



# NEWSLETTER

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## African Centres of Excellence



### Headlines



#### Welcoming and Networking Event for the New ACEITLMS PhD Cohort 5 Students

On 27<sup>th</sup> April 2023 ACEITLMS organized a welcoming and networking event for its 5th intake of PhD students of the academic year 2022-2023. The main objective of the event was to bring together new enrolled PhD students with appointed Supervisors.

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#### ACE-DS hosts the 8<sup>th</sup> Data Science Africa (DSA) Conference

The African Center of Excellence in Internet of Things (ACEIoT) launched 'IoT and AI Applied Research Results Commercialization through Incubation Hub' project on January 24, following a \$326,000 grant secured to implement it.

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#### UR committed to leveraging data science to impact community

With a commitment to excellence in teaching, research, and collaborative partnerships, the University of Rwanda (UR) is poised to leverage data science for the betterment of its community and beyond.

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#### ACEIoT officially launches STEMPower Center

On March 10<sup>th</sup>, 2023, ACEIoT officially launched the STEMPower center, a facility that aims to promote and support STEM education and careers.

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#### GIH's best innovative business startups get funding for their implementation

After a year-long business incubation program at UR's Grid Innovation and Incubation Hub, five innovators whose innovations were found promising were on 19<sup>th</sup> May, funded to implement their innovations.

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## ACE-DS hosts the 8<sup>th</sup> Data Science Africa (DSA) Conference



*Participants to DSA conference were from 10 countries*

**T**he African Centre of Excellence in Data Science is hosting the eighth Data Science Africa (DSA) Conference, bringing together researchers in data science to discuss issues related to the field and their potential for socio-economic development.

Themed 'Harnessing Data Science for Africa's Socio-Economic Development', the conference is taking place at the University's Gikondo campus, home to the African Centre of Excellence in Data Science (ACEDS). It will run until May 12<sup>th</sup>.

The prominent features of the conference include a summer school focused on machine learning and artificial intelligence, as well as a workshop featuring paper presentations and interactive panel discussions to highlight the work being done within the African data science community.

The Vice Chancellor of the University of Rwanda, Dr. Didas Kayihura Muganga, declared that the two programs will play a crucial role in evaluating the impact of data science on socio-economic transformation, emphasizing that

participants will examine the interventions developed by data scientists to address contemporary global challenges.

**"Incorporating data science enables us to identify the issues and challenges at hand, and the scientists will assist us in developing methodologies to address and resolve these matters effectively. The researchers will present their findings, and we will assess the feasibility of implementing these interventions, whether here or in other countries"**

"Incorporating data science enables us to identify the issues and challenges at hand, and the scientists will assist us in developing methodologies to address and resolve these matters effectively. The researchers will present their findings, and we will assess the feasibility of implementing these interventions, whether here or in other countries," he explained.

Muganga stated that representatives from the University of Rwanda are set to exchange ideas with their counterparts from various regions to explore the possibility of replicating their findings elsewhere and reciprocally.

He also emphasised the widespread application of data science across sectors, enabling institutions to assess their progress based on data and make informed decisions.

He declared that the university can also evaluate its own research and teaching development from 2010 to 2023, enabling them to formulate well-informed plans for the future with the use of data.

Ciira Maina, Board Chair for Data Science Africa, said there is a growing recognition of the importance of expertise in data science across the continent.

He highlighted potential opportunities in sectors such as agriculture, where data science can enhance food production, as well as in finance, insurance, and health.



## The first round of incubates under the IoT and AI incubation hub starts training



*The training took place in the IoT LAB*

**E**ighteen entrepreneurs being incubated at the IoT hub have, on 27<sup>th</sup> March 2023 started the first training as one of the services they are poised to get under the IoT and AI Applied Research Results Commercialization through Incubation Hub project.

The IoT and AI Applied Research Results Commercialization through Incubation Hub is a project funded by Research and Innovation Systems for Africa (RISA), a program of the UK Foreign, Commonwealth & Development Office that aims to strengthen research and innovation ecosystems in Africa.

The project aims at establishing an IoT and AI based applied research incubator/accelerator, which will facilitate the transfer of applied research prototypes and knowledge from IoT lab to market and

commercialization through academia industry collaboration.

In his opening remarks, the Principal Investigator of the project Prof. Damien Hanyurwimfura who welcomed all participants who showed interest in this program and

**“ The project aims at establishing an IoT and AI based applied research incubator/accelerator, which will facilitate the transfer of applied research prototypes and knowledge from IoT lab to market and commercialization through academia industry collaboration. “**

urged them to ensure the training provides them with skills which will help them to finetune their prototypes to have a viable business product.

