



# THE UR INSIGHT

A Magazine of the University of Rwanda

## Professor Lyambabaje assumes office duties as new Vice Chancellor



**Prof Alexandre Lyambabaje (R) and Dr Papias Musafiri Malimba during the handover**

Prof Alexandre Lyambabaje, the new Vice Chancellor hailed achievements by his predecessors and pledged to add a building stone towards the University advancement. He said this during a handover ceremony with Dr Papias Musafiri Malimba who served as the interim Vice Chancellor since the end of Prof Philip Cotton's five year tenure. **Page 3**



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# World Bank-funded African Centres of Excellence

UR is a host of four (4) African Centres of Excellence established to address national and regional developmental challenges through research and innovation as well as development, training and demonstration. The Centres were awarded through competitive processes and they are funded by the World Bank.



## African Centre of Excellence in Data Science (ACEDS)

- 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

**In partnership with Data Science Council of America (DASCA), the centre offers certified professional short courses**

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  - Senior Big Data Engineer (SBDE)
  - Associate Big Data Analyst (ABDA)
  - Senior Big Data Analyst (SBDA)
  - Senior Big Data Analyst (SBDA)
- More details: <https://aceds.ur.ac.rw/>



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

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- Master/PhD of Science in Wireless Sensor Computing (WSC)

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- Blockchain Fundamentals and Applications
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- LoRA technologies
- IEEE GRSS Drone Sensor Deployment

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



## African Centre of Excellence for Innovative Teaching and Learning Mathematics and Sciences

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

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





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We regret any errors or omission that may  
have been unwillingly made

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

**S**even months at home after closure of university doors due to COVID-19 pandemic, UR students (levels 3, 4 & 5) were back in campuses. The temporary closure of UR inevitably began on March 15, 2020 as a way of controlling the spread of the deadly Corona Virus.

After inspection, the Government decided that schools could safely re-open, but students were cautioned to abide by established health guidelines to control further spread of the virus. The guidelines include social distancing, frequent hand washing, wearing face masks and constant application of sanitizers.

Students who joined back UR-Huye Campus expressed great excitement at the renewed hope of completing their university studies soon. This is the case of Nick Nzambitare, a level 3 student in the School of Journalism and Communication who welcomed the decision.

“Some of us were desperate to finish our studies as we had earlier planned because we are in final years. Therefore, the decision is a relief to everyone.” He said.

Kamikazi Mireille is an aspiring accountant currently in level 3. She noted that the lockdown period was a bottleneck to her study journey since she could not dissociate revision from domestic work demand. She is convinced that the new move will trigger fast recovery of the time lost and ultimately allow her and contemporaries to graduate on time.

Huye Campus was destined to host more than 3,000 students and all of them will be staying in the university hostels.



## Students rejoice as classes resume months after COVID-19 lockdown

According to Nzitatira Wilson, Huye Campus Administrator, UR has made sure that reopening preparations are conducted in detail. For this reason, he is convinced students will successfully adapt to the new normal.

As part of precautionary measures against the pandemic, 17 hand washing stations have been constructed around the Campus. Besides, body temperature of students and staff who come into the Campus through designated entrances get tested as a rule, using the thermo-flash facilities provided. On top of that, 72 volunteer students have been mobilized to help monitor the implementation of the said guidelines.

**Some of us were desperate to finish our studies as we had earlier planned because we are in final years. Therefore, the decision is a relief to everyone**



# Professor Lyambabaje assumes office duties as new Vice Chancellor



The handover was officiated by the Minister of Education Dr Uwamariya (C), here flanked by the Vice Chancellor Prof Lyambabaje (R) and Dr Malimba, the DVC for Administration and Strategic Planning

**P**rof Alexandre Lyambabaje, the new Vice Chancellor hailed achievements by his predecessors and pledged to add a building stone towards the University advancement. He said this during a handover ceremony with Dr Papias Musafiri Malimba who served as interim Vice Chancellor since the end of Prof Philip Cotton's five year tenure last October.

