



# NEWSLETTER

Issue N° 012 | Oct-Nov 2022

## African Centres of Excellence



### Headlines



#### Inside the Data-Driven Incubation Hub (DDIH)

This year, the African Centre of Excellence in Data Science (ACE-DS) has established the Data-Driven Incubation Hub (DDIH) to provide well informed and accurate solutions to identified problems from the industry. To know more about its rationale and functionality, we met Dr. Jennifer Batumuliza, the Head of the Hub,

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#### Premier urges graduates to be agents of positive change by upholding ethical values

The Prime Minister Rt. Hon. Edouard Ngirente challenged UR graduates to impact and transform lives in their respective communities. He said becoming the agents of positive change by upholding the ethical values acquired from University should be top among their ambitions.

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#### Total Energies moves to provide expertise to energy professionals to curb renewable energy challenges in Rwanda

Total Energies, a well-renowned company specializing in renewable energy is set to provide expertise

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The African Centre of Excellence in Internet of Things (ACEIoT) has initiated discussions with the private sector to build collaboration mechanisms to materialize students' research findings.

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#### A team of Rwandan scientists and innovators from diaspora visited ACEIoT to explore potential collaboration areas

On 5<sup>th</sup> October 2022, a team of Rwandan scientists and innovators from Diaspora communities visited the African Centre of Excellence in Internet of Things (ACEIoT).

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## Premier urges graduates to be agents of positive change by upholding ethical values



*4 PhDs graduated from ACEESD*

**T**he Prime Minister Rt. Hon. Edouard Ngirente challenged UR graduates to impact and transform lives in their respective communities. He said becoming the agents of positive change by upholding the ethical values acquired from University should be top among their ambitions. The Prime Minister said this Friday 18th November 2022 during UR 8th graduation ceremony which took place in Nyagatare District, Eastern Province.

He was the Guest of Honour at the event where 5702 students from the six colleges of the University graduated.

Students who graduated include 25 PhDs, 628 Masters, 4,717 Bachelors, 96 Advanced Diplomas, 190 Diplomas, 42 Postgraduate Certificates and 4 Postgraduate Diplomas.

Among these graduates, 231 are Masters and PhDs from the four African Centres of Excellence.

**“ As we know, improving quality education in Higher Learning Institutions is a process. It cannot happen overnight. This is our priority because we all recognize the critical role of research in generating innovation-based solutions ”**

The Premier said the Government is aware of the various challenges that University is faced with.

Having said that, he assured the institution of Government commitment to continue supporting the University of Rwanda to fulfill its mission of improving the quality of education for national transformation.

“As we know, improving quality education in Higher Learning Institutions is a process. It cannot happen overnight. This is our priority because we all recognize the critical role of research in generating innovation-based solutions”, he said, adding that the Government is aware of the challenges that the University of Rwanda is still facing.

He reminded his audience of Government’s full commitment to address the issues within available means, in a sustainable manner.

The Vice Chancellor Dr. Kayihura Muganga Didas highlighted that the expectation from the world to graduates is such that every one will have improved capacity to solve problems and turn situations around.



*24 Masters and 2PhDs graduated from ACEDS*



*Some graduates from ACEIoT*

“Having greater abilities to play enhanced roles individually and collectively in the social, economic and political transformation of our countries, continent and the world is the standard gauge against which you will be measured from now onwards”, he said.

Students who graduated expressed satisfaction towards the support they acquired from UR to complete their studies.

**“ Having greater abilities to play enhanced roles individually and collectively in the social, economic and political transformation of our countries, continent and the world is the standard gauge against which you will be measured from now onwards ”**

Jeannette Muterampundu who got a Master’s degree in Biology Education said that her success is a result of committed UR mentors. “This is a result of immense support of the ACEITLMS together with UR-CE teaching staff”, she said.

She added, “each of them fulfilled their responsibilities to support me during my studies. The Center provided me with the necessary financial support and advices, the teaching staff gave me more support and I fulfilled my task as given to achieve this milestone”, she added.

For the first time in UR history, graduates went home with their degree certificates along with their academic transcripts.