A five-day training has covered, Basics of Embedded programming, IoT Hardware, Digital and Analog Sensors, Sensor interfacing with IoT Hardware among others.

Three types of training are expected to be delivered namely the training on AI and IoT prototyping, entrepreneurship and commercialization. The best eight projects will get funding for project prototyping.

Among the participants, there were females and people with disabilities as one of the requirements to have been awarded the grant to run this hub.

## ACE-DS officially launches Data-Driven Incubation Hub



*Dr. Didas Kayihura Muganga, Ag. Vice Chancellor of the University of Rwanda, addressing participants at the launch*

**A** new Data-Driven incubation hub that seeks to transform students' ideas into solutions that can be of importance to the country and beyond, has been launched at the African Centre of Excellence in Data Science (ACE-DS) located at the headquarters of the University of Rwanda (UR) in Kigali.

Established in 2016, the ACE-DS seeks to deliver quality post-graduate education and build collaborative research capacity in data science. Currently it has MSc and PhD programs in Data Science in: Data mining, Econometrics, Biostatistics, Actuarial Science and Demographics."

The data-driven incubation hub is aimed at supporting innovators by giving them skills as well as a platform for testing data solution in real life environments by working with commercially viable entities to launch companies and products into the national, regional and international market.

It tends to offer young innovators and entrepreneurs a wide range of business development services including but not limited to; business idea analysis and diagnostics, mentorship, product or prototypes development and registration services, work station provisions, specialized training, market access, pitching and networking services.

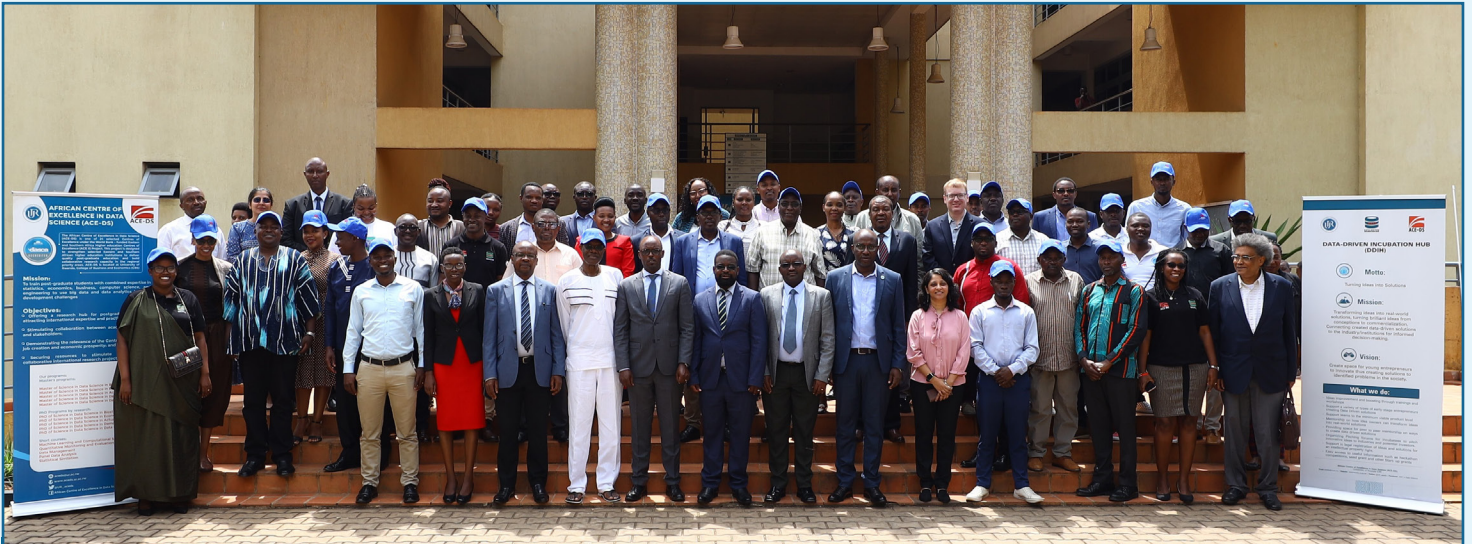
**"As a hub, we bring the students with brilliant ideas together, give them different modules on how to know the customer needs for example, how to design their prototype, how to develop their products, but also give them lessons about branding, intellectual property, marketing, "**

Speaking in a media interview, Jennifer Batamuliza, the head of data-driven incubation hub, said the institution is welcoming applications from people who want to be part of the hub, and will support them through different stages of their journey to have their ideas develop to a level where they can even be commercialised.