Speaking at the occasion, Prof Lyambabaje pledged synergy among the university community to ensure that the University of Rwanda becomes a pillar institution for Rwanda to achieve vision 2050 based on the country's National Strategy for Transformation. The new Vice Chancellor also expressed his intention to integrate alumni to contribute to the University development through teaching, delivering public lectures and supervision for masters and PhD students.

"We have to move from brain drain to brain circulation from private-public institutions to UR and to academia" Prof Lyambabaje said.

Among other key priorities, the new Vice Chancellor called on the University of Rwanda staff to revisit the support to students while boosting consultancy which will not only generate funds but also reduce the dependency to foreign expertise. Other interventions include the collaboration with national and international institutions, promotion of inter-university sports at national, regional and global scenes for encouraging the spirit of competition and networking among young Rwandans.

In his presentation, Dr Papias Malimba elaborated on the University background, mandate, structure, governance, current status and its strategic plan. He noted that despite COVID 19 which disrupted the academic calendar, the university tried to adapt very quickly by uploading 98% of teaching materials on its eLearning platform.

Dr Malimba also the Deputy Vice Chancellor for Administration and Strategic Planning said UR has embarked on a comprehensive review of its programmes while availing conducive environment in terms of

resources and incentives to carry out research.

The handover exercise was presided over by the Education Minister Dr Valentine Uwamariya, who lauded the University milestones since its inception seven years ago. According to her, the acquisition of African Centres of Excellence has contributed massively to research output at the national level. She also commended UR initiative for registering 46 new research grants and capacity building projects by 2020 totaling to Frw 6 bn.

"I believe looking at the available expertise in its senior leadership, the University of Rwanda will live up to expectations," she noted.

Prof Lyambabaje was appointed by the Government of Rwanda on 2nd February, 2021. He was endorsed by the Rwanda Senate 10th February 2021. The new Vice Chancellor joins a university comprised of six colleges and nine campuses. These are located across the country. The University currently has around twenty seven thousand students and around 1900 academic and support staff.



## Education Minister Visits UR Huye campus: Infrastructure on spot

The Minister of Education Dr Valentine Uwamariya (L) during her visit to Huye Campus

**T**he Minister of Education Dr Valentine Uwamariya paid a working visit to the University of Rwanda-Huye Campus. Together with other officials in the education sector, Dr Uwamaria wanted to assess the teaching and research infrastructure state at the biggest UR campus since the resumption of classes.

Amid the visit, UR-Huye Campus Director of Assets Management Eng. Juvénal Nsengiyumva presented the current state of infrastructure and a progress report of the rehabilitation that has been going on for the last two years. Hostels have been a priority due to the high number of

students who would like to reside inside the campus.

The Campus has embarked on the second phase which will mainly focus on teaching and research facilities including classrooms and laboratories. Other facilities such as residential and student welfare facilities will be considered as well. All these activities have an estimated cost of Rwf 3.5 billion.

Also, to benefit from the mentioned budget is the campus visibility facilities and recreational sites such as playgrounds. The total removal of asbestos roofing around the campus, which is a very critical

Government priority policy, is included too and the work is on track.

In her remarks, the Minister of Education urged the University management and local authorities present to forge collaboration and ensure that rehabilitation is in accordance with the Huye District Master plan. Needless to mention that the Campus premises occupy a big chunk of space in Huye town and therefore key to the outlook of one of Rwanda's secondary cities.



# CMHS acquires a modern prosthetics laboratory; a relief to people with disabilities



Some of prostheses for athletes unveiled at College of Medicine and Health Sciences.

**P**eople with disabilities will now be able to easily access prostheses, the artificial body parts to facilitate them in sports and daily lives, thanks to a new prosthetics and orthotics laboratory unveiled recently at the University of Rwanda – College of Medicine and Health Sciences. Inaugurated in December 2020, the laboratory will double as a training facility to increase the number of prosthetists.

The \$400,000 (approx. Rwf396 million) renovated facility, equipped with support from the International Committee of the Red Cross is a relief for people with disabilities who have endured the shortage and exorbitant cost of some prostheses, especially for athletes.

The unique part of solutions the laboratory has brought in ensures that people with disabilities in sports will benefit. Only prostheses for those who do sports while sitting were available, yet other athletes were not accessing proper prostheses they needed. This therefore becomes the first laboratory with such prostheses for athletes in Rwanda.

