, Social media, Libraries & Librarianship. Children literature & services. Children literature & services.
11	Muzaki Faridah	Assistant Lecturer	Master of science in information science, Master of science in computer science	Makerere University	Information and Digital Literacy, Internet of Things, ICTs in library service
12	Mwanje Ssenono Aloysius	Assistant Lecturer	MSC in information technology and computer communica tions	Mahati Magandhi university, Kottayan Kerala, India	Data management, Data literacy, Wed programming, knowledge organization, Knowledge and Information Management, Information Architecture, Information Systems Analysis and Design
13	Nalumansi Mary	Assistant Lecturer	Master of science in information science	Makerere University	Information & Society, Information Literacy, Communication Skills & Practice and Reading Culture

**Table 19: List of Administrative and Support staff in CoCIS**

<b>Administrative staff units</b>		
<b>Principal's Office</b>		
1.	Prof. Tonny Oyana	Principal
2.	Julius Lebo	Human Resources Officer
3.	Angida Franco Mugyema	Accountant
4.	Kato Godfrey	Assistant Accountant
5.	Ssebanaikitta William	Assistant Accountant
6.	Jane Anyango	Principal Communications Officer
7.	James Isagara Kisoro	Web Administrator
8.	David Ikoma	Procurement Officer
9.	Bukenya Clare Nata	Senior Administrative Assistant

10.	Bampangana Dora	Research Grants Officer
11.	Viola Kemanzi	Administrative Assistant
12.	Ruth Namusisi	Administrative Secretary I
13.	Arinda Pearl	Administrative Assistant
14.	Tafabwire John Emmanuel	Records Assistant
<b>Registrar's Office</b>		
1.	Feni Babanga Patrick	Principal Registrar
2.	Ampiire Confidence	Administrative Assistant
3.	Kabuye Mathias	Administrative Assistant
4.	Ayebare Maureen Liliane	Administrative Assistant
5.	Kintu Samuel	Clerical Officer
6.	Nalwadda Rehema	Cleaner
<b>Support Staff Units</b>		
1.	Hope Nahwera	Chief-Custodian
2.	Kananura Richard	Custodian
3.	Mujungu Victor	Chief-Custodian
4.	Namutebi Federesi	Cleaner
5.	Ainomugisha Prossy	Cleaner
6.	Nantale Gorret	Cleaner
7.	Sanyu Immaculate	Cleaner
8.	Nalwadda Rehema	Cleaner
9.	Byarugaba Peter	Cleaner
10.	Munyogoli Sulaiman	Security Guard
11.	Eryenga Christopher	Security Guard
12.	Kirunda William A.	Lab. Attendant
13.	Kwizera Anthony	Lab. Attendant
14.	Kalyowa Rebecca	Lab. Attendant
15.	Ochokoru Christine	Lab. Attendant
16.	Zziwa Sarah	Lab. Attendant
17.	Amanyire Sarah	Lab. Attendant
18.	Kyeyune Betty	Lab. Attendant
19.	Akankwasa Christine	Lab. Attendant
20.	Mukasa Jolly	Messenger
21.	Tasumba Irene	Lab. Attendant
22.	Nabatanzi Florence	Lab. Attendant
	Afayo Joseph	Messenger
15.	Baluku Habert	Computer Lab. Assistant
16.	Betungye Nicholas	Computer Lab. Assistant
17.	Wessali Claire	Computer Lab. Assistant
18.	Masika Astaluzi	Computer Lab. Assistant
19.	Zziwa Edward	Technician
20.	Kayiggwa Richard	Messenger

21.	Adima Godfrey	Security Guard
22.	Kachope Wilson	Security Guard
23.	Senkumba Badiru	Assistant systems Administrator

### Staff promotions, Appointments, Confirmations

A number of staff ascended in their academic ranks, some were appointed and confirmed into university service.

#### Transfers

NO	NAME	TITTLE	Replaced by
1	Hasipher Kahunde	Chief custodian	Nahwera Hope
2	Nalweyiso Josephine	Human Resource Officer	Julius Lebo
3	Byarugaba Steven	Procurement Officer	Ikomo David
4	Tafabwire John Emmanuel	Records Assistant	Nanyonga Christine

#### Promotions

##### Department or Records & Archives management

1	Dr. David Luyombya	Associate Professor
2	Dr. Sarah Kaddu	Senior Lecturer
3	Dr. Joyce Muwanguzi Bukigwa	Lecturer

##### Department Information Systems

1	Dr. Irene Arinaitwe	Lecturer
2	Dr. Grace Kobusinngye	Lecturer

##### Department Networks

1	Kyanda Swaib Kawaasee	Senior Lecturer
2	Ruth Mbabazi	Lecturer
3	Grace Kamulegeya	Lecturer
4	Mary Nsabagwa	Lecturer
5	Nasser Kimbugwe	Lecturer

##### Department Computer Science

1	Joyce Nabende Katatumba	Senior Lecturer
2	Mariette Atuhuriire Katarahwerire	Lecturer

#### Appointments



## Department of Information Technology

1	Dr. Rose Nakasi	Lecturer
	<b>Support staff</b>	
1	Ayebare Editta	data entrant HR's Office

## Part-time Assistant Lecturers

1	Brian Muchake	Assistant Lecturer
2	Pius Kavuma Basajjabaka Mugagga	Assistant Lecturer

**Dr. Peter Nabende selected as substantive Deputy Principal :** The search Committee for Principals and Deputy principals organised an event where two candidates Dr. Peter Nabende and Dr. David Luyombya vied for the position of Deputy Principal. The former took the position following public presentations that were held on 6<sup>th</sup> July 2023. Dr. Nabende has been serving as Ag. Deputy Principal.

**New Dean for the EASLIS:** Dr. Sarah Kaddu took over as the new Dean of the East African School Library & Information Sciences(EASLIS) having served as the Head, Department of Library and Information Sciences at EASLIS which she handed over to Dr. Clement Lutaaya.

**Dr. Sarah is the first female dean of EASLIS since its establishment in 1963**



**Prof. Constant Okello Obura hands over to Dr. Sarah Kaddu as Ms. Winnie Mbabazi Internal Auditor and Dr. Peter witnesses.**



**Handover meeting celebration with cutting the cake**

**New Human Resources Officer deployed:** The college received a new Human Resource Officer Mr. Julius Lebo who replaced Ms. Josephine Nalweyiso. Lebo was the Ag. Manager Staff Development, Welfare and Retirement Benefits Division in Directorate of Human Resources



**Mr. Julius Lebo speaking on effective team building and communication**

**New Web Admin:** The College received a Web Admin, James Kisoro Isagara. Kisoro replaces Mr. John Nuwagaba who absconded from duty in a year of his transfer to CoCIS.

**New Chief Custodian:** The college received the new Chief Custodian Ms. Hope Nahwera. Nahwera replaced following the transfer of Ms. Hasifa Kahunde to the school of law.

**New Procurement Officer :** Following the university transfers of PDU staff, Mr. Steven Byarugaba, the Procurement Officer of COCIS/COBAMS SPDU, was transferred to CHS/COVAB SPDU effective from 1<sup>st</sup> July 2023. Mr. Ikomo who has the Procurement Officer of CEDAT/CONAS SPDU took over from Mr. Byarugaba. The handover ceremony took place on 07<sup>th</sup> July 2023 the leadership of both colleges graced the ceremony, including Assoc. Prof. Eria Hisali Principal CoBAMS, Dr. Peter Nabende Ag. Deputy Principal CoCIS, College Bursars of both colleges, Procurement Committee members, and University Auditor.



**David Ikomo (4<sup>th</sup>) receives instruments of power from Steven Byarugaba**

### **Staff capacity development/retooling**

The college conducted two pedagogy workshops for lecturers dedicated to refreshing skills, enhancing their ability to serve clients better and standardize various processes that significantly impact teaching and learning activities. This proactive approach ensured that our faculty remain adept and up-to-date in delivering quality education. This achievement not only boosts morale but also underscores our commitment to academic excellence.

### **Non-Teaching staff skilled in Performance Management & Appraisal, PR and Team building**

Over 50 Non-Teaching staff from the College were on 12<sup>th</sup> May 2023 retooled on different aspects including Performance Management and Appraisal, Public Relations, Customer care, Team building and Communication. The training which brought together administrative, support and contract staff was officially opened by the Principal CoCIS and closed by the Ag. Director, Directorate of Human Resources Makerere University, Mr. Lawrence Sanyu.



**Prof. Tonny Oyana (2<sup>nd</sup> in front) posing for a group photo with participants after the award session**

The training was facilitated by officials from the Makerere University Directorate of Human Resources and the Public Relations office including the Ag. Manager Performance Management and Appraisal Mr. Deus Tayari Mujuni, the Technical person in charge of the e-HRMS system Mr. Joshua Muhumuza, the Ag. Manager Staff Development, Welfare and Retirement Benefits Division Mr. Julius Lebo and the University's Principal Public Relations Officer Ms. Ritah Namisango.