"As a hub, we bring the students with brilliant ideas together, give them different modules on how to know the customer needs for example, how to design their prototype, how to develop their products, but also give them lessons about branding, intellectual property, marketing," she noted.

Some of the hub's areas of interest include Data Analytics, Artificial Intelligence (AI) and Machine Learning, Robotics, Internet of Things (IoT), Software development and 3D Additive Manufacturing.





*Participants to the launch pose for a group photo*

Dr. Didas Kayihura Muganga, the Vice Chancellor of the University of Rwanda, in a media interview, talked about the importance of data in Rwanda, noting that policies and projects done in the country need to be informed by data.

“The government has a commitment to make Rwanda a knowledge-based economy, meaning they want to base decisions on knowledge and data,” he noted.

The hub has issued a call for proposals for innovative ideas or projects in AI for agriculture, health and climate innovative ideas and prototypes about incubation programs whereby those with innovative ideas will be incubated for 6 months at the hub to help them develop products from their ideas.

During the period of incubation, the selected “incubatees”

will be provided with different training that will play a role in developing their ideas towards the commercialization stage.

They will also be provided with mentors who will support and train them in things like pitching to potential investors, building networks for entrepreneurs and so on.

## DATA DRIVEN INCUBATION HUB

**Motto:** Turning Ideas into Solutions

**Mission:** Transforming ideas into real-world solutions turning brilliant ideas from conceptions to commercialization. Connecting created data-driven solutions to the industry/institutions for informed decision-making.

**Vision:** Create space for young entrepreneurs to innovate thus creating solutions to identified problems in the society.

### What we do:

- Ideas improvement and boosting through trainings and workshops
- Support a variety of types of early-stage entrepreneurs creating Data Driven solutions
- Support teams to the minimum viable product level
- Mentorship on how idea owners can transform ideas into real-world solutions
- Providing space for peer to peer mentorship on ways to create data driven solutions
- Organizing Pitching forums for incubatees to pitch innovative ideas to industries and potential investors
- Support in legal registration of ideas and solutions for an intellectual property right.
- Easy access to useful information such as hackathon competitions, seed grant and other Start-up grants

## Welcoming and Networking Event for the New ACEITLMS PhD Cohort 5 Students



*PhD cohort 5 students with the Principal, UR-CE and other staff*

enough to find possible solutions to the problems in education sector and encouraged them to take full advantage of the complete PhD portfolio of academic writing, research methodology and data analysis, teaching, seminar presentations, and career preparation training programmes available at the University of Rwanda.

During the event, the Head of Research unit at the ACEITLMS, shared with the newly PhD students what milestones a PhD student go through at the University of Rwanda and what is expected from them to complete their PhD programmes.

The Director, UR Centre for Postgraduate Studies, Dr Noella Josiane Umuhoza Karemera, discussed about the UR research policy and PhD regulations.

The main aim of the welcoming and networking event was to warmly welcome the newly enrolled PhD students and help them get into contact with their supervisors and understand the functions of different UR-CE units, milestones of PhD journey and related regulations so that they embark on their research and get informed about the numerous support offerings at the university.

**O**n 27<sup>th</sup> April 2023 ACEITLMS organized a welcoming and networking event for its 5<sup>th</sup> intake of PhD students of the academic year 2022-2023.

The main objective of the event was to bring together new enrolled PhD students with appointed Supervisors. During the gathering, newly enrolled students came to know all staff involved in running the PhD programmes including UR-CE top management, ACEITLMS management and their supervisors.

Specifically, the event was an opportunity for students to have contact with their supervisors and freely interact towards working together.

The orientation kickstarted with a welcome by the Principal of University of Rwanda- College of Education, who asked them:

- To begin thinking about where they want to be at the end of their individual PhD journey, and
- To consider what credentials they would need for their desired careers.

He reminded them that the mastery of the pedagogical knowledge is not

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*The Principal, UR-CE, Dr. Florian Nsanganwimana, welcomed the participants and PhD Students in particular.*



## UR empowers future innovators with launch of IEEE students' branch



*Students pose for a photo after the launch*

**T**he University of Rwanda-College of Science and Technology (UR-CST), on March 10<sup>th</sup>, 2023, took a bold step towards empowering students by inaugurating the students' branch of the renowned Institute of Electrical and Electronics Engineers (IEEE). This is an initiative of students from ACEIoT.