Associate Prof. Jeanne Kagwiza, the Principal of College of Medicine and Health Sciences said that the prosthetics department had no laboratory for this discipline of medicine. Rehabilitation centers making prostheses across the country will no longer face the shortage for use by skilled professionals.

“Students were struggling to do

practical lessons,” she said, adding that the college will go all the way to help other centres such as Gahini and Gatagara that did not have enough equipment to produce prostheses.”

“The centre will have high standards including research. It will produce 500 prostheses that will be offered to disabled persons in need,” explained Prof Kagwiza.

In her remarks, the Minister of Education, Dr. Valentine Uwamariya said: “The laboratory will use different technologies. It will consider characteristics of each person, weight, size and financial capacity. It is laudable that it has considered disabled people who do sports.

# Leadership is not a walk in the park: Prof. George K. Njoroge; the outgone CE Principal



Retired Prof Njoroge's remarks in the farewell event

**T**he University of Rwanda bid farewell to one of the longest serving senior figures in the Rwandan education sector, retired Prof. George Njoroge, former Principal of the University of Rwanda College of Education. During his farewell event he intimated that leadership is not a walk in the park as he reflected on challenges he encountered at the start of the former Kigali Institute of Education (KIE) now UR-CE.

Prof. Njoroge took his audience through a series of challenges management at the time of establishment the Kigali Institute of Education (KIE) endured. He noted that the first cohort experienced severe hardships during the start of their higher education journey.

“There were students who had been out of school for some time, whom we had to accommodate in the system,” Njoroge said. He added that the issue was not about passing or

failing, but about inducting needed skills in the country. Despite these challenges, he said that the institution has significantly grown up to a level now amazing to see as UR-CE annually churns out graduates into all sectors of the economy.

Regarding the future generations, Prof. Njoroge is optimistic about the young people. He called on his teaching colleagues to always take good care of the young they are nurturing.

“I shall be happy to see that our students are better than us,” he said, concluding with a piece of advice to his successor Dr. Nsanganwimana Florian, to always look at the bigger picture by way of reflecting not on individuals but on the institution with regards to its assigned mission.

Prof. Njoroge served as Principal of UR-CE since its inception in 2013. Prior to that he had served in various other senior management positions.



# CAVM launches Entrepreneurship Week

The University of Rwanda – College of Agriculture Animal Sciences and Veterinary Medicine launched a virtual and physical Entrepreneurship Week together with partners in the entrepreneurship ecosystem. These included Wadhwani Foundation, DOT Rwanda, CRS, RYAF, SEAD, EYES Rwanda, UR-CIE, RSB and MINAGRI.



Top projects were awarded certificates and money to supplement their projects.

**T**he event was meant to encourage and support students and graduates with entrepreneurship and innovative ideas towards entrepreneurial career orientation to become job creators.

Speaking on the occasion, the College's principal Dr Nyagatare Guillaume highlighted the importance of creating a conducive ecosystem entrepreneurial atmosphere during and after COVID-19 pandemic, which affects the Rwandan job market and the rest of the continent. He also emphasized the role of education in addressing unemployment during and post COVID-19.

"As higher learning institution, the University of Rwanda recognizes the importance of entrepreneurship as a major driver of economic growth and job creation, said Dr. Nyagatare.