**Prof. Tonny Oyana and Mr. Lawrence Sanyu award a certificate of attendance to the principal college accountant CPA Angida**

### **Awards**

EASLIS recognizes four Alumni for their distinguished services

Four former staff at the EASLIS were recognized for their distinguished services during the celebrations to mark 60 years of the school's existence.

In absence, a Leadership Award was presented to Ms. Sarah Kagingo. Kagingo was appreciated for her Loyalty and dedicated service as the first Guild President from EASLIS (1997-1998)



**Dr. Peter Nabende handing over the award to Prof. S. AH. Abidi**

The second Leadership Award was presented to Prof. S. AH. Abidi in honour of his long and exemplary service as director EASLIS from 1972-2002. Prof S A H. Abidi kept the school running during the time of Asian expulsion from Uganda. He kept around and ensured continued operations of the school amidst a very toxic political environment.



Mr. Knud Larsan ® receiving a gift from Deputy Principal Dr. Peter Nabende.  
Knud Larsan, was recognized for being the first Director of EASL (1963-1966)



Geoffrey Magimbi, Rising star award

The Rising Star Award was presented to Mr. Geoffrey Magimbi in recognition of his outstanding academic resilience and success. Magimbi, joined the school as a custodian without any academic paper. Being in the academic circle, he was inspired and determined to enroll for a



certificate course , then a diploma, to a bachelors and now pursuing Masters. He has also served in the Ministry of Public service and currently working with the Mountains of the Moon University.



Daughter receives Service award of father Boniface Odongo.

Odongo with deepest appreciation was recognised for his outstanding contribution as the longest serving librarian from 1996-2012. Odongo was unwell and could not attend.

## **4.0 TEACHING AND LEARNING ACHIEVEMENTS**

CoCIS is one of the largest computing and ICT training, information science, research and consultancy colleges in Africa committed to delivering excellent services in the area of Computing, Library, Records and Information Sciences and attracts both local and international students. CoCIS boasts of the state of the art infrastructure including lecture theaters, giant computer laboratories, specialized computer laboratories and a college library. Its three buildings can accommodate over 10,000 students in one sitting.

Programs offered at CoCIS

### **Programs offered at SCIT**

SCIT offers a total of 15 programmes at bachelors, Masters, PhD and Postgraduate levels. Following the merger of Information Technology and Information Systems programs in 2017, the school remained with three out of four undergraduate programs. The bachelor of information systems (BIS) and the bachelor of information technology (BIT) programs were merged to form bachelor of information systems and technology program (BIST). The Information Technology department has no undergraduate program. The list of programmes offered include:

- Bachelor of Science in Computer Science
- Master of Science in Computer Science
- Postgraduate Diploma in Computer Science
- PhD in Computer Science.
- Bachelor of Information Systems and Technology,
- Master of Science in Information Systems,
- Postgraduate Diploma in Information Systems,
- PhD in Information Systems
- Masters in Information Technology (MIT)
- PhD in Information Technology (Ph.D in IT)
- Post Graduate Diploma in Information Technology (PGDIT).Post Graduate Diploma in Information Technology (PGDIT)
- Bachelors in Software Engineering
- Masters in Data communication and Software Engineering
- Post graduate diploma in Data communication and Software Engineering
- PhD in Software Engineering.

### **Programs are offered at EASLIS:**

EASLIS serves as a regional training institution for Library and Information Science equipping students with skills to work in any information institutions like Libraries, Archival Institutions, Registries, Records Offices, and Publishing houses, Book distribution Centres, Documentation Centers, Information Centres, Resource Centers etc.

### **Currently, EASLIS offers five programs:**

1. Bachelor of Library and Information Science (BLIS)
2. Bachelor of Records and Archives Management (BRAM)
3. Master of Science in Information Science (MSC.INF.SCI)

4. Master of Science in Records and Archives Management (MSC.RAM)
5. Doctor of Philosophy in Information Science (PhD INF. SCI)

### **Graduation output for the Mak 74<sup>th</sup> Graduation**

Over 600 students from CoCIS will be awarded degrees and diplomas in various disciplines during the Mak 74<sup>th</sup> graduation ceremony to be held in January 2024. The college will present 2 PhDs, 20 Masters degrees, 613 undergraduates

### **Semester Schedule 2023/2024 academic year**

- Fresher's Orientation: Friday 20<sup>th</sup> August 2023 to Friday 25<sup>th</sup> August 2023 (7 days )
  - Semester One: Saturday: 26<sup>th</sup> August 2023 to Sunday 10<sup>th</sup> December 2023 (17 weeks)
  - Semester One Holiday Break: Saturday 24<sup>th</sup> December 2023 to Saturday 13<sup>th</sup> January 2024 (2 weeks)
  - 74<sup>th</sup> Graduation Week: Monday 26<sup>th</sup> January to Friday 29<sup>th</sup> January 2024 (5 days)
  - Semester Two: Saturday 13<sup>th</sup> January 2024 to Sunday 12<sup>th</sup> May 2024 (14 weeks )
- 
- Recess Term Saturday: 18<sup>th</sup> June 2023 to Saturday 20<sup>th</sup> August 2023 (9 weeks )

### **Fresher's orientation 2023/2024**



A section of freshers' during the Orientation in the Big Lab 2

Over 800 undergraduate freshers admitted to programs in the College turned up for orientation at a function that was presided over by the Principal Prof. Tonny Oyana in the big lab 2 in Block B on 24 August 2023. Three undergraduate students won scholastic materials worth over UGX 100 thousand in a quiz and orientation raffle- a college culture of welcoming first-years every intake.



**Prof. Tonny Oyana hands over scholastic gifts to the winners of the orientation quiz.**

Heads of academic units including Principals, Deans, and departmental chairs congratulated freshers upon successful admission and welcomed them to Makerere University. Day 2 was dedicated to orientation by university support units. Spoke after speaker advised students to balance their time for academics and social life and to identify additional university resources such as the library, places of worship, and counseling services to make their stay successful.

Orientation for graduate students was held on 29<sup>th</sup> August 2023

**Over 300 Graduate under the Mak-Amity University and e-VBAB Program**



### **Members of the College management and graduands cutting the cake to symbolize the celebration**

Over 300 candidates who pursued online education under the Makerere and Indian universities agreement were Awarded Diplomas and Degrees at a colourful ceremony that was held on 14<sup>th</sup> April 2023. In 2018, the Government of Uganda and the Government of India signed an MoU geared towards the implementation of the e-Vidybharati and e-Aarogyabharati (e-VBAB) projects in Uganda. To promote the activities, of this project Makerere University was chosen to serve as a regional centre to advance Tele –education in the East African region.

The current running MoU between Amity University, and Makerere University College of Computing and Information Sciences was negotiated in the year 2018 and, is renewable after five years while the e-VBAB project MoU was signed in 2019 for five years, and is still running until the end of 2024. The primary goal of this partnership was to espouse online teaching and learning as well as offer degree and postgraduate degree programmes at affordable tuition fees rates devoid of functional fees.

Under both the e-VBAB project and the MoU between Amity and Makerere University several students were enrolled on various courses offered by premier Indian universities offering a number of programs including tourism management, French, Business Management, physical science engineering, IT, Financial literacy, Human Resource, Business analytics.



2,100 students have been enrolled under both Amity- Makerere MoU and the e-VBAB programmes. Of these, 1346 students were enrolled on 100% scholarship under the e-VBAB project since 2020 to date, spread across 28 Indian universities. Under the Makerere -Amity University MoU, 754 students were admitted since 2018 across ten intakes.