The IEEE is a professional organization dedicated to the advancement of technology related to electrical and electronic engineering, computer science, and related disciplines.

It also has student chapters in universities worldwide that support and encourage the development of the next generation of engineers and scientists.

During an event held at UR-CST, Assoc. Professor. Damien Hanyurwimfura, the Director of the African Center of Excellence in Internet of Things (ACEIoT), emphasized the significance of the IEEE student branch in facilitating research and innovation among UR students and lecturers.

He explained that by enabling them to publish and share their findings with a wider audience, the university's visibility will increase.

Hanyurwimfura also noted that the IEEE student branch provides students with access to essential resources and opportunities, enabling them to keep up with the latest technological advancements, participate in standards development, and network with professionals within their local areas or technical interests.

He said that professional engineers and technologists mentor the students.

Hanyurwimfura added that membership in the IEEE offers numerous benefits, including

**“ the IEEE student branch provides students with access to essential resources and opportunities, enabling them to keep up with the latest technological advancements, participate in standards development, and network with professionals within their local areas or technical interests.”**

opportunities to compete and win awards and urged interested students to join.

The IEEE comprises various societies and technical councils specializing in diverse areas such as aerospace, communications, computer engineering, energy, robotics, and more.

Promise Ricardo Agbedanu, a PhD student in the ACEIoT in Embedded Computing System, who represented the newly created IEEE branch at UR-CST, gave a presentation highlighting that the organisation was established in 1963 and has since grown to become the world's largest technical professional organization, with more than 400,000 members spread across more than 160 countries.

Agbedanu reiterated IEEE's mission to promote technological innovation and excellence for the betterment of humanity.

He stated that IEEE facilitates the exchange of technical knowledge and information, develops industry standards, and supports conferences, workshops, and publications in various fields of engineering and technology to achieve its mission.

Agbedanu further emphasized that students can benefit by collaborating with IEEE colleagues and member groups, either online or in person, to establish a support system for their profession, industry, or project.

This kind of interaction fosters mentorship, networking, and learning opportunities, ultimately equipping students with the skills and knowledge needed to succeed in the industry.

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## ACEIoT officially launches STEMPower Center



*High school students experiencing some equipment at the center*



On March 10<sup>th</sup>, 2023, ACEIoT officially launched the STEMPower center, a facility that aims to promote and support STEM education and careers.

STEMPower is a non for profit, educational organization, founded by Mark Gelfand to continue his efforts to integrate STEM education (Science, Technology, Engineering, and Maths) across Africa with the aim of establishing STEM Centers which are specialized learning facilities that offer hands-on engineering lab experience.

**“ the STEMPower center’s outreach program aims to empower high school students by providing them with information on the opportunities available to them and helping them prepare for university. ”**

The center hosted 20 secondary school students from St Ignatius, St Andre, Lycee Notre Dame de Citeaux

and Lycee de Kigali, who were given a tour of the facilities, introduced on basic electronics and Arduino and briefed on the opportunities available to them as they pursue science, technology, engineering, mathematics (STEM) subjects.

The STEMPower center is designed to provide a diverse range of resources and opportunities for individuals to engage with STEM fields and develop the necessary skills and knowledge to succeed.

According to Dr. James Rwigema, the Focal Person for the STEMPower center at UR-CST, the center was established to assist young STEM students in high schools and is in

partnership with the Embassy of Israel.

He explained that the STEMPower center’s outreach program aims to empower high school students by providing them with information on the opportunities available to them and helping them prepare for university.

Rwigema added that the center is also set to encourage girls in STEM to continue pursuing the fields, as some may lack the confidence to do so.

They plan to have students from specific schools visit the center every month and have access to the available STEMPower infrastructures.

Ella Reine Dusenayo, a student of Mathematics, Computer Science, and Economics (MCE) at St. Ignatius High School, expressed her excitement about the visit to the center. She found the experience insightful and believes she achieved a lot.

Dusenayo added that accessing the center would help her apply what she learns at school and get an idea of what she could achieve if she continued to pursue a STEM-related field, which could help with career guidance.