Previously students had to wait for a long time after graduation to get their degree certificates. It is an improvement the University is proud to have made.



*Some Master’s graduates among 83 from ACEITLMS*

## More than 200 postgraduate students from ACEs graduate



**Gibson Kimtai graduated from ACEIoT**

**A** total of 231 Master's and PhD students from African Centres of Excellence (ACEs) have graduated on 18th November 2022 in UR graduation ceremony which took place in Nyagatare District. They include 222 Master's and 15 PhD students from 15 science specializations being taught in the four ACEs.

This is the second round of graduates of the African Centres of Excellence since its establishment in 2016.



**Jeannete Muterampundu graduated from ACEITLMS**

"I enjoyed the support I was given by the Centre mainly the given exchange opportunities to big institutions", noted Kimutai Gibson, a PhD student from Kenya who specialized in Embedded Computing Systems (ECS) at African Centre of Excellence in Internet of Things (ACEIoT) after successfully defending his final research thesis.

He added, "I had to meet my supervisors several times and had to provide a report of what I have been working on at the end of every three months. Briefly my supervisors were very flexible and ready to provide positive feedback any time I needed them".

**" I had to meet my supervisors several times and had to provide a report of what I have been working on at the end of every three months. Briefly my supervisors were very flexible and ready to provide positive feedback any time I needed them "**

Jeannete Muterampundu is one of 83 Master's graduates who graduated from

ACEITLMS.

She attributes her success to the moral and financial support she got from the Centre. "This is the result of the immense support of the ACEITLMS together with the UR-CE teaching staff, my family and myself", she recalls.

"Each of them fulfilled their responsibility to support me during my studies. The Center provided me with the necessary financial support and advices, the teaching staff gave me more support and I fulfilled my task as given to achieve success", she added.

Kehinde Adeyeye from Nigeria, a PhD graduate who specialized in Renewable Energy at African Centre of Excellence in Energy for Sustainable Development attributes her success to 'committed' supervisors she was allocated to.



**Kehinde Adeyeye graduated**

"I had the opportunity to work with world class supervisors. It was a process of learning and development", she disclosed.

Apart from the postgraduate programs being offered, Centres offer professional short courses in different areas like data science, IoT among others.

Created in 2016, African Centres of Excellence are meant to train postgraduate researchers who will contribute in finding solutions to existing regional challenges.

## ACEIoT to partner with private sector to materialize research findings



*UR-SCT Principal, Dr. Ignace Gatare addressing participants*

**T**he African Centre of Excellence in Internet of Things (ACEIoT) has initiated discussions with the private sector to build collaboration mechanisms to materialize students' research findings.

In this line, on October 14, the Centre in partnership with the Rwanda ICT Chamber organized a meeting with different companies operating in the ICT and Internet of Things (IoT) field, including those in hardware manufacturers, engineering industries, education, industrial research, IoT professionals and software providers to discuss how to better collaborate to advance IoT field.

According to Ignace Gatare, Principal of UR-CST, the Center put much effort in developing IoT and around 50 students from different African countries are undergoing studies and conducting research through the Masters and PhD programs the Center offers.

**“ He said that the discussion between entrepreneurs in the private sector and the universities will help youth realize that they can come up with innovations, especially for industries, given that currently, what is being imported in the country is more than what is being exported. ”**

Tackling the power of collaboration, he said that researchers as well as

lecturers of the Center will benefit the country more once they are linked with investors from the private sector.

Gatare also noted that the Center gears up to develop IoT by making research that solve different issues that Rwanda is facing, hence earning money through investment.

Pacifique Shema, Managing Director of SanTech is one of the students who graduated in UR and has come up with e-visitors, an IoT-related project that is on the market.

He said that the discussion between entrepreneurs in the private sector and the universities will help youth realize that they can come up with innovations, especially for industries, given that currently, what is being imported in the country is more than what is being exported.

Shema also added that if the industry, academia and the government partner, they will help students to graduate from the universities with amazing projects that provide locally-developed solutions and be able to secure funding.