### Curriculum Reviews

This involves a critical examination of academic programs for improving student-learning experiences by academic staff who teach within the programs. The College has a systematic approach to evaluating, reviewing and revising curricular areas and programs within a specific timeframe. This aims at identifying gaps and problems with a purpose of increasing curriculum effectiveness and continually improving student-learning experiences. In this regard, different departments have had some of their curricular reviewed and others are still in the reviewing process. The table below shows the status of accreditation for the courses at CoCIS

**Table 20: Status of Accreditation of Programmes of Study Tenable At the College of Computing and Information Sciences (CoCIS)**

SN	NAME OF PROGRAMME OF STUDY	DEPARTMENT	SCHOOL	DATE OF LAST NCHE ACCREDITATION	CURRENT STAGE IN THE REVIEW/ RE-ACCREDITATION PROCESS

1	Bachelor of Library and Information Science.	Library and Information Science.	EASLIS	August 2020	Valid till August 2025
2	Bachelor of Science in Computer Science.	Computer Science.	SCIT	March 2022	Valid till March 2027
3	Bachelor of Science in Software Engineering.	Networks.	SCIT	March 2022	Valid till March 2027
4	Bachelor of Information Systems and Technology.	Information Systems.	SCIT	August 2017	Reviewed, approved by College Academic Board and submitted to Senate on 30 <sup>th</sup> November 2023.
5	Postgraduate Diploma in Computer Science.	Computer Science.	SCIT	August 2021	Valid till August 2026
6	Postgraduate Diploma in Data Communication and Software Engineering.	Networks.	SCIT	August 2021	Valid till August 2026
7	Postgraduate Diploma in Information Systems.	Information Systems.	SCIT	August 2019	Valid till August 2024
8	Postgraduate Diploma in Information Technology.	Information Technology.	SCIT	August 2019	Valid till August 2024
9	Master of Science in Computer Science.	Computer Science.	SCIT	August 2021	Valid till August 2026
10	Master of Science Data Communication and Software Engineering.	Networks.	SCIT	August 2021	Valid till August 2024
11	Master of Information Technology.	Information Technology.	SCIT	August 2019	Valid till August 2024
12	Master of e-Governance	Information Technology.	SCIT	New Programme - 2022	Final corrections done and submitted to NCHE in 2022.

	Systems and Technology.				
13	Master of Science in Information Science.	Library and Information Science.	EASLIS	August 2016	Reviewed and Submitted to Senate in March 2023.
14	Master of Science in Records and Archives Management.	Records and Archives Management.	EASLIS	August 2016	Reviewed and Submitted to Senate in March 2023.
15	Master of Science in Information Systems.	Information Systems.	SCIT	August 2019	Valid till August 2024
16	Doctor of Philosophy in Computer Science.	Computer Science.	SCIT	March 2010	Reviewed, approved by College Academic Board and submitted to Senate on 30 <sup>th</sup> November 2023.
17	Doctor of Philosophy in Software Engineering.	Networks.	SCIT	March 2009	Reviewed, approved by College Academic Board and submitted to Senate on 30 <sup>th</sup> November 2023.
18	Doctor of Philosophy in Information Systems.	Information Systems.	SCIT	August 2019	Valid till August 2024
19	Doctor of Philosophy in Information Technology.	Information Technology.	SCIT	August 2010	Reviewed, approved by College Academic Board and submitted to Senate on 30 <sup>th</sup> November 2023.
20	Doctor of Philosophy in Information Science.	Library and Information Science.	EASLIS	August 2016	Reviewed, approved by College Academic Board and submitted to Senate in March 2023.
21	Doctor of Philosophy in Records and Archival Science.	Records and Archives Management.	EASLIS	New Programme - 2023	Pending approval by the Council.

**KEY:**


1. **SCIT:** School of Computing and Informatics Technology.



## 2. Computer Skills Bootcamps and Master classes

CoCIS is the leading ICT training, research, and consultancy Centre at Makerere University and the region. The College runs a Center for Innovations and Professional Skills Development (CiPSD), which addresses various industrial challenges, like skills development, incubation of new ideas, and nurturing new technology-based businesses.

CIPSD has organized two to four-week Computer Skills Bootcamps and Masterclasses for students and the general public effective 10<sup>th</sup> July 2023 as shown below:



**MAKERERE UNIVERSITY**

**College of Computing & Information Sciences**  
Centre for Innovations & Professional Skills Development

**COMPUTER SKILLS BOOTCAMPS & MASTER CLASSES**  
Open To Students & The General Public

*Without hands-on computer skills, individuals and enterprise teams can hardly perform their day-to-day activities.*

No.	MODULE	CATEGORY	DURATION	START DATE	FEE (UGX)
1.	Microsoft Office Suite	Bootcamp	2 Weeks	10 <sup>th</sup> /07/2023	70,000/=
2.	Graphics Design & Image Editing	Bootcamp	2 Weeks	17 <sup>th</sup> /07/2023	70,000/=
3.	Computer Repair & Software Maintenance	Master Class	3 Weeks	21 <sup>st</sup> /08/2023	150,000/=
4.	Networking & Systems Administration	Master Class	3 Weeks	24 <sup>th</sup> /07/2023	150,000/=
5.	Computerised Accounting	Master Class	3 Weeks	28 <sup>th</sup> /08/2023	350,000/=
6.	Dynamic Website Design	Bootcamp	2 Weeks	24 <sup>th</sup> /08/2023	70,000/=
7.	Microsoft Azure	Master Class	4 Weeks	28 <sup>th</sup> /08/2023	400,000/=
8.	Oracle Database Administration	Bootcamp	2 Weeks	21 <sup>st</sup> /08/2023	80,000/=

**CONTACT US FOR A DETAILED CONVERSATION**

College of Computing & Information Sciences  
Center for Innovations & Professional Skills Development  
(CIT Block A -Front Office | CIT Block B Level 5)

Email: [cipsd@cis.mak.ac.ug](mailto:cipsd@cis.mak.ac.ug) | [www.cis.mak.ac.ug/cipsd](http://www.cis.mak.ac.ug/cipsd)  
Tel: 0782 512897 | 0753 200013 | 0392 000 180  
**TO REGISTER** <http://bitly.ws/IKub>

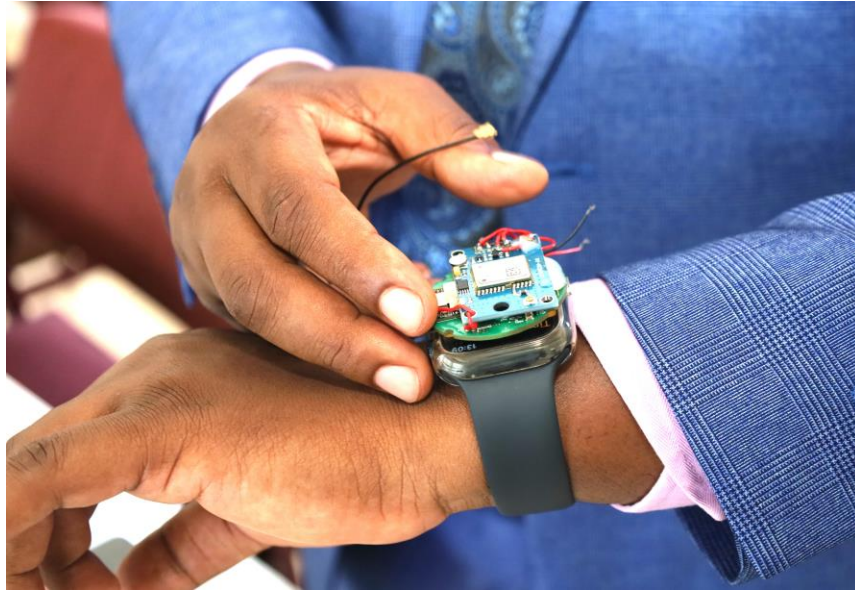
## 3-Day Intensive ICT Master Class Training

Through its Centre for Innovations and Professional Skills Development, the college provided individuals with practical computer knowledge and skills to support a 21st-century knowledge-based economy. The centre strategically offers training that is responsive to the needs of the society which is achieved through tailoring courses towards what the industry demands. CIPSD held a 3-day intensive ICT master class training programs to advance knowledge in 5G technology, Network architecture, Security and to help students learn how to collect, clean, and preprocess data through hands-on experience with popular data science tools and real-world data science projects.

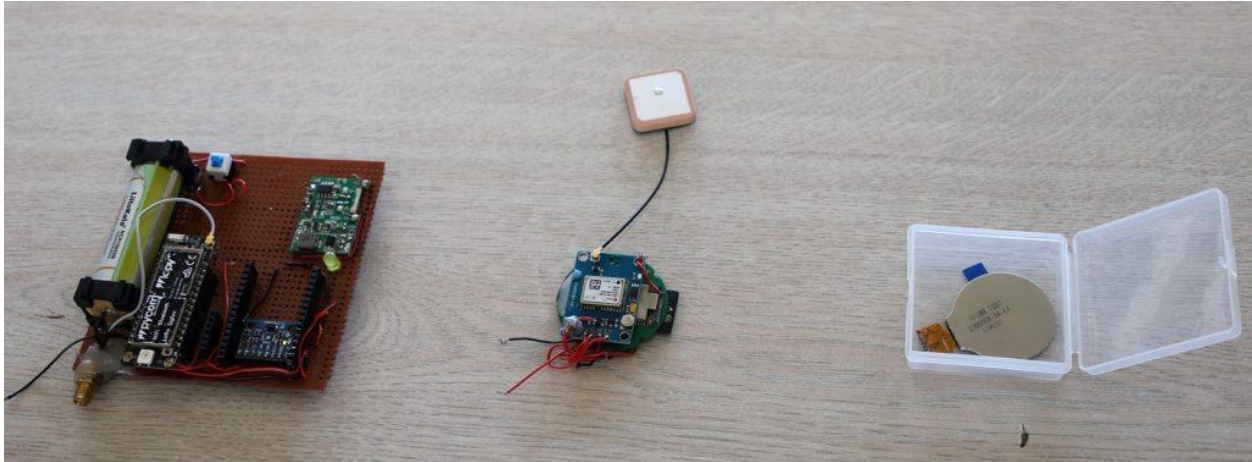
## 5.0 RESEARCH AND INNOVATIONS

### Innovations

#### **Device to Monitor the Elderly with Dementia & Cognitive Impairment for Emergency Response**



Researchers led by a second-year PhD student Paddy Junior Asimwe designed a device to monitor elderly people with dementia and cognitive impairment in rural Uganda. The device, wearable by the elderly (on the hand like a wrist watch or placed in the pocket), will monitor the patients' movement and location and then signal the caretaker and the hospital in case of emergencies. The technology was disclosed during the research dissemination workshop held on 13<sup>th</sup> October, 2023 for the Makerere University Research and Innovations Fund (Mak-RIF) project titled, *“Advanced Localisation Techniques on Smart Devices for Inclusive Location-based Services: A focus on healthy ageing for the elderly with dementia and mild cognitive impairment in rural communities”*