*High school students pose with center management*

[www.aceiot.ur.ac.rw](http://www.aceiot.ur.ac.rw)



## ACE-DS, CMU launch an automatic Road Traffic Crashes Data Management System Project



*Participants to the launch pose for a group photo*

**T**he African Centre of Excellence in Data Science (ACE-DS) in partnership with Carnegie Mellon University (CMU) have launched a project on automatic Road Traffic Crashes Data Management System to ensure evidence-based Road Safety (AutoRTC-DMS).

A three-year project funded by the National Council of Science and Technology (NCST) was designed in a bid to reduce traffic road crashes related losses (lives, injuries and economic losses) by designing and bringing to the market innovative tools and applications to timely record, analyze and share road traffic crashes data in Rwanda.

Speaking at the launch, CSP Kabasha Khalid from Rwanda National Police commended the academicians for the role they envisage to play in road traffic management.

"Rwanda National Police was the only one responsible for road traffic management.

Having academicians also coming on board is something commendable. With academicians we will be able to get enlightened data to inform policy-makers to come up with long-term solutions", CSP Khalid Kabasha noted.

**" automatic Road Traffic Crashes Data Management System was designed in a bid to reduce traffic road crashes related losses (lives, injuries and economic losses) by designing and bringing to the market innovative tools and applications to timely record, analyze and share road traffic crashes data in Rwanda."**

According to the World Bank report, 2018, road traffic crashes are under-

reported especially in low-income countries in which around 80 percent of road crashes' deaths are not recorded.

Dr. Ignace Kabano, and Dr. Eric Umehoza, the project Investigators believe that accurate knowledge of road crashes and their causes can help provide robust motives for the investment of appropriate and effective road safety intervention.

It is expected that the project will design and implement a hybrid (SQL and NoSQL databases) data repository for road crashes data persistence, a set of APIs exposing some functionalities of the repository will be provided, data anonymization techniques will be put in place to guarantee open access to the data while preserving privacy among other results.

The project will be implemented by different stakeholders mainly University of Rwanda, Carnegie Mellon University, Rwanda National Police, and Kigali Collaborative Research Centre (KCRC).

[www.aceds.ur.ac.rw](http://www.aceds.ur.ac.rw)

## UR-ACEs partner with Coventry University to organize EURAXESS Africa Day



*Participants to the event pose for a group photo*

On 5<sup>th</sup> May 2023, University of Rwanda's African Centers of Excellence in partnership with Coventry and EURAXESS have organized EURAXESS Africa day to Promote research collaboration and networking between Rwandan and European researchers.

EURAXESS day is an initiative of the European Commission established with the aim to provide free access to information about research in Europe, opportunities for research funding and international collaboration and trans-national mobility.

The event was hosted at UR-College of Science and Technology and was attended

by researchers from Rwanda. Participants exchanged on research collaboration, shared information on research opportunities and challenges and identified strategies to address these challenges.

**“ EURAXESS day is an initiative of the European Commission established with the aim to provide free access to information about research in Europe, opportunities for research funding and international collaboration and trans-national mobility. ”**

This has also been an opportunity to information about research funding opportunities, fellowships and mobility programs available through EURAXESS.

EURAXESS Africa is a networking platform designed to support researchers in Africa with their professional development and mobility.

It aims to connect African researchers with their European counterparts and foster research collaboration between the two continents.



## UR committed to leveraging data science to impact community



*Dr. Joseph Nkurunziza addressing participants to DSA conference*

**W**ith a commitment to excellence in teaching, research, and collaborative partnerships, the University of Rwanda (UR) is poised to leverage data science for the betterment of its community and beyond.

According to the Acting Principal of the university's College of Business and Economics, the host of ACE-DS, Dr. Joseph Nkurunziza, they have made significant strides in data science by implementing data science programmes, equipping data science facilities, and assembling a diverse team of both Rwandan and international experts.

During his presentation at Data Science Africa (DSA) conference on May 11, the principal emphasised that their collaborative approach extends beyond borders, with partnerships formed among African and overseas researchers to address pressing societal challenges.

Dr. Nkurunziza announced that the university has already published nearly 70 research papers in scientific journals, showcasing its dedication to producing impactful knowledge. Furthermore, they have established a data-driven hub, which serves as a research centre

aimed at tackling issues that people are facing and providing practical solutions.

Highlighting an ongoing project, Dr. Nkurunziza shared details about a current study focused on road security and data analysis from street cameras, explaining that they seek to empower road traffic authorities with informed decision-making tools by leveraging this specific data.