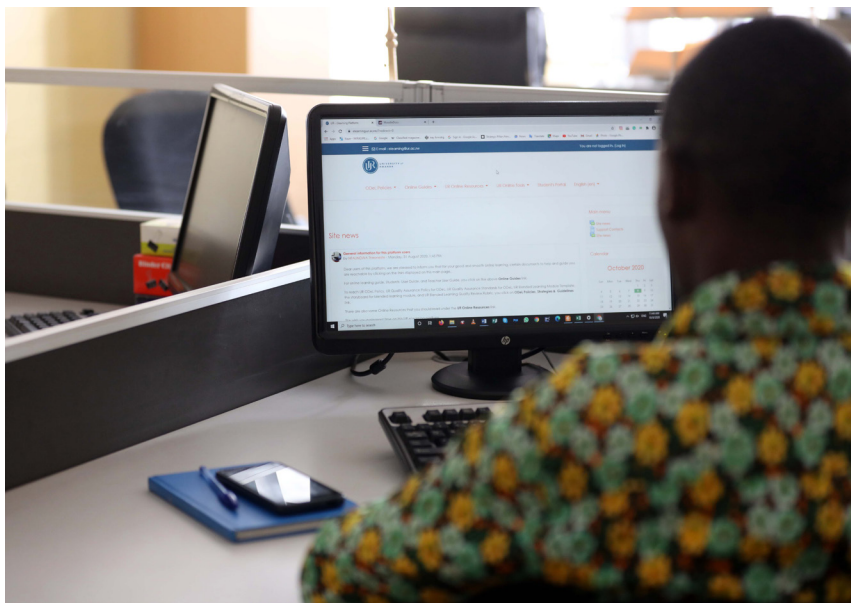
In the course of the week, students were given an opportunity to present their projects and the top five innovative and entrepreneurial projects were awarded certificates and money to supplement their projects. The awarded projects include Smart pets, animal feeds from organic wastes, Giratank project, Blood sausage and Fermented cabbage and eFarm.

Among the partners in the organization of the event include Mr. Muzungu Deo, coordinator of Envisage Rwanda. In his remarks he branded the collaboration with UR a tremendous opportunity to give students practical skills leading to business creation.

The entrepreneurship week was organized around the theme "Equipping students and graduates with century skills & information towards sustainable self-employment during and beyond COVID-19".

**As higher learning institution, the University of Rwanda recognizes the importance of entrepreneurship as a major driver of economic growth and job creation**

# Inside UR e-Learning Platform: Stakeholders' experience



**We should be able to develop e-learning systems and the associated pedagogy that makes online learning process more fun**

**T**he emergence of COVID-19 has affected many activities including learning and teaching in academic institutions worldwide. In order to cope with this uncertainty caused by the pandemic in the education sector particularly, adaptation mechanisms were envisaged. For the case of UR, efforts were mobilized to tap into the existing e-learning platform in the quest to make online learning, teaching and assessment possible.

The Moodle platform was initiated back in 2015 thanks to the support of Instructional Sub-program of UR Sweden Program: a bilateral research cooperation between Rwanda and Sweden. Currently, the platform boasts 95% of all UR teaching modules with an average of 83K visits per day.

It has been a long journey towards having one of the most efficient e-learning tools in Rwanda. At the beginning, people could not figure out motives behind the new tools being developed. The team was resolved to support the university with appropriate ICT tools to improve the quality of education in the university.

The main objective was to identify which tools and technologies that are most relevant and useful for online education. As such the next step was to select the right people for training both technicians and faculty staff.

Along the way, a total of 21 IT technicians were trained to manage and maintain the e-learning platform whereas 1,346 lecturers were equally supported to develop courses and modules and upload them online.

Dan Tumusiime, a university student noted that the platform is a relief to students because it saves both time and money since learning materials such as recorded lectures can be accessible from anywhere any time.