**A display of the technology design stages of the proposed wearable device to monitor elderly people with dementia and cognitive impairment in rural Uganda.**

The system, basically monitors elderly people remotely using GPS technology which defines a safe zone around a user, technically calling a geofence and a PDR system (using accelerometer, gyroscope, and magnetometer) to monitor the position of the user within the safe zone. When the elderly person is within that safe zone, the system does not need to continue tracking him. The GPS is only turned on when the user moves out of the safe zone and then sends an alert to the caretaker or to the hospital in case of emergencies.



PI Paddy Asiimwe

This technology is cheap, and better than the systems existing on market and would be best recommended for more resource constrained environments. The system is going to operate independent of the user who are mostly in rural areas and cannot read and write. The system does not require electricity and runs on batteries, charged once a week and can run for 30 days.

The technology was piloted in Apac district that formed the base for everything that was designed.

### **Google invests US\$1.5M in Mak Ocular: An AI Automated Mobile Microscopic Diagnosis of Malaria, Cancer & Tuberculosis**



**Permanent Secretary, MoICT & NG, Dr. Aminah Zawedde (3rd Right) flanked by Prof. Tonny Oyana (3rd Left) and the PI-Dr. Rose Nakasi Kiire (2nd Right) launches the Mak Ocular innovation on 13th September 2023 at CoCIS. Left to Right are Mr. Galandi Tony Kiire, Mrs. Elizbeth Gabona, Prof. Buyinza Mukadasi and a MakSPH official (Rear).**

Makerere University under its Artificial Intelligence Lab received a grant funding worth US\$1,500,000 from Google to support its Ocular project that is undertaking research on usage of Artificial Intelligence to enhance the diagnosis process of Malaria, Tuberculosis and Cervical Cancer in Uganda. This grant is in addition to what Makerere University received from Google's philanthropic arm in 2019 for development of AirQo, an air monitoring project that uses Artificial Intelligence (AI) and low-cost technologies to generate and quantify data on air pollution in the designated areas in Uganda.

The Ocular Project was officially launched on 13<sup>th</sup> September 2023, by the Permanent Secretary, Ministry of Information and Communications Technology and National Guidance (MoICT & NG), Dr. Aminah Zawedde. The research is being undertaken by Makerere University College of Computing and Information Sciences (CoCIS) in collaboration with the Makerere University School of Public Health (MakSPH).



**Left to Right: Prof. Tonny Oyana, MoICT & NG PS-Dr. Aminah Zawedde and the PI-Dr. Rose Nakasi at the launch of the Ocular Project Innovation.**

The Ocular Project aims at building a standardized point-of-care mobile microscopy for disease diagnosis with a specificity of up to 99%. The solution's current focus is on malaria, tuberculosis and cervical cancer in Uganda. The project team benched on the rampant challenges faced by the laboratory experts while undertaking diagnosis procedures.

“In our interaction with some experts from the health sector, we found out that it was indeed straining for health centres in Uganda to manage the escalating number of patients that seek for laboratory screening tests. In addition, the team noted that the country is also blessed with a few trained laboratory technicians to support the diagnosis process using the microscope,” PI-Dr. Rose Nakasi said.



**The Project PI-Dr. Rose Nakasi explains the Ocular technology.**

“We therefore took advantage of the existing technologies such as the smartphone and the availability of at least a microscope in every health centre across the country to develop a 3D printable adaptor that was attached to an eye piece of the microscope. The 3D adaptor was also slotted in the smartphone to capture images. With the capabilities of Artificial intelligence through computer vision, images can be processed and this directs the experts where the pathogens are,” she added.

This process shortens the diagnosis process making it more accurate, quicker and easier to diagnose health conditions and potentially reducing screening time by over 80%. With the new funding support from Google the project will seamlessly expand to other conditions such sickle cell anaemia, intestinal parasites and be scaled up in different pilot hospitals in Uganda.

## AirQo Project Launches CLEAN-Air Africa Network



**Left to Right: Prof. Tonny Oyana, Prof. Barnabas Nawangwe, Ms. Amy Petersen, Prof. Engineer Bainomugisha, His Worship Erias Lukwago and Mr. Abala M. Wanga cut cake to mark the launch of the CLEAN-Air Africa Network on 5th April 2023 at the Kampala Sheraton Hotel.**

The AirQo Project, College of Computing and Information Sciences (CoCIS), Makerere University in collaboration with various partners hosted a three-day peer learning and knowledge exchange workshop in Kampala Uganda. The workshop brought together communities of practice from over fifteen cities in Africa, with a focus on utilising low-cost sensors for air quality management in Africa.

Participating cities included: Kampala, Jinja, Fort Portal, Kabale and Gulu (Uganda), Nairobi and Kisumu (Kenya), Dar-es-Salaam (Tanzania), Kigali (Rwanda) and Bujumbura (Burundi). Others were Lagos and Abuja (Nigeria), Accra (Ghana), Yaounde and Douala (Cameroon) and Dakar (Senegal) in West and Central Africa; Maputo and Manica (Mozambique) in Southern Africa; and Port Louis (Mauritius) in the Island States.

Held under the theme: **Championing Liveable Urban Environments through African Networks for Air**, the workshop served as a launch pad for Africa-led collaborations and multi-regional partnerships for sustained interventions to achieve cleaner air across the continent.

Held from 3<sup>rd</sup> to 5<sup>th</sup> April 2023, the three-day engagement was aimed at; 1) Increasing the understanding of low-cost air quality sensor networks and digital solutions as new approaches for air quality management in the African context, 2) Fostering city-city and policy-research collaborations and 3) Increasing awareness of contextual issues of air quality for better health outcomes.

The three-day workshop was crowned by launching the CLEAN-Air Africa Network at a dinner held at the Kampala Sheraton Hotel on 5<sup>th</sup> April 2023. The launch was graced by the Vice Chancellor, Professor Barnabas Nawangwe, The Lord Mayor of Kampala City, His Worship Erias Lukwago, Acting Public Affairs Officer at the U.S. Embassy Kampala, Amy Petersen, the AirQo Project Lead, Prof. Engineer Bainomugisha, among other dignitaries.

### **Pathway To Change: Towards Gender Justice in STEM Research in Africa (GeJuSTA)**



CoCIS in collaboration with the University of Cape Town (UCT) received a grant from the International Development Research Centre (IDRC) in respect of a project titled, “Pathways to Change: Towards Gender Justice in STEM Research in Africa (GeJuSTA). The project tackles two interconnected yet separate challenges: a) the underrepresentation of women in STEM research and b) the lack of gender analysis in STEM research. We pay particular focus to the fields of Information Technology (IT), Data Science (DS), Human-Computer-Interaction (HCI) and Information and Communication Technologies for Development (ICT4D). The Principal Investigator is Professor Ulrike Rivett at UCT. The Co-PI is Ms. Fiona Ssozi at Makerere University. The project will both gather and systematise data on the size and causes of such imbalances. Through the project governance, we demonstrate the key role that women play. The project unites three internationally leading centres of excellence in IT and ICT4D (UCT, Makerere and Sheffield) as well as two emerging Data Science Hubs (Dedan Kimathi and Sheffield). GeJuSTA will build and deepen linkages between these centres of excellence and the women (and male allies) who research and study there.





The Co-PI is Dr. Fiona Ssozi at Makerere University.