*Participants to the meeting posed for a group photo after the meeting*

## Inside the Data-Driven Incubation Hub (DDIH)



*Dr. Jennifer Batamuliza, Head of the Data-Driven Incubation Hub*

**T**his year, the African Centre of Excellence in Data Science (ACE-DS) has established the Data-Driven Incubation Hub (DDIH) to provide well informed and accurate solutions to identified problems from the industry. To know more about its rationale and functionality, we met Dr. Jennifer Batamuliza, the Head of the Hub, and below are the excerpts:

### 1. Kindly tell us briefly the idea behind the establishment of the Data Driven Incubation Hub (DDIH)

**Dr. Jennifer:** In Rwandan universities, TVET, and even in High schools, there are many students who have several brilliant ideas.

“ This incubation hub aims to help those students with brilliant ideas to create solutions for the identified problems. The creation of this DDIH falls in the Government of Rwanda’s NST1 strategy of fostering a knowledge-based economy and its currently introduced knowledge-based economy for its sustainable development through the use of technology”

Ideas which can face and solve different real-world problems using up to date Technology but the challenge is the lack of enough skills to help them from ideation stage to commercialization of the

products or even starting a startup. We also have manual systems in many institutions, decisions which are made are not based on data.

A Data Driven Incubation Hub started recently at African Center of Excellence Data science at the University of Rwanda to work with incubatees on identified problems from the industry and provide well informed and accurate solutions. DDIH has mission to help students solve those problems by giving them skills to solve those problems using: Data Analytics, IoT, Software development, AI-Machine Learning, Robotics and 3D Additive Manufacturing.

This incubation hub aims to help those students with brilliant ideas to create solutions for the identified problems.

The creation of this DDIH falls in the Government of Rwanda's NST1 strategy of fostering a knowledge-based economy and its currently introduced knowledge-based economy for its sustainable development through the use of technology.

## 2. Can you take us through the process through which an idea will be incubated?

**Dr. Jennifer:** We are going to have a call for brilliant ideas and/or applications from students.

After the applications are received, we will be improving ideas through trainings, seminars and workshops with the support of different institutions in different areas in Rwanda like Infrastructure, transport, Energy, Water, Finance, among others.

The third stage is now transforming the ideas into real-world solutions, support brilliant ideas from conceptions to production.

Then after we will conduct mentorship of owners of innovative ideas to increase their capacity, Support in legal registration of ideas and solutions for an intellectual property right, Sessions on how to brand their products, connecting created solutions to the industry institutions in need

through DDIH-Industry fair workshops and finally provide seed funding start-ups where possible.

## 3. What are the requirements for an innovation to get incubated?

**Dr. Jennifer:** It should be a brilliant and innovative idea which solves real problems in our country and the world at large.

## 4. How do you envisage to collaborate with the industry?

**Dr. Jennifer:** The Data Driven Incubation Hub will work on identified problems from the industry and provide well informed and accurate solutions to those problems.

Students will be sent for internships in those industries to identify the problems there that need solution. Industries will also be invited in DDIH-Industry fair workshops to witness the prototypes produced by students.

## 5. Any message to the industry and/or the innovators?

**Dr. Jennifer:** Innovators have to find gaps in existing products and find ways of improving the products.

They should also invent solutions

to identified problems in their community. Innovation needs time and concentration; therefore, they have to invest much time thinking on how to provide innovative solutions. Innovators should be creative, problem solvers and critical thinkers.

The innovators should also invest time to acquire new technological skills to help them solve identified problems.

The message to the industry is that industries should avoid routine in their work.

Industries should invest much time in capacity building of their employees such as motivating employees to pursue professional courses after their degrees because technology changes always.

Another message to the industries is that the industry should work hand in hand with academia institutions. Many researches are done in academia but they aren't implemented because there isn't a strong bridge between industry and academia.

Industries should also make decisions to advance their industries based on data. Decisions not based on data tend to be biased.

## A team of Rwandan scientists and innovators from diaspora visited ACEIoT to explore potential collaboration areas



*A group of guests and Centre Management after interactions*

**O**n 5th October 2022, a team of Rwandan scientists and innovators from Diaspora communities visited the African Centre of Excellence in Internet of Things (ACEIoT). The main objective of their visit was to discuss with the Centre potential collaboration mechanisms in areas of research and innovations and how they can support the Centre to achieve its mandate.