**“the university has already published nearly 70 research papers in scientific journals, showcasing its dedication to producing impactful knowledge. Furthermore, they have established a data-driven hub, which serves as a research centre aimed at tackling issues that people are facing and providing practical solutions.”**

“The research has reached a significant milestone, currently standing at 60 per cent completion,” he said, expressing

confidence in finalising it by September. Tackling how they are coping with artificial intelligence (AI), Nkurunziza stated that it would not lead to job losses but rather enhance service delivery by addressing certain challenges faced by people.

He emphasised that humans are the driving force behind AI, adding that the primary focus of the university is on empowering students to effectively utilise AI resources in their work.

Ass. Prof. Charles Ruranga, the Director of the African Centre of Excellence in Data Science (ACEDS), which offers Master's and PhD programmes in data science, along with short courses, expressed that hosting the DSA conference has provided new inspiration and a valuable platform for exchanging skills and best practices among participants from different countries.

In the last two days of the conference (May 11 and 12), participants presented their research on data science and artificial intelligence, which was shared through workshops among the attendees.

With the expansion of DSA to various countries, Ruranga expressed interest in collaborating with the organisation to establish the Rwandan chapter of DSA. He said the chapter would facilitate the coordination of activities on a national level.

Ruranga mentioned that the centre's programmes are internationally accredited and constantly updated based on the student's learning needs and advancements in technology.

Additionally, he said the Centre possesses advanced computing capabilities for analysing big data and UR continually strives to upgrade its equipment to serve the region effectively in the field of data science.

## UR-ACEs participate in STEM Competition, exhibit their programs and innovations



*All centers exhibited their program and innovations*

**F**rom 9<sup>th</sup> to 11<sup>th</sup> May 2023, UR-Centres of Excellence participated in the STEM Competition and exhibition that was organized by Rwanda High Council (HEC) in a bid to provide a platform to students to apply their STEM knowledge and skills in real-world scenario.

This has been also an opportunity to enhance collaboration and teamwork among researchers and teaching staff and thus promote innovation and creativity.

The STEM Competition and exhibition took place at Kigali Conference and Exhibition College (KCEV).

The main objective of the Exhibition and STEM Competition was to promote the involvement of higher learning institutions in research and innovation and increase public access and awareness of higher education services.

**“ The main objective of the Exhibition and STEM Competition was to promote the involvement of higher learning institutions in research and innovation and increase public access and awareness of higher education services.”**

In her remarks, Director General of Rwanda High Education Council Dr. Rose Mukankomeje said that through the competition, students and academic staff from different higher learning institutions had a platform to showcase their knowledge and skills, foster collaboration, and promote innovation and creativity.

During the exhibition, Centres exhibited their programs, students' innovative projects as well as the ongoing collaborative projects with other Higher learning Institutions.



## Workshop for Examination of 12 Master of Education theses for Cohort 2 and Cohort 3 Rukara Campus and Cohort 1 Remera Campus students



*One of the students presenting his research work to the external examiners*

**F**or the implementation of its mission of strengthening human capacity to deliver research-based quality teaching and learning of mathematics and science by offering postgraduate programs that produce graduates at international standards and regional relevance, the African Centre of Excellence for Innovative Teaching and Learning Mathematics and Science (ACEITLMS) runs four Masters programmes, namely Master of Education in Biology Education, Master of Education in Chemistry Education, Master of Education in Mathematics Education and Master of Education in Physics Education.

The MEd programmes are made of one year course work and a second year for research after which MEd students must produce a research

thesis in respective areas/subjects of research.

In order to meet the ACEITLMS requirements and mission to achieve research excellence, Masters theses are subject to external examination that has to be carried out by qualified academic staff and researchers outside the University of Rwanda.

**“ During this period, external examiners, who were selected based on their qualifications and expertise, as well as internal examiners participated in Viva-voce as members of the committee for oral examination and produced comprehensive examination reports with marks allocation to each thesis. ”**

In this regard, the Centre organized a three-day workshop for examination of 12 MEd theses (3 students of MEd Cohort two, 7 students of MEd Cohort 3 Rukara Campus and 2 students of MEd Cohort 1 Remera Campus) from 17<sup>th</sup> to 19<sup>th</sup> May 2023 at UR- CE Rukara Campus.

During this period, external examiners, who were selected based on their qualifications and expertise, as well as internal examiners participated in Viva-voce as members of the committee for oral examination and produced comprehensive examination reports with marks allocation to each thesis.

## ACEESD-GIIH's best innovative business startups get funding



*Best innovators got support to implement their innovative projects*

**A**fter a year-long business incubation program at UR's Grid Innovation and Incubation Hub, five innovators whose innovations were found promising were on 19<sup>th</sup> May, funded to implement their innovations. This is the second cohort of GIIH's Business and Incubation Program.

The Business Incubation Program (BIP) is a program being run by the Grid Innovation and Incubation Hub operating at UR's African Centre of Excellence in Energy for Sustainable Development (ACE-ESD) whose objective is to build a bridge between universities and various sectors of the economy in order to make research relevant to emerging and well-known issues that are still difficult to solve, and to support innovation and entrepreneurship through incubator and accelerator programs.

The selection of 5 promising innovators is part of the rigorous process of identifying the most promising ventures, both in terms of impact and implementation potential, to be enrolled in GIIH venture startups.

Throughout the year, incubates were paired with technical supervisors/mentors for mentorship.

The innovative project which scooped the grand price (5 Million Rwf) is 'Teaching Materials for Quality Education' a machine which produces teaching materials for nursery schools to ease teaching and ensure quality of education. "The funding will help me improve the capacity of machine to be able to produce a set of materials in few seconds and make it electrical", says Josee Ishimwe, the innovator.

**" The Business Incubation Program (BIP) is a program whose objective is to build a bridge between universities and various sectors of the economy in order to make research relevant to emerging and well-known issues that are still difficult to solve, and to support innovation and entrepreneurship through incubator and accelerator programs."**

In his remarks, the Principal of the College

of Science and Technology Dr. Ignace Gatare commended all the innovators, for championing to find solutions to existing challenges and encouraged those whose ideas were not selected to never give up.

"Challenges are always seen as an opportunity. If, for each challenge, we could have an innovator, who might find it as an opportunity and find a solution, this would be much appreciated", Gatare said, praising all partners who are consistently working with the Hub to make sure unique business concepts are developed and prepared for the market.

The purpose of the Business Incubation Program is to discover, nurture, and potentially fund exceptional youth's business ideas that are innovative, scalable, and have huge transformational potential, making them financially viable, freestanding and competitive in the open market.



*Participants following the picking of innovators*

Grid Innovation and Incubation Hub (GIIH) is a research, innovation and entrepreneurship initiative that is hosted by the African Centre of Excellence in Energy and Sustainable Development (ACEESD) in the College of Science and Technology (CST) at the University of Rwanda.



## ACEIoT In partnership with RISA conduct a one-week training on entrepreneurship



*Trainees pose for a group photo*

**T**wenty young innovators who expressed interest to be incubated at the African Centre of Excellence in Internet of things have on 19<sup>th</sup> May 2023 completed a training on entrepreneurship to be able to develop marketable projects.

The training was conducted as part of the IoT and AI Applied Research Results Commercialization through Incubation Hub project, a project funded by Research and Innovation Systems for Africa (RISA), a program of the UK Foreign, Commonwealth & Development Office that aims to strengthen research and innovation ecosystems in Africa.

This project is being run by the African Centre of Excellence in Internet of Things (ACEIoT). This project aims at establishing an IoT and AI based applied research incubator/accelerator, which will facilitate the transfer of applied research prototypes and

**“ This project aims at establishing an IoT and AI based applied research incubator/accelerator, which will facilitate the transfer of applied research prototypes and knowledge from IoT lab to market and commercialization through academia industry collaboration. ”**

knowledge from IoT lab to market and commercialization through academia industry collaboration.

Gabriel Karerangabo, one of the participants said that he got many skills that will help him finetune his project.

“I learnt about what to consider while designing my project, mainly the identification of key partners who might play a crucial role in the project implementation and got to know how to make a marketable project, how to interact with customers, customers’ segmentation among other skills”, he said.

It is expected that after different sessions of training on different items mainly entrepreneurship, AI & IoT prototyping and commercialization, a number of projects which will be found promising will get fund for project prototyping.



*Trainees pose for a group photo*

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## ACEs exhibit their programs & innovations during the launch of Grand Challenges Rwanda



**ACEDS stand**

**T**he African Centres of Excellence have on 18<sup>th</sup> to 19<sup>th</sup> May 2023 exhibited their programs and innovative projects during the launch of Grand Challenges Rwanda, an initiative which aims at supporting research and development through collaboration to promote excellence and evidence-based innovations.

The launch was organized by the National Council for Science and Technology (NCST).

During the launch, Centres have exhibited their different programs offered at Master & PhD levels, professional short courses as well as staff and students' innovations that are meant to address different challenges that the society is still facing.

During the launch, the call for proposals to provide funding to researchers and innovators in the country was made.

**“ The African Centres of Excellence have on 18th to 19th May 2023 exhibited their programs and innovative projects during the launch of Grand Challenges Rwanda, an initiative which aims at supporting research and development through collaboration to promote excellence and evidence-based innovations. ”**

Dr. Eugene Mutimura, the Executive Secretary of the National Council Science and Technology (NCST), stated that the call for proposals focuses on funding researchers and innovators with projects in life and health sciences, climate-resilient agriculture and food security, and climate change and resilience.

He emphasized the importance of focusing on critical areas, citing that 65% of the 115 previously supported projects centered around agriculture and food security.

The five-year strategy, spanning from 2023 to 2028, outlines the need for Rwf 2 billion to fund scientists with problem-solving proposals through Grand Challenges Rwanda.

The initiative will seek funding from various sources, including the government, public-private partnerships, philanthropic organizations, and international development agencies.



**ACEIoT stand**



# Our respective programs

## African Centre of Excellence in Data Science (ACEDS) based at UR-College of Business and Economics, Gikondo



### We have Day and evening Programs:

- Master/PhD of Science in Data Science in Data Mining
- Master/PhD of Science in Data Science in Econometrics
- Master/PhD of Science in Data Science in Biostatistics
- Master/PhD of Science in Data Science in Demography
- Master/PhD of Science in Data Science in Actuarial Sciences

**N.B: All PhD programs are by research.**



**In partnership with Data Science Council of America (DASCA), we also offer certified professional Short courses:**

- Associate Big Data Engineer (ABDE)
- Senior Big Data Engineer (SBDE)
- Associate Big Data Analyst (ABDA)
- Senior Big Data Analyst (SBDA)
- Senior Big Data Analyst (SBDA)

**More details:** [www.aceds.ur.ac.rw](http://www.aceds.ur.ac.rw)

## African Centre of Excellence for Innovative Teaching and Learning Mathematics and Sciences (ACEITLMS) based at UR-College of Education, Rukara



### We have Day and Weekend Programs:

- Master of Education in Biology Education
- Master of Education in Chemistry Education
- Master of Education in Physics Education
- Master of Education in Mathematics Education
- PhD in Biology Education
- PhD in Chemistry Education
- PhD in Physics Education
- PhD in Mathematics Education

**N.B: All PhD programs are by research.**

**More details:** [www.aceitlms.ur.ac.rw](http://www.aceitlms.ur.ac.rw)

## African Centre of Excellence in Internet of Things (ACEIoT) based at UR-College of Science and Technology, Nyarugenge



### We have the following Programs:

- Master/PhD in Embedded Computing Systems (ECS)
- Master/PhD in Wireless Sensor Networking (WSC)

**N.B: All PhD programs are by research.**

### Short courses:

- a. Rapid Prototyping
- b. Blockchain Fundamentals and Applications
- c. Drone fundamentals and applications
- d. LoRA technologies
- e. IEEE GRSS Drone Sensor Deployment

**More Details:** [www.aceiot.ur.ac.rw](http://www.aceiot.ur.ac.rw)

## African Centre of Excellence in Energy for Sustainable Development (ACEESD) based at UR-College of Science and Technology, Nyarugenge



### We have the following Programs:

- Master/PhD of Science in Energy Economics
- Master/PhD of Science in Renewable Energy
- Master/PhD of Science in Electrical Power Systems

**N.B: All PhD programs are by research.**

### Short courses:

Power Engineering, Smartgrid, Microgrid

**More Details:** [www.aceesd.ur.ac.rw](http://www.aceesd.ur.ac.rw)



## Adresses and Contacts



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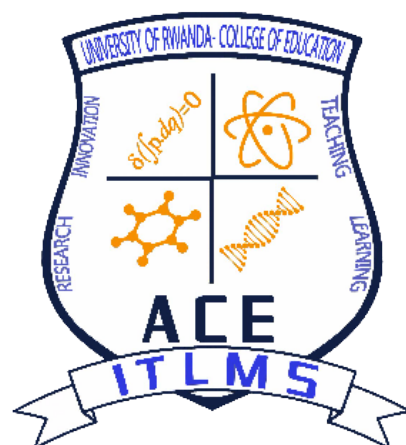
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