**Research Grants**

**Table 21**

<b>TYPE OF PROJECT</b>	<b>NAME OF PROJECT</b>	<b>FUNDER &amp; COUNTRY</b>	<b>PI NAME</b>	<b>Project Period (Start and End)</b>	<b>CURRENCY</b>	<b>BUDGET AMOUNT</b>
<b>EXTERNALLY FUNDED PROJECTS</b>	Managing Hub for Artificial Intelligence for Sexual and Reproductive Health in Africa: AI4MSRH Hub	IDRC (CANADA)	ASSOC. PROF. ENGINEER BAINOMUGIS HA	1ST NOVEMBER 2021 - 31ST OCTOBER 2024	USD	\$137,867
	Clean air for healthier cities: Scaling up participatory and collaborative monitoring, modelling, and evidence-informed	US DEPARTMENT OF STATE	ASSOC. PROF. ENGINEER BAINOMUGIS HA	30TH SEPTEMBER 2022 - 30TH SEPTEMBER 2025	USD	478,835.60

	advocacy solutions for improved air quality management in East and West Africa					
	Scaling up AirQo to African cities	GOOGLE (USA)	ASSOC. PROF. ENGINEER BAINOMUGIS HA	23RD NOVEMBER 2021 - 31ST JULY 2024	USD	3,000,000
	Crane Cloud	PAUL MARITZ (USA)	ASSOC. PROF. ENGINEER BAINOMUGIS HA	25TH JUNE 2018	USD	306,920.24
	Establishing DeepMind AI scholarships at Makerere University	DEEP MIND TECHNOLOGIES LIMITED (UK)	ASSOC. PROF. ENGINEER BAINOMUGIS HA	MAY 2023 - 2024	USD	48,840
	AirCount: “AirCount: autonomous vehicle emissions estimation system for low-resource cities”.	Arm Limited (UK)	ASSOC. PROF. ENGINEER BAINOMUGIS HA	1ST AUGUST 2023 - 30TH JUNE 2024	USD	249,700
	GOOGLE RESEARCH AWARDS	GOOGLE LLC (USA)	ASSOC. PROF. ENGINEER BAINOMUGIS HA		USD	100,000
	RTB Breeding	INTERNATIONAL INSTITUTE OF TROPICAL AGRICULTURE, IBADAN, NIGERIA	Dr. Joyce Nakatumba Nabende	1st August 2023 - 31st December 2023	USD	28,463
	Analyzing ChatGPT for cross-lingual localized and Targeted Agricultural	BILL & MELINDA GATES	Dr. Joyce Nakatumba Nabende	10th July 2023 - 13th October 2023	USD	100,000

	Advisory for smallholder farmers in sub-Saharan Africa					
	WAXAL PROJECT PARTNERSHIP (GOOGLE VOICES)	GOOGLE LLC	Dr. Joyce Nakatumba Nabende	25th July 2023 - 31st December 2023	USD	345,000
	OCULAR: An AI Automated Mobile Microscopic Diagnosis of Malaria, Cancer & Tuberculosis	GOOGLE (USA)	Dr. Rose Nakasi	September 2023 - 2026	USD	1,500,000
	AIRQo-GCRF		ASSOC. PROF. ENGINEER BAINOMUGISHA		EURO	
	HoliCare		PROF. OYANA TONNY		EURO	
	Adaptive Environmental Monitoring Network for East Africa [AdEMNEA]	NORHED II	DR. JULIANNE SANSA OTIM	1st July 2022 - 30th June 2026	NOK	9,359,490
	NEXT GENERATION-CASSAVA		Dr. Joyce Nakatumba Nabende			
<b>RISE</b>	<b>Staff Awards</b>					
	Impact of remote working on performance of employees, organizational productivity, and quality of		Dr. Drake Mirembe Patrick	2023	UGX	10,000,000

	life of workers and their families					
	Responsible Medical Corpus for Maternal Sexual and Reproductive Health		Mr. Ggaliwango Marvin	2023	UGX	10,000,000
	Encephax and Tabla - Rise Stratification System for Monitoring Brain tumor, Stroke patients and hospital Triage management in Uganda		Dr. Emily Bagarukayo	2023	UGX	10,000,000
	An Investigation Into The Impact Of Telemedicine On Patient Outcomes In Kampala, Wakiso and Kalangala Districts		Dr. Muwonge Bernard Ssajjabbi	2023	UGX	10,000,000
	Urban Midaala: A Market place for Business Space in Urban Markets to Fight Unemployment in Urban Centres in Uganda		Dr. Agaba Joab Ezra	2023	UGX	10,000,000
	<b>Student Awards</b>					

	Explainable AI for black Sigatoka detection in constrained resource settings		Mr. Ggaliwango Marvin	2023	UGX	3,000,000
	Local Data Set Collection For Facial Expression Recognition Using Machine Learning model		Mr. Ggaliwango Marvin	2023	UGX	3,000,000
<b>Research Innovations Fund</b>	An interactive smart voice based health care assistant		Dr. Stephen Eyobu Odong		UGX	10,000,000
	An audit for tech innovations and Tech Eco system in Uganda	RIF	Dr. Namatovu Hasifah	2023	UGX	10,000,000

## Publications

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2. A Kiwanuka, M Amiyo, J Nabukenya. Constraints to and enablers for contextualizing digital health terminology standards in Uganda's health services: a qualitative case study. *Oxford Open Digital Health* 1, oqad003. 2023.
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5. Abel Mukakanya Muwumba, Odong Stephen Eyobu and John Ngubiri (2023): An Improved WRR Scheduling Algorithm for MANETS. *Intelligent Computing* (pp 1000-1021) DOI:[10.1007/978-3-031-37717-4\\_66](https://doi.org/10.1007/978-3-031-37717-4_66)
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*Our Research Centres and Labs*

**Center for Innovations and Professional Skills Development (CiPSD)**

CISPID was established by the University Council through the merge of the Faculty of Computing and Informatics Technology (CIT) and the East African School of Library and Information Sciences (EASLIS). The centre offers ICT professional skills development and incubation of new ideas, as well as, nurture new technology-based businesses. The centre is headed by Ms. Barbara Nalubega and targets academicians, students, primary and secondary schools, business entities. Key partners are ICDL Africa Ltd, the Cisco Networking Academy, Huawei ICT Academy and Seeds for the Future

### **Cisco Academy Support Centre**

CoCIS was approved as a Regional Cisco Networking Academy under a partnership with Cisco Systems Inc. to oversee the Cisco programmes in the region and ensure that Local Academies operate in line with the CISCO Quality Assurance plan. Its target audience includes Cisco academies, students, public universities, primary and secondary schools and business entities . The main partner is Cisco Systems Inc.

### **Testing Centre**

CoCIS is an approved and authorized Test Center for **PearsonVue, Prometric, and ICDL Africa** whose purpose is to administer exams for leading IT and non-IT certification exams. Partners include Global network of quality test centers including PearsonVue, Prometric, and ICDL Africa .

### **Makerere Innovation and Incubation Centre (MIIC)**

MIIC are Partners of the National ICT Initiatives Support Program (NIISP) by GoU for startup and Innovations in public and private sectors whose objective is to incubate programs for technology-enabled ideas in all sectors. Target groups includes early and later stage entrepreneurs seeking for product, business and market development support. Key partners are Village Capital, Cloud flight, DFCU Bank, Afri Labs, Digital Africa, MoSTI, MoICT and NG, STARTUP UGANDA, Afri Labs, VGC Group, FROLYNK, STARTUP AFRICA ROADTRIP, Binary Garage

### **The Artificial Intelligence and Data Science lab**

headed by Dr. Joyce Nakatumba-Nabende was formed by Makerere university to advance artificial intelligence research to solve real-world challenges.

### **Wireless Networks and System Security**

Headed by Dr. Jullianne Sansa Otim develop networked systems and applications that will ease access to communication and mobile wireless services thus contributing to the (Uganda's) national development goals

### **The Center of Excellency in Software Engineering and Software Systems**

operated by Makerere University and center of Excellency in software engineering and software systems to improve the quality of software systems in Africa by carrying out research in best software engineering approaches the fit the low resource settings. It mainly targets academics in Software Engineering, Cyber Security and Information Technology in partnership with

companies and government agencies. The centre is coordinated by Assoc. Prof. Benjamin Kanagawa

### **Health Informatics Research Group**

It was launched by the MoH to support the implementation of the Uganda eHealth Policy and Strategy through undertaking research and development (provides the research arm) for the MoH. It connects Health Informatics solutions to all health services consumers in Uganda and beyond targeting health institutions, research & higher education institutions both local and international. The group is coordinated by Dr. Josephine Nabukenya and partners with School of Medicine, School of Computing and Information Technology, and School of Public Health. WHO, UNICEF, IDI, UVR, CDC

### **Informatics and visualization research group**

**It ensures** efficient and effective creation, management and utilization of information using ICT in the modern world. Mainly partners with Departments in Computer science, Networks (Software Engineering and data Communications), Information technology. members from the Faculties of Medicine and Science.