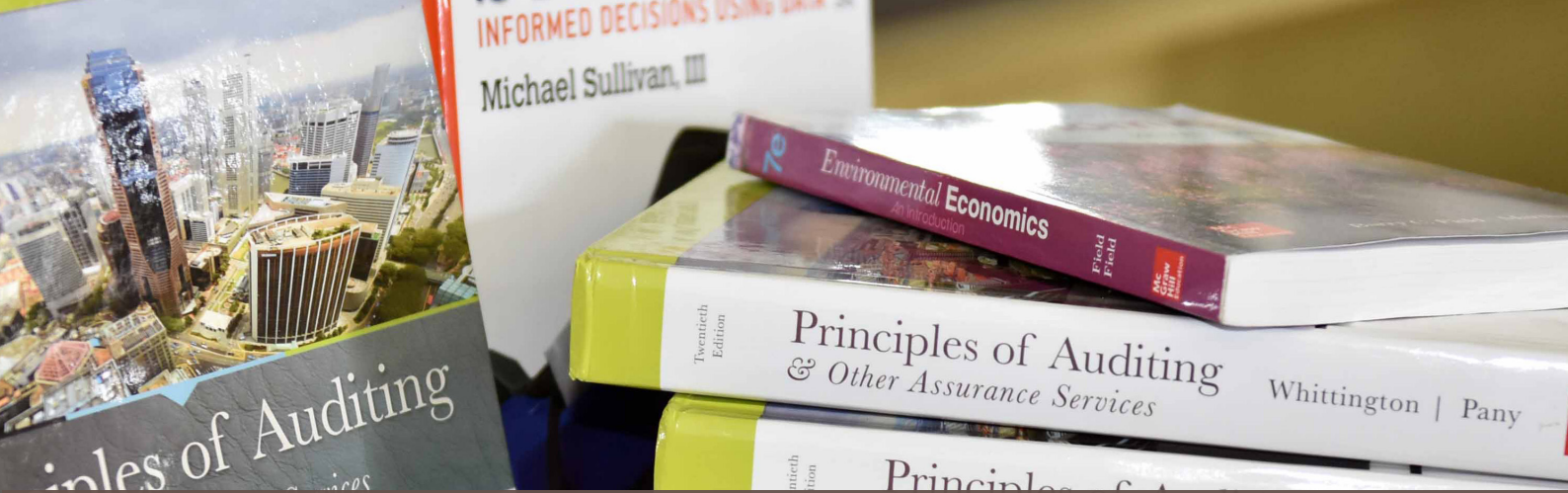
“You do not need to go to classroom after travelling a distance; you can learn from any place” Tumusiime testified.

## **e-Learning from a research perspective**

Dr Byungura Jean Claude is a UR staff who conducted several research studies about the integration and use of different E-learning systems. He called on developers to consider the agile and user-centred design approaches during the design, development and implementation of e-learning platforms. Besides, he noted that the notion of interactivity is critical in the e-learning systems. This is because interactive systems make users interested in engaging in online learning activities.

“We should be able to develop e-learning systems and the associated pedagogy that makes online learning process more fun” He concluded.





## UR library receives new scholarly books; a major boost to becoming a complete hybrid library

**T**he University of Rwanda Library under the support of UR-Sweden Programme acquired 499 titles and 1,600 copies of books from the USA. The demand was made based on the lists of books that were selected by the academic staff across all UR nine campuses which were submitted to the office of the University Librarian.

The books cover a wide range of disciplines in the UR six colleges. Some of them include data science, artificial intelligence, journalism, conflict resolution, human behaviour, water engineering forensic drug analysis and many more.

According to the University Librarian Dr Robinah Namuleme, acquisition of the books will boost the University library's capacity towards becoming a hybrid library with enough books and electronic resources to facilitate a research environment.

"We hope and anticipate that these books will go a long way in supporting new PhD and Masters Programmes as well as Centres of Excellence", said Dr Namuleme, who also doubles as the team leader of the UR-Sweden Library subprogram.

The UR-Sweden Program has been instrumental in helping the library enhance capacity for teaching, learning and research. In addition, the UR-Sweden Program funded several

other projects including the subscription to e-Resources. Currently, the University Library boasts a big number of databases that have been acquired and are accessible to users both on and off campus.

Besides, the UR-Sweden Library subprogram has supported capacity building in terms of PhD and master's training. Recently, the University staff graduated from Sweden in PhD in Library and Information Sciences under the same support. The Program has also made investments in the creation of a research environment through the acquisition of ICT equipment and software which helped to integrate library services and functions to allow seamless access to library resources.

**We hope and anticipate that these books will go a long way in supporting new PhD and Masters Programmes as well as Centres of Excellence**



University of Rwanda's ACE-DS is now a member of the prestigious World Data Science Initiative (WDSI), joining forces with global leaders in data science education and research.

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## ACEDS gets international accreditation to offer PhD & Msc programs in data science

**T**he Data Science Council of America (DASCA) has internationally accredited the University Of Rwanda's African Centre of Excellence in Data Science (ACEDS) for offering different PhD and Masters programs in data science. This follows a rigorous evaluation of the modules taught and the teaching capacity of the Centre among other criteria.