During their visit, the Director of the Centre Prof. Damien Hanyurwimfura briefly presented the objectives of the Centre and some key achievements that have been registered from the establishment of the Centre to date. He highlighted that these achievements were registered in support of different partners and

stakeholders mainly the industry and the partners universities. The scientists and innovators have commended the work done so far and expressed their willingness to collaborate with the Centre to achieve more, especially in research projects.

**“ There are so many available grants opportunities outside, we can collaborate and come up with research projects which can be funded”**

“There are so many available grants opportunities outside, we can collaborate and come up with research projects which can be funded”,

CEO of Professional of Modern High Technology inc. Company, adding that Canada has so many funding agencies which may be of great importance if the Centre partners with some Canadian Universities.

Both the Centre and the visitors discussed how students' innovations can be more implemented and legally owned. They agreed to collaborate and share information on new opportunities for funding and jointly develop research projects for funding.

After their visit, scientists and innovators toured the recently acquired IoT lab, got briefed on how it operates; and appreciated the up-to-date equipment used in the lab.

## Total Energies moves to provide expertise to energy professionals to curb renewable energy challenges in Rwanda



*Representatives from Total Energies, MINEDUC, UR and students pose for a group photo*

**T**otal Energies, a well-renowned company specializing in renewable energy is set to provide expertise and skills to Rwandan energy professionals to improve the energy sector in Rwanda. This was highlighted during a kickoff ceremony of a three-day series of lectures on renewable energy at the African Centre of Excellence in Energy for Sustainable Development (ACE-ESD).

The lectures are part of a number of activities that are supposed to be implemented by Total Energies under a recent Memorandum of Understanding (MoU) signed between the Government of Rwanda and Total Energies.

Attendees are postgraduate students at the African Centre of Excellence in Energy for Sustainable Development and Professionals with energy backgrounds

In his welcome Remarks, Acting Vice Chancellor of UR, Dr Didas Kayihura highlighted that this kind of collaboration with Total Energies is a good opportunity specifically for the Centre of Excellence in Energy for Sustainable Development.

**“ African Centres of Excellence, which ACE-ESD is part of, are critical enablers to establish Rwanda as a knowledge-based economy supporting the national strategy for transformation...Renewables are the potential to create sustainable jobs and create more works of highly skilled professionals”**

Driven by the mandate of the Centre which is to produce highly skilled professionals in the energy sector, this kind of collaboration will make the Centre achieve its goals and

contribute to the achievement of the government policy.

“African Centres of Excellence, which ACE-ESD is part of, are critical enablers to establish Rwanda as a knowledge-based economy supporting the national strategy for transformation...Renewables are the potential to create sustainable jobs and create more works of highly skilled professionals”, he said.

Noting that UR will ensure the sustainability of Centres of Excellence, he added that the University teaching system will be market-oriented to match Rwandan skills with industry and services providers.

A three-day lecture featured Climate Change, which is a huge challenge to the World of Energy whereby scenarios will be discussed and the potential future of the climate change challenge.



*(L-R): Honorable Claudette Irere, Minister of State in charge of ICT & TVET and Ronan MASSERON, Total Energies Country Chair.*

This will be also the opportunity to discuss Renewables and their general features, the question of intermittency, and a review of renewable energy sources like other topics.

The Total Energies Country Chair Ronan MASSERON highlighted that the lectures are part of a series of activities. This is part of the MoU signed between the Government of Rwanda and Total Energies to make meaningful contributions to the promotion of the renewable energy sector in Rwanda which includes the skills exchange in renewable energy.

Minister of State in charge of ICT and TVET Claudette Irene commended Total Energies for the quick materialization of the signed MoU.

She noted that the government of Rwanda appreciates the contribution of Total Energies in the education sector and renewable energy in particular.