### **Huawei ICT Academy**

Huawei signed an agreement with Makerere University to establish an ICT academy in Uganda for skilling young Ugandans in ICT and offer free certification to students. Its main target are Students and main partner is China, Huawei

### **EvBAB Centre**

Government of India signed an MoU with the government of Uganda offer tele-education and telemedicine services from India to African countries through a specially developed web-based platform hosting two separate portals targeting Education institutions in Africa and India. Key partners are GoU, Makerere university, Government of India and Indian universities, Amity University of India

### **Air quality monitoring (AIRQO) Lab:**

AirQo is pioneering AI and IoT research for environmental monitoring, modeling and analysis. It was founded in 2015 at Makerere University to close the gaps in air quality monitoring across Africa by collecting data to inform public policies on reducing, containing and better management of air pollution and its associated health risks. Key partners include Governments and urban authorities Google.org, UN Environment, World Resources Centre, WEHUBIT, World Bank Group, NEMA, KCCA, AFRIQAIR, University of Colorado, National Research foundation. AirQo now has a footprint in over 10 cities in 09 countries including Kenya, Cameroon, Madagascar, Ghana, Nigeria, Uganda, Senegal, Burundi, Mozambique. AirQo/Makerere University has launched a new partnership with NBS/Next Media group to integrate the AirQo API in the news bulletin, enabling research, dissemination. AirQo has recently been admitted as a non-state member of the UN Climate and Clean Air Coalition and will be hosting three sessions at the UN COP 28 conference in Dubai in December

The lab is coordinated by Assoc. Prof. Engineer Bainomugisha

### **WIMEA - ICT**

It is a cooperation between Makerere University, Dar es Salaam Institute of Technology , the University of Juba and the Geophysical Institute of the University of Bergen with the aim to improve the accuracy of and access to weather information by the communities in the East African region through suitable ICTs (for increased productivity. Partner institutions include Makerere University (host institution), Dar es Salaam Institute of Technology (DIT) in Tanzania, the University of Juba in South Sudan and the Geophysical Institute of the University of Bergen. The centre is coordinated by Dr. Julianne Sansa-Otim

### **The Smart classroom and Robotics**

The International Centre for Higher Education Innovation under the auspices of (UNESCO-ICHEI) set out to support the higher education system, improve education quality, and promote equity for education in the developing world. Joined by the Southern University of Science and Technology (SUSTech) and CreateView UNESCO ICHEI worked with Makerere University to collaborative establish the Smart Classroom on its campus. It brings together the Smart Classroom functions to the university education system to facilitate advanced learning and cognition, as well as cooperation and participation. Key partners are Universities in East Africa and beyond, Chinese education technology companies, the UNESCO International Centre for Higher Education Innovation (ICHEI) and China's International Institute of Online Education) under the auspices of UNESCO. The lab is coordinated by Hassan Adeel Shehzad, UNESCO ICHEI and Professor Tonny Oyana.

### **Geospatial and Computational lab**

Conducts critical research in GIS, spatial analysis, nanotechnological aspects, localisation, spatiotemporal areas and computational areas. The main focus is on geospatial knowledge and technology in Uganda and beyond. Key partners are KTH-Sweden, UCC and partner institutions. The lab is spearheaded by Professor Tonny Oyana.

### **Internet of Things Lab**

Conducts critical research in Internet of Things (IoT) and Sensor Technology. The main focus is on IoT research and training in Uganda and beyond in partnership with China and its partner institutions. The lab is headed by Professor Tonny Oyana.

## 6.0 KNOWLEDGE TRANSFER AND PARTNESHIPS

### Celebrations to mark 60 years of EASLIS Service to humanity

The three days celebrations to mark 60 years of service for the East African School of Library and Information Science (EASLIS) commenced on Wednesday 8th November 2023 with primary and secondary schools quizzes and tertiary institutions talk show. The quiz for primary schools focused on importance of school libraries and solicited proposals on how they can be improved.



The tertiary talk shows attracted university students from Mbarara, Makerere, Kabale, Kyambogo and other universities who discussed the role of information scientists, challenges and how they can be addressed. Students were also asked what role information scientists can play to guide government in the proper management of projects such as oil and gas, national identity card replacement, registration of digital car number plates, managing the upcoming elections 2026.

The celebrations were officially opened by the Minister for Public Service Hon. Muruli Mukasa on 9th November 2023 with a call on information scientists to embrace the digital technology in order to contribute to the national transformational agenda and improve livelihoods.

Due to their critical importance across the Service, the minister pledged government commitment to address the challenges in managing Library and Information

Centers in the country including professionalization and infrastructural development. The celebrations were crowned by a Luncheon on Friday 10th November, 2023, presided over by the Director, Directorate of Graduate Research and Training Prof. Edward Bbaale who implored the information scientists to contribute to the university research agenda. Four persons were recognized for their distinguished services to the school.



### **AirQo participation in the National Exhibition of NCHE@20**

On Thursday 12<sup>th</sup> October 2023, H.E. President Yoweri Kaguta Museveni officiated at the celebrations to mark twenty years of the National Council for Higher Education (NCHE) at the Kololo Ceremonial Grounds. The celebrations that started in March 2023 were held under the theme “*20 Years of NCHE Transforming Higher Education in Uganda*” and climaxed at Kololo with a Mini-Exhibition by various institutions, inspected by H.E. President Museveni and the First Lady and Minister of Education and Sports, Hon. Janet Kataaha Museveni.



### **A display of the AirQo technology at Kololo**

Makerere University featured prominently during the Mini Exhibition. Led by the Vice Chancellor, Prof. Barnabas Nawangwe, the exhibition team showcased research, innovations and services. The AirQo project was selected from the College of Computing and Information Sciences to participate. The technology was showcased by

Joel Ssematimba and Priscah Adrine Warigo. AirQo is a custom low-cost air quality monitor that measure particulate matter PM<sub>2.5</sub> and PM<sub>10</sub>, the most common pollutants that affect human health deployed across a high-resolution air quality monitoring network in target urban areas in Uganda and across eight African countries.

### **Participation in the Youth and Innovation expo 2023**

Makerere University under the theme, “*Fostering Innovations for Uganda's Transformation & Development*”, organized a two-day event with over 100 exhibitors punctuated with showcasing the innovations and breakthrough research that the University has achieved over the years. Makerere has been able to invent some of the most unique innovations and inventions through its journey of 100 years. The exhibition event, provided a platform for colleges, lecturers and students, to show to the world the various innovations and research accomplishments that Makerere is accredited for.

CoCIS students and researchers participated in the exhibition by displaying flagship research and innovations including, the air quality monitoring technology, the ocular technology for diagnosing Malaria HIV and tuberculosis, the smart bee hive technology among others







## UNESCO Documentary Heritage Seminar and call for preservation of Africa's Oral knowledge



Convened by Prof. Elisam Magara, the Department of Records and Archives Management, the East African School of Library and Information Sciences (EASLIS), Makerere University in collaboration with the Sub-Committee on Education and Research Working Group Africa (SCEaR-WGA) of UNESCO Memory of the World and Uganda National Commission for UNESCO (UNATCOM) hosted hybrid a seminar on, **“Preventive Conservation and Disaster Reduction of Documentary Heritage in Africa”**. Held from 4<sup>th</sup> to 5<sup>th</sup> July 2023 in the Yusuf Lule Auditorium, the objective was to provide input to the guide on Preventive Conservation and Disaster Prevention of Documentary Heritage in Africa being developed by SCEaR-WGA.



### **The Seminar Convener, Prof. Elisam Magara.**

Preventive Preservation Strategies proposed included the need to document Africa's rich traditions, culture, and norms that are largely passed on from generation to generation orally. The other recommendations of the guide under development is that ARCMoW's stakeholders should come together and create a specific place for oral heritage, Africa's living heritage. Additional recommendations included the need to boost the Bachelor of Cultural Heritage Studies developed by the Cross-Cultural Foundation of Uganda, with support from UNESCO's ICH Fund to cater for Masters and Ph.D. level studies. The program is currently offered at Uganda Martyrs' University, Kabale University, Kyambogo University, and the Islamic University in Uganda.

### **Renewed Academic Cooperation with Kyungpook National University**

Officials from the College of IT Engineering, School of Electronics Engineering Kyungpook National University in South Korea were in Uganda for a week to renew and further academic collaboration with the College of Computing and Information Sciences. The visiting team comprised Prof. Dong Seog HAN (Dean College of IT Engineering and Professor School of Electronics Engineering who is also Director Centre for ICT and Automotive Convergence), Professor Dongik Lee (Department of Embedded Control Systems Laboratory), and Professor Kalyana. C. Veluvolu.