The programs that are internationally recognised are PhD/ MSc in Data Science in Actuarial Sciences/ Data Mining/Econometrics and Biostatistics.

The Data Science Council of America (DASCA) is a USA-based institution which researches, designs, builds platform-independent Data Science knowledge frameworks, standards, and credentials, and certifies individuals entering or working across the spectrum of emerging Data Science professions.

Dr. Charles Ruranga, the Director of the Centre says this is one of the key milestones that the Centre achieves. "Being international accredited to offer these programs is an indicator that our programs meet international standards. This is one of the key milestones of our project that we were supposed to achieve and we are proud of this achievement", he says.

The ACEDS and DASCA are now leveraging this

partnership to enhance professional employability of African technology talent and improve their technology research and development outcomes.

Under this framework, both institutions have launched the globally renowned Data Science certification programs of the Data Science Council of America (DASCA). These certifications which will be offered online include Associate Big Data Engineer (ABDE™), Senior Big Data Engineer (SBDE™), Associate Big Data Analyst (ABDA™), Senior Big Data Analyst (SBDA™), Senior Data Scientist (SDS™), and Principal Data Scientist (PDS™)

DASCA certifications are the world's most advanced cross-platform programs of their kind, and they address the career needs of ambitious African talents who wish to develop themselves into world-class Data Analysts, Data Engineers and Data Scientists.

These certifications help participants build a strong base of knowledge and skills on multiple tools, techniques, concepts and technologies, and in the process, equip them for an exciting breadth of roles and career opportunities that are available with a wide range of Data Science employers across verticals, environments and markets.



# Academic staff gain tips on e-Learning innovative pedagogical approaches amid Covid-19

**T**he College of Education based African Centre of Excellence for Innovative Teaching and Learning Mathematics and Science (ACEITLMS) made a move to ensure classes are going on regardless of the ongoing Covid-19 pandemic. This happened in a three-day training for academic staff enabling them to switch from face-to-face to online teaching method.

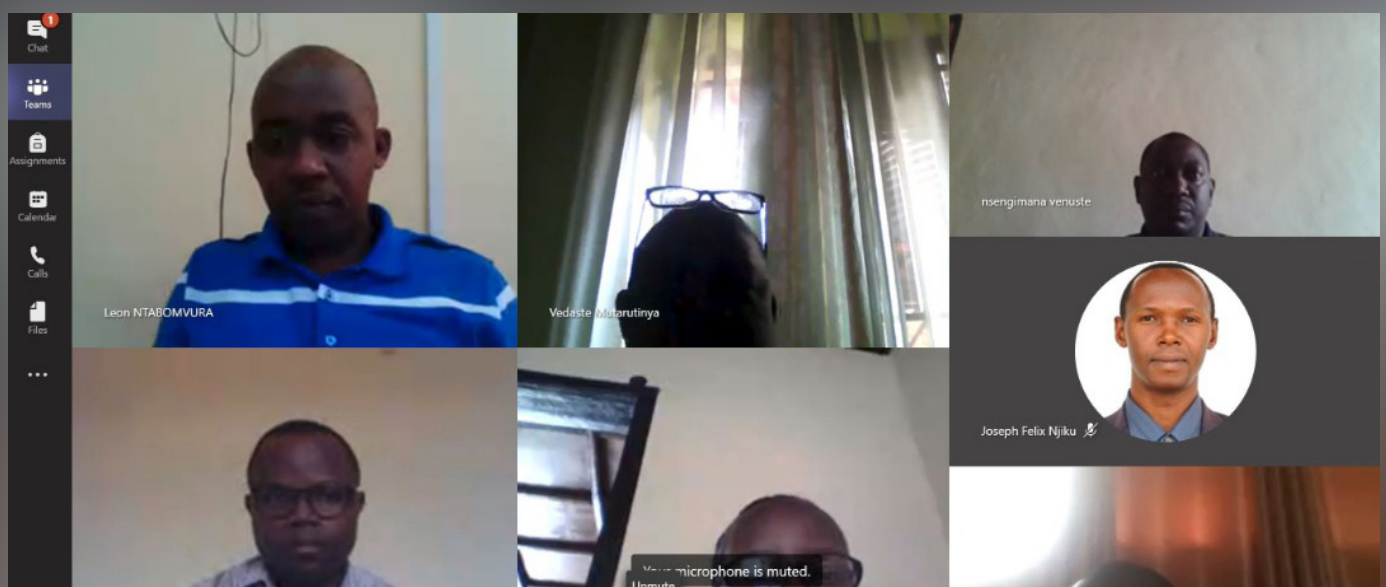
Now, learning materials in form of power point presentations, subject content summary notes, individual and group assignment with problems, exercises, and quizzes are accessible online and accessible to students too. For most modules, forum discussions are created where students interact among themselves and with their lecturers.