The MoU that the Government of Rwanda signed with Total Energies consists

**“ I am happy that after a few months we signed MoU, we are here to start. This is a sign that there are many more to come. I call upon UR lecturers and students to make sure they benefit from these coming opportunities and many others to come.”**

of exchanging skills and bringing their expertise in renewable

energy to Rwanda. With this, students are supposed to be sponsored to pursue their studies in renewable energy in France.

Honourable Claudette Irene said, “I am happy that after a few months we signed MoU, we are here to start. This is a sign that there are many more to come. I call upon UR lecturers and students to make sure they benefit from these coming opportunities and many others to come.”

She appreciated the contribution of Total Energies in the education sector and especially in renewable energy and noted that the government of Rwanda will ensure there is a combined effort to find solutions to existing renewable energy challenges.

## Principal Dr. Gatare urges graduates to uphold UR graduates' attributes



*Masters and PhD graduates posed with principle for a Group photo*

**T**he Principal of College of Science and Technology, CST, Dr. Ignace Gatare has urged the recent graduates to uphold the UR graduates' attributes and always nurture a sense of purpose in them. The message was given on Monday 21st November 2022, during an event to celebrate the Centre achievements with recent Master's and PhD graduates from the Centre.

Dr. Ignace Gatare highlighted that this is the result of the effort, discipline, patience and commitment they had during their stay at the College and believed that their experience at the University of Rwanda - College of Science and Technology (UR-CST) has been fruitful and enriching.

“Our expectation is that the knowledge and skills acquired during your studies at UR-CST contribute to supporting you to become

trustworthy agents of change and drivers of transformation everywhere you will be.”, he said adding that they have to aim at becoming their best self, thinking big, not hesitating to take new challenges, discovering and capitalizing on their strengths but also learning how to overcome their weaknesses.

**“ Our expectation is that the knowledge and skills acquired during your studies at UR-CST contribute to supporting you to become trustworthy agents of change and drivers of transformation everywhere you will be. ”**

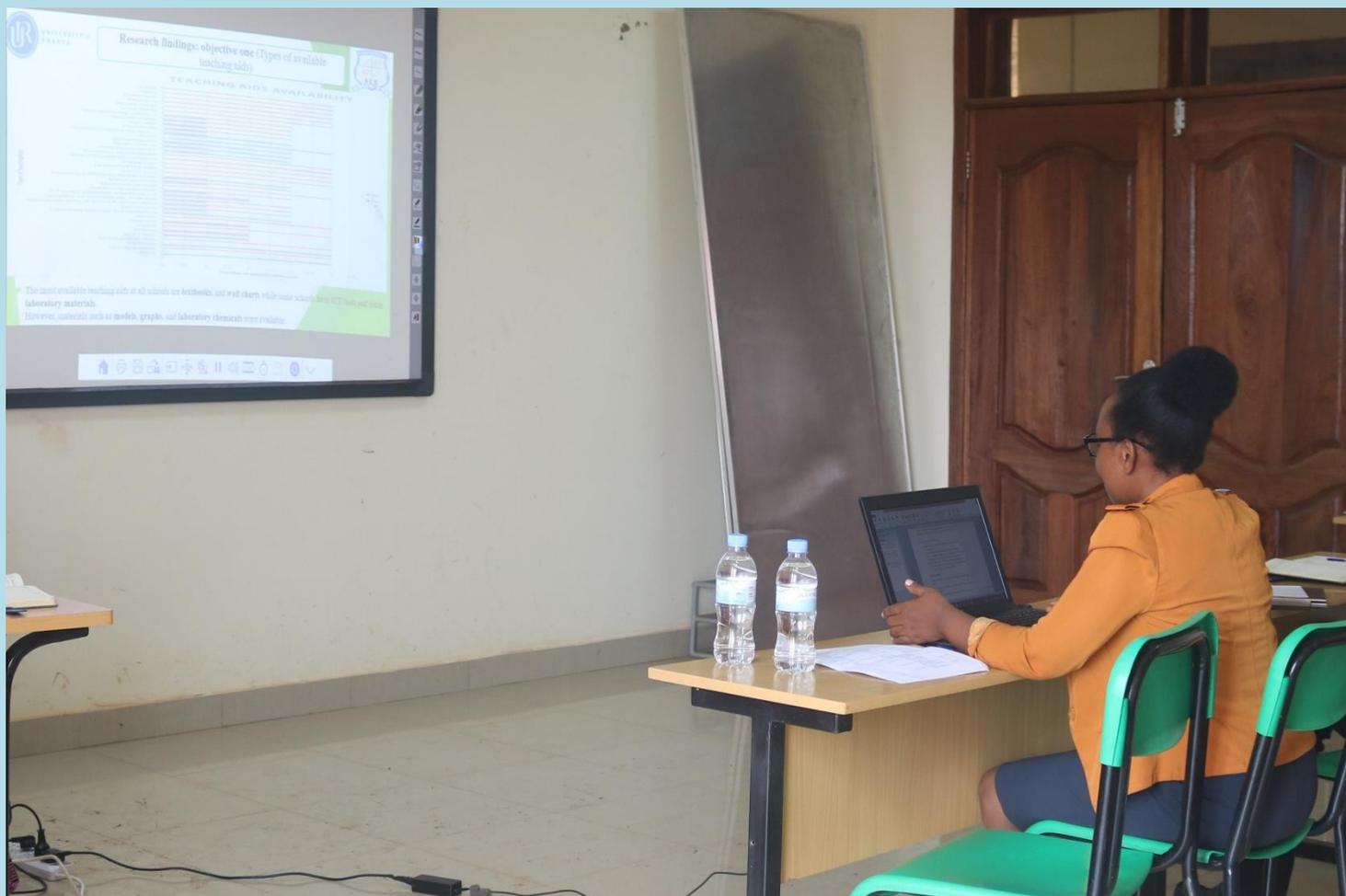
“The world is a continuously changing environment. In such a context, my advice to you is avoid, as much

as possible, to remain in your comfort zone. You will need to be lifelong learners in order to adapt. Expand the frontiers of your career perspectives through professionalism, innovation and entrepreneurship”, he added.

Kambombo Mtonga who spoke on behalf of other graduates commended the support they were provided by the Centre and expressed that they are ready to support back the Centre if any support is needed. He noted that graduates are very grateful for the skills they were given and have no doubt that they will be of great importance in their career.

In the recent UR graduation, on 18th November 2022, 9PhD and 41 Master's graduates were from the African Centre of Excellence in Internet of Things (ACEIoT).

# ACEITLMS organized three-day workshop for the defense and evaluation of research proposals of MED students



One of the candidates presenting her proposal

From 18th to 20th November 2022, the African Centre of Excellence for Innovative Teaching and Learning Mathematics and Science (ACEITLMS) conducted a workshop to evaluate 33 research proposals for MED Cohort two, Weekend programmes, a program being run in Kigali.

The main objective of the workshop was to evaluate the research proposals supported by a comprehensive evaluation report. This was also an opportunity to bring together members of appointed committee for oral defense of research proposals.

Evaluators, not only conducted evaluation, but also participated in Viva-voce as members of the research proposal oral defense panels where 33 research proposals were presented and students were given suggestions and comments to improve their research proposals. Some of the successfully defended Research Projects are:

- Effect of Computer Simulation-Based Education on Senior six Biology students' academic achievement in Polymerase chain reaction.
- Effect of Project Based-Learning (PBL) on students' academic performance in learning chemistry as one of the Competence-Based

Training and Assessment (CBT/A) approaches implementation in TVET school, Case Study, IPRC Karongi.

- Development of classroom experimental protocol through phytochemical analysis of Persea Americana seed for effective teaching and learning of the unit on "extraction and isolation of natural products"
- Effect of using instructional materials in teaching and learning mathematics on o' level students' academic performance in Musanze District, Rwanda
- Effectiveness of virtual lab on Advanced level physics students' performance in simple harmonic motion in Kayonza District, Rwanda.

One of the requirements for ACEITLMS to achieve research excellence, Masters students' research proposals are subjected to internal evaluation that has to be carried out by academic staff and researchers at the University of Rwanda.

## ACEIoT students exhibit their innovative projects during the World Science Day Celebration



**One of ACEIoT students explaining different prototypes being developed at ACEIoT**

On 10th November 2022, students from the African Centre of Excellence in Internet of Things (ACEIoT) participated and exhibited their innovative projects in the exhibition which was organized in line with the celebration of the World Science Day celebrated in Nyanza District, Southern Province.

The Day was celebrated under the theme, “Science for Peace and Sustainable Development, Basic Sciences for Sustainable Development”. World Science Day aims at bringing science closer to society by highlighting some key scientific aspects and possible solutions

provided by science, technology and innovation to major global challenges that the society faces.

Students from ACEIoT exhibited their innovative projects contributing to scientific knowledge to solve societal problems through hands-on experience or discoveries generated from basic and applied science applications.

Students exhibited five innovative projects namely, ‘Integrating Analog PIR Sensing with TinyML Inference for On-the-Edge Classification of Moving Objects’, ‘Integration of Vision IoT, AI-based OCR and

Blockchain Ledger for Immutable Tracking of Vehicle’s Departure and Arrival Times’, ‘IoT-based quality monitoring system for banana beer’, ‘IoT based system for seasonal monitoring of soil ingredients’, and ‘IoT system for Preemption and prioritization for emergency vehicles’

The celebration of the World Science Day (WSD) was recommended during the World Conference on Science that took place in Budapest-Hungary in 1999. The first celebration was held in 2002 and first celebrated in Rwanda in 2009

## Meet TUYIZERE Gerard, one of this year's UR best performers from ACEITLMS



***TUYIZERE Gerard, is a Master's graduate in Physics Education from African Centre of Excellence for Innovative Teaching and Learning Mathematics and Science (ACEITLM).***

***He is among the best performers who were recognized during the last UR graduation ceremony.***

***We met him to get insight about his performance. Here are the excerpts:***

Gerard TUYIZERE was among the best performers who were recognized at UR graduation ceremony

### **You are among the best performers, tell us in details the secret behind your best performance?**

The secret behind my best performance is all about hardworking and collaboration with my colleagues. It has required a number of days and sleepless nights reading books, handouts, internet searching and deeply discussing with colleagues. I was fully guided by a transformative paradigm and I tried my best to let my learning beyond the walls of a classroom and get more informed about what other sides of the world are doing in STEM Education.

### **What was the role of the Centre in your best performance?**

The role of the Centre

(ACEITLMS) was very tremendous in the journey of my master's degree program. Firstly, it has made sure that quality lecturers and supervisors are timely available and gave all required support to students. Conducive and well equipped (with internet, library, hostels, ICT Labs, etc.) learning environment was in place. Secondly, the Centre has provided me with a full financial support for the whole program i.e tuition fees, living allowance and health insurance. This financial support was of a paramount importance to my performance. Thirdly, the Centre has paid the publication fees for my paper which again facilitated me a lot as I could not easily manage to

pay it myself. In a nutshell, the role played by the Centre in my performance was so incomparable.

### **How can you advise the Centre to have more best performers in the future?**

My advice to the Centre to ensure best performers in the future is to put much emphasis on the supervision of research activities (students' theses and publications). The Centre may also think about students and lecturers exchange programs with other Universities or Centres interested in STEM Education either in region or internationally.

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

## 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:**

- a. Associate Big Data Engineer (ABDE)
- b. Senior Big Data Engineer (SBDE)
- c. Associate Big Data Analyst (ABDA)
- d. Senior Big Data Analyst (SBDA)
- e. 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)

# Addresses and Contacts

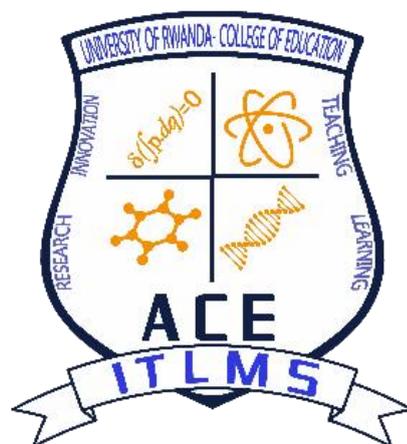


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