The trio held a meeting with the Principal College of Computing and Information Sciences Prof Tonny Oyana, a few alumnus staff of Kyungpook National University, and prospective students in the College Geospatial Laboratory on 14<sup>th</sup> August 2023



**Dr. Dong Seog and Dr. Dongik Lee during the meeting**

The college has collaborated with Kyungpook National University for five years through exchange of students and research and would like to renew and strengthen this collaboration. The two parties signed a Memorandum of Understanding in three principal areas of collaboration namely; Faculty and students research and also conducting joint activities with their interest in South Korea and the Government of Uganda.

Kyungpook National University is strong in areas of indoor research and localization i.e., how to improve sensor performance when inside the building, how do you make measurements, and use this information for mobility and emergency purposes. They also work on control systems of the entire production system KNU is known for producing the top Korean intellectuals of the age, representing the Republic of Korea with pride. KNU is ranked 667 in Best Global Universities.



Members of staff Dr. Steven Odong & Mr. Paddy Asimwe (1st and 2nd) discussing

## ICT Workshop for Healthcare Innovators

The Makerere AI Lab at the College of Computing and Information Sciences and the Marconi Research and Innovation Lab at the College of Engineering, Design, Art, and Technology organized an ICT Workshop for Healthcare Innovators in Collaboration with the Science, Technology, and Innovations Secretariat, STI-OP under its mandate of supporting scientific innovations along prioritized industrial value chains to increase productivity, import substitution and export of knowledge-based products and services. The event was held on 23rd June 2023 at Fairway Hotel, Kampala.



This workshop brought together Industry Experts, Researchers, and Technology Innovators to explore the potential of cutting-edge ICT solutions in revolutionizing healthcare practices and fostering collaborations.

Highlights of the workshop:

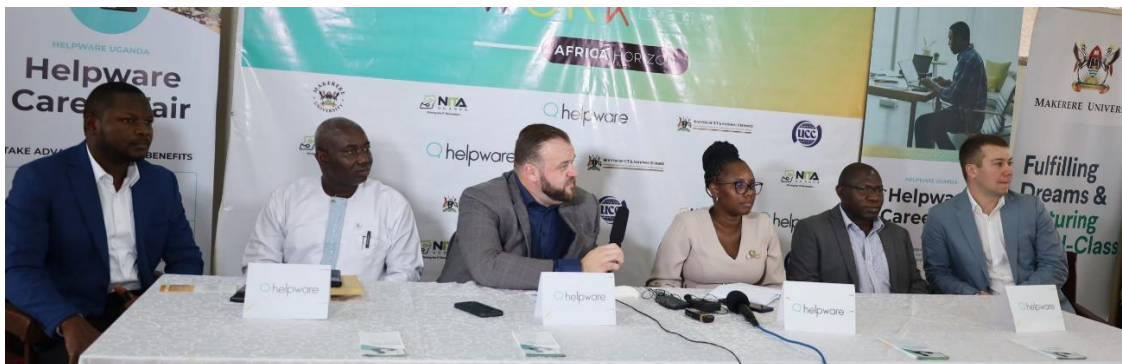
- Keynote presentation by a policy maker on Government support for the Development of Artificial Intelligence innovations into products applicable in Uganda's Health sector.
- Case study presentations showcasing successful ICT Implementations and Collaborative Efforts.
- Hands-on demonstrations to explore emerging technologies and their practical applications.

- Networking sessions to connect with professionals, share insights, and exchange ideas on adopting responsible ICT solutions.
- Invited talks on building ethical ICT approaches and regulation of ICT products for Healthcare.

### **Leadership Character and Etiquette Training for students**

A soft skills training session for Makerere University students towards becoming leaders with Godly character and etiquette was hosted in April 2023. The goal was to empower students to stand before Kings, government officials and other global leaders with the skills and integrity to speak, dine and carry themselves with confidence of who they are. The session addressed some critical soft skills that have been reported lacking in our graduates. Aspects taught included: i) dining etiquette; ii) walking and sitting at formal banquet; iii) Leading with integrity and Godly character; iv) Confidence and leadership qualities and v) a winning work ethic. Considering the practical nature of the content, the session took place while breakfast was being served. 100 students signed up for the training funded by the trainers. Three trainers conducted this session, one of them is a senior lecturer in the department of Networks, Dr. Pastor Julianne Susanne Sansa Otim is an avid researcher with over 20 years' experience in the ICT sector. She is currently a Senior Lecturer at Makerere University and leads the IOT lab (formerly WIMEA lab) where research in the Internet of Things is conducted while the other two were friends- Jennine Bortmess of the Fullerton Modeling and Casting Agency out of Oklahoma City. The other was Dr. Pastor Tanya Faith Pugh, a co-pastor of Souls of The Light Christian Center with her husband Alan Pugh and is President of ABBA Bible College in Oklahoma.

### **Partnership with Help ware Inc. to provide in-country and off-shore jobs for graduates**



Helpware Inc, a Business Process Outsourcing (BPO) company was on 10<sup>th</sup> February 2023 launched at CoCIS to mitigate the challenge of youth unemployment in Uganda.

The company set to conduct competence tests and to select recruits will connect university graduates with in the country and multinational companies abroad for jobs and internship placements. BPO utilizes third party vendors or subcontractors to carry out parts of their business operations The Helpware career expo and launch at Makerere university was presided over by the Minister for ICT, represented by Prof. William Bazeyo who is also Chair, Uganda BPO Council.



**Prof William Bazeyo representing the Minister of ICT**

In addition to the establishing a national data centre, supporting research in Higher education institutions and building skilling centres across the country, government is committed to subsidize on the cost of the internet to facilitate and tap into online business opportunities for Ugandans

“We are going to build skilling centers for Ugandans in Kampala and other regions. The Ministry of Information Communication Technology has reduced the cost of internet in this country so that everybody can work on internet from anywhere.

We have signed MoUs with several groups, so we are focusing on jobs around those regions. There are two types of work, one is in-country and the other off -shore so you can work here but in a country you have never been to”. He said.

Helpware Uganda targets are graduates in the country who have no jobs to take on customer service support roles, in data entry field, marketing, and business fields, health care support, training and team leaders and investment analysts among others. Student population will undergo the competence test in English proficiency, basic tasks as well as computers skills to gauge the kind of talents they possess.





**Helpware CEO Robert Nash said BPO and Publicity Angella Kaumirizi during the media briefing**

### **Workshop on Artificial Intelligence in Medical Imaging**

The purpose of this workshop was to disseminate the findings of the recent research in Artificial Intelligence in Medical Imaging field. Researchers, professionals, and policymakers attended the workshop from diverse fields, who had the opportunity to learn about the findings of the research work and discussed the implications for policy and practice. It also served as a forum for mutual understanding, allowing them to better explore the challenges, successes, and how AI and machine learning can be integrated into Uganda's healthcare system, specifically radiology, and imaging.



The workshop focused on several themes:

- a) Artificial Intelligence model for prostate cancer detection using Biparametric MRI And PIRADS classification
  - b) Automated detection of tuberculosis in chest X-Ray images
  - c) Deep learning-based classification of lung diseases in Lung ultrasound
  - d) Artificial Intelligence model for Breast Cancer Classification using Ultrasound images
  - e) Responsible and Ethical Consideration of using medical data for building AI applications
- The workshop intends to host up to 80 participants in person and many m

### **DGRT and CoCIS Discuss Modalities to Enhance Graduate Enrolment and Output**



A team from the Directorate of Graduate Research and Training (DGRT) led by the Director, Prof. Edward Bbaale on 4<sup>th</sup> May 2023 visited the CoCIS to collect views that will enable the

Directorate to undertake comprehensive policy reviews relating to graduate research and training as the university moves towards being research-led.

The Directorate also wanted to pick lessons from CoCIS management on the best practices and points of success as well as the pressing policies that are a roadblock to graduate research and training at Makerere University.

The discussion focused on strategies for increasing graduate enrolment and graduation output at the college, a sustainability plan for managing graduate education and research and ensuring that concerned stakeholders expedite the process of programme accreditation.

Other issues discussed were the need to have a structure for the PhD by research, funding for graduate studies as a major bottleneck for graduate completion, incentivizing graduate supervision and examination, teaching workload vis a vis research and other mandates. Also discussed was the need to streamline communication, management and monitoring of graduate training and research in the university and attract post-doctoral students to tap into their intellectual property and research output.



**Assoc. Prof. Julius Kikooma, Prof. Edward Bbaale and Prof. Tonny Oyana during the meeting**

Calling upon staff to reorient their minds and energies towards the university's strategic direction, the Director DGRT Prof. Edward Bbaale said the main aim is to entrench graduate training at Makerere University by gradually reducing undergraduate enrolment and increasing doctoral and postgraduate intake and programs.