The main objective of this training was to equip Centre staff with sufficient updated skills to conduct and manage virtual classes for improved teaching and learning process and prepare teachers to provide live assessments in the class to students as part of the implementation of Innovative

pedagogical approaches.

“As one of the Centre’s mandate is to bringing innovation in teaching and learning of mathematics and science including the use of ICT, the ACEITLMS has decided to call upon teaching staff involved in teaching Master of Education modules to start conducting active online teaching with more students-lecturers interactions”, said Prof. Lakhan Lal Yadav, Centre Director.

Several e-Learning software have been used to deliver online classes, but it was later realized that academic staff were not familiar with them. With this training, staff got skills in conducting and managing virtual classes also ensuring the academic integrity in teaching and learning. For this to happen, they learned different ways to use of innovative pedagogical approaches in teaching, learning and assessment through the use of instructional technologies. At least 19 teaching staff were trained during this workshop.



The training was conducted remotely using virtual technology



A section of students who participated in the entrepreneurial boot camp

## Fifteen young entrepreneurs gain tips to transform their ideas into successful business

**F**ifteen entrepreneurs with innovative business ideas have completed a one week boot camp getting coaching and mentorship from experts in entrepreneurship in a bid to transform their potential and innovative business ideas into viable business ventures.

The Boot Camp is organized under the Grid and Incubation Hub (GIH) project operating at African Centre of Excellence in Energy for Sustainable Development. It seeks to create a bridge between the university and various sectors in the economy to make research relevant to emerging issues, and to support innovation and entrepreneurship through incubator and accelerator programs.

Fifteen finalists are competitively drawn from 40 young entrepreneurs with innovative ideas who expressed interest to be incubated. The main objective of this boot camp was to discover, nurture, and potentially fund exceptional youth's business ideas which are innovative, scalable, and have huge transformational potential, making them financially viable, freestanding and competitive in the open market.

Dusenge Philbert is one of the trainees whose business idea is to find an alternative solution to the insufficient cooking resources that the Country

is facing whereby 83% of the population rely on firewood and charcoal. "My business idea is finding an alternative solution, which can use wastes (rice husks, sawdust and other wastes from industries) to clean cooking energy, using a gasifier stove, which I will manufacture myself", he says.

Dusenge argues that, through the boot camp, he got skills that will help him during the implementation phase of his business idea.

"I didn't know about the product market validation, which is the critical step of business" He admitted, adding that boot camp allowed him to learn skills of validating a product from prototype to commercial/business point, and pitching.

During the boot camp period, trainees got skills in Marketing for startups, business and financial planning and sales strategies among others.

The boot camp is the kick off for the six month entrepreneurship journey where the trainees will be hosted at the Grid to get the incubation services. These include high level professional mentorship, adequate excellent facilities and seed funding to fine tune their prototype to a minimum viable product.



# UR donates 2,467 solar powered radio handsets to needy families

**T**he University of Rwanda, through the Transforming Education Systems for Sustainable Futures (TESF) project, has secured funds to procure solar powered radio handsets for children from poor and vulnerable families. Those children have not been able to follow class lessons broadcast through Radio and TV channels. A total of 2,467 solar powered handsets were distributed among eligible families across seven districts in the country since October 2020.



“My two children have been going to our neighbor whenever lesson time came up. But from now onwards they will be following lessons from our own home

This initiative is aligned to the UR's move to find innovative solutions to enhance remote learning since March 2020 when schools closed due to COVID-19 outbreak. Dr Tusiime R. Michael, the TEF project Co-Investor in Rwanda and Lecturer at CE noted that UR has partnered with Rwanda Education Board's Inspire Educate and Empower (IEE) program and district administrations to ensure that deserving families receive these radio sets. The seven districts are Kayanza, Kirehe, Gisagara, Nyaruguru, Rutsiro and Rusizi.

Parents who received the sets joyfully proclaimed that following their revision studies from for their

children has now been made easy.

“My two children have been going to our neighbor whenever lesson time came up. But from now onwards they will be following lessons from our own home” one mother said.

TESF project aims to develop a sustainable network of researchers in seven partner countries including Rwanda, sensitize and disseminate existing and emerging knowledge. The Program further co-produces evidence and arguments urgently needed to transform education and training systems to drivers of Sustainable Development.



Dr Alice Karekezi after defending her PhD

## Initiation of a norm from the Global South: A PhD study from the University of Gothenburg by Urusaro Karekezi Alice

**D**ue to current uncertain times, Urusaro Karekezi Alice virtually linked up with her Examiners at the University of Gothenburg in Sweden as she nailed the defense of her PhD. Her research thesis is “The initiation of a Norm from the Global South: Rwanda’s Gacaca pioneering the traditional transitional justice norm.”

Dr Karekezi’s work is comprehensive; it is based on information collected between 2005 and 2012. It captures discussions that happened during early stages of ‘reintroduction’ of Gacaca Courts, looks at its adoption and implementation, and touches on post-Gacaca period, weaving all that into a decoloniality analysis.

In her research, Dr Karekezi investigates Rwanda’s special contribution to the global knowledge through its use of Gacaca Courts in administering justice. She is of the view that research about Gacaca has been focusing on transitional justice in general, and how Gacaca deviated from the classical understanding of

criminal justice. She persuasively challenges the idea that ‘deviation’ should be a basis to reject Gacaca.

Her argument is that as the current world politics becomes more multipolar, it allows ‘ideas pertaining to conflict management and peace with a wide range of ideational sources being put into practice, not simply because of their place of origin, but because of their relevance to the context.’ She challenges the biased belief that knowledge is created in the North and that the Global South is a mere consumer.

Despite the resistance, she believes that when a political actor ‘combines activism and authority, it can transform into a crucial mechanism for norm creation.’ This is a call to African publishers to vigorously contribute to the liberation of African knowledge.

Dr Karekezi is a researcher and academic staff at UR Centre for Conflict Management. Her research is a cornerstone to the scholarship on transitional justice in global studies.





CHMS Research Directorate staff attended the meeting with the Korean visitors

## CMHS discuss the prospect of building a teaching hospital in collaboration with a University in South Korea

**P**rof. Park and Prof. Song from Sang Myung University, South Korea, recently visited the College of Medicine and Health Sciences to discuss ways to have joint research conducted for mutual national and academic benefits especially in the areas of pandemics and viral diseases. Sang Myung University provides Consultant Services for UR Infrastructure Development Projects (IDP). They are also working on a project related to infectious diseases to be funded by KOICA.

Among the projects discussed in the initial proposals is to support CMHS construct a teaching hospital that will contribute to medical services to the community. The hospital would indeed enable students get clinical placements and internship for hands on practice, closely supervised by their lecturers with help from medical practitioners. This will be a relief to the College in terms of minimizing the costs that the college has been incurring in transporting both students and staff around the country for clinical attachments.

# AUTISM

## Teaching children with autism to be aided by low cost devices – Research shows



A recent study conducted by Mr. Theoneste Ntalindwa, e-Learning officer and PhD student at the University of Rwanda-College of Education, and his co-authors, has revealed that the integration of ICT into the Rwandan education system is essential to support and build the competency of children with Autism Spectrum Disorder (ASD)

**F**rom a research paper “The Use of Information Communication Technologies among Children with Autism Spectrum Disorders: Descriptive Qualitative Study