In addition to the prioritization of graduate training, the Director said, the university has identified other key building blocks of the research-led agenda including the packaging and marketing of research into marketable products for appropriate adoption and adaptation in order to impact the community. He staff to form research groups and grow a multidisciplinary culture of research saying, there is a university policy before the Senate on the establishment of an institute and a Centre of excellence which also defines a research group.

## **Gender Mainstreaming Directorate solicits support to set up Day-Care Centers & Men's Spaces**

A team from the Gender Mainstreaming unit led by Director represented by Ms. Susan Mbabazi on 23rd May 2023 held a consultative meeting with staff and management of the CoCIS on the university Gender Mainstreaming initiatives to solicit support to advance the initiatives.

It was observed that, there is a kind of a divide that exists between men and women that need to breach by creating men's spaces to specifically build what they termed as male allies. Strategies proposed involve college identification of male champions who passionately love gender equality and conversations around gender to organize male-only dialogues and discuss men and boys issues and, to prepare male students by grooming them as ideal men through the different male talks.

The Gender Mainstreaming Directorate was carrying out college tours to solicit support to create men's spaces as a forum for involving men and boys to speak for gender equality and deal with issues that affect men and boys in the university. The team also tabled a proposal for the creation of Day-Care centres for nursing mothers and fathers both centrally and at college levels.



**Ms. Nyakalesi Margaret Tumushabe, Ms. Pauline Kyarisiima, Ms. Susan Mbabazi and Mr. Eric Tumwesigye meeting staff of CoCIS.**

## Makerere University Council seeks interventions to digitize University processes



Council members visited CoCIS on Thursday 3<sup>rd</sup> March 2023 to familiarize themselves with what the college does, how it does, the key milestones and its contribution to the vision of Makerere university among others. Led by the Chair Mrs. Lorna Magara, Council commended the CoCIS for the practical training and churning out graduates that have made immense contribution to the digitalization of government, private institutions and businesses processes.

The university Council now wants CoCIS to tender in a proposal through management on how the college can help the digitalization of the university processes including students' records, attendance, information system and, a feedback system

The college leadership welcomed the task and pledged to revitalize some of the applications it had evolved, for example, the prototype for attendance system and others and to follow up with Council chairperson.

Council members noted that generally there is low appetite for Information Technology in Uganda partly due to high illiteracy and implored the college to come up with interventions that can help the university and country to fight vices such as corruption on grounds that many of the government initiatives have not succeeded. Council members also implored CoCIS to utilize its space and address the onlinisation to promote distance and online education in Uganda.

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**Council members having a light moment with staff after the meeting**

## 7.0 BUDGET AND BUDGET PERFORMANCE

Funds Available ( UGX ): Account		Budget	Encumbrance	Actual	Funds Available
01-002-120100-3010100300-0000-320036-0000-02-211106	Allowances	32,550,000	-	4,744,926	27,805,074
01-002-120100-3010100300-0000-320036-0000-02-221001	Advertisements	-	-	-	-
01-002-120100-3010100300-0000-320036-0000-02-221002	Workshops meetings and Seminars	9,600,000	-	9,258,684	341,316
01-002-120100-3010100300-0000-320036-0000-02-221017	Membership and subscription	1,812,500	-	1,548,398	264,102
01-002-120100-3010100300-0000-320036-0000-02-224011	Research Expenses	67,950,000	19,093,747	39,285,712	9,570,541
01-002-120100-3010100300-0000-320043-0000-02-211106	Allowances	540,972,362	-	455,387,720	85,584,642
01-002-120100-3010100300-0000-320043-0000-02-212103		-	-	-	-
01-002-120100-3010100300-0000-320043-0000-02-221001	Advertising and Public Relations	25,625,000	-	6,621,000	19,004,000
01-002-120100-3010100300-0000-320043-0000-02-221003	Staff Training	13,249,988	-	5,630,000	7,619,988
01-002-120100-3010100300-0000-320043-0000-02-221007	Books, Periodicals and Newspapers	5,700,000	-	-	5,700,000
01-002-120100-3010100300-0000-320043-0000-02-221008	Information and Computer Technology Supplies	63,175,000	31,810,001	28,340,000	3,024,999
01-002-120100-3010100300-0000-320043-0000-02-221009	Welfare and Entertainment	107,301,580	4,856,880	83,952,173	18,492,527
01-002-120100-3010100300-0000-320043-0000-02-221011	Printing, Stationery, Photocopying	25,000,000	12,477,200	12,487,000	35,800
01-002-120100-3010100300-0000-320043-0000-02-221017	Membership and subscription	2,000,000	-	1,996,016	3,984

01-002-120100-3010100300-0000-320043-0000-02-222001	Information and Computer Technologies	16,500,000	-	9,600,000	6,900,000
01-002-120100-3010100300-0000-320043-0000-02-222002	Postage and Courier	1,250,000	-	-	1,250,000
01-002-120100-3010100300-0000-320043-0000-02-223001	Property Management Expenses	36,250,000	16,450,000	19,716,800	83,200
01-002-120100-3010100300-0000-320043-0000-02-223004	Guard and security services	16,500,000	-	12,025,000	4,475,000
01-002-120100-3010100300-0000-320043-0000-02-224008	Education and material services	173,888,500	10,163,100	86,993,600	76,731,800
01-002-120100-3010100300-0000-320043-0000-02-226001	Insurances	2,500,000	-	1,250,000	1,250,000
01-002-120100-3010100300-0000-320043-0000-02-227004	Fuel, Lubricants and oils	18,700,000	-	11,700,000	7,000,000
01-002-120100-3010100300-0000-320043-0000-02-228001	Maintenance - Building and structures	10,000,000	-	10,000,000	-
01-002-120100-3010100300-0000-320043-0000-02-228002	Maintenance - Transport Equipment	15,000,000	-	8,975,000	6,025,000
01-002-120100-3010100300-0000-320043-0000-02-228003	Maintenance - Machinery & Equipment	23,510,000	4,749,000	10,560,000	8,201,000
01-002-120100-3010100300-0000-320043-0000-02-228004	Maintenance - Other Fixed Assets	44,300,000	6,200,000	37,772,500	327,500
<b>TOTAL</b>		<b>1,253,334,930</b>	<b>105,799,928</b>	<b>857,844,529</b>	<b>289,690,473</b>



## 8.0. INFRASTRUCTURE DEVELOPMENT

### Launch of Internet of Things and Application Lab (IoT-ra lab)

The Internet of Things research and applications lab (IOT-ra lab) specializes in making innovations that connect ordinary objects to the internet. These objects may include beehives, weather stations, gadgets that guide blind people and artificial limbs, where human beings need to be physically present in order to make decisions. Automating these ordinary objects makes one more efficient and effective in terms of collecting data and making decisions. One does not need to be physically present to monitor them; they can monitor and control them wherever they are. We hope that research and innovations in the IOT lab will solve community challenges and build smart communities.



**One of the representatives of the development partners® speaking during the launch**

Led by Dr. Dr. Julianne Sansa Otim this lab has been around since 2013, under the name - WIMEA-ICT project. The project team decided at the end of the WIMEA-ICT project, to rebrand to what they are doing now. The common thread between the research studies undertaken since 2013 to-date is Internet of Things (IoT), so they decided to be called Internet of Things Research and Applications lab (abbreviated as IoT-ra lab) . The research team reached out to our stakeholders and invited them for launch to let them know who they are and their plans.

The researchers conduct research in IoT that targets community problems in the sub-Saharan region based on three pillars namely community, connectivity and continuity, to ensure that work is sustainable. The lab has 17 active senior researchers that are divided in various disciplines like

agriculture, meteorology, entomology etc. They also have four active PhD students attached to this lab, five masters' students that are funded, and more that are self-funded, and nine bachelor's student interns.



**The Team leader Dr. Jullianne Sansa Otim® during the launch**

The first IoT was a weather station, but to get the weather information to the last person, the team did a dissemination system which is available via mobile phone. The team had previously sub-rented a USSD code (\*255\*85#) but since they handed over the application to the Uganda National Meteorological Authority (UNMA), they took up this solution and paid for on a new USSD (\*201#). It is currently being funded by UNMA with support from NORAD and the Norwegian Embassy, the Global Challenges Research Fund, UKAid and Makerere Research and Innovation Fund.

### **Relevance of IoTs to Uganda**

According to the Digital Transformation roadmap for Uganda 2023-2028, that was recently launched by the Ministry of ICT, one of the key pillars mentioned in it is infrastructure development, and more specifically, is the last mile connectivity. In IoT, researchers are thinking of automating ordinary physical objects so that they can directly send data to the Internet. Examples of ordinary objects in the case of IoT-ra lab include weather stations, beehives, wellness checkers, robotic arm and the like, which are applicable in agriculture, climate action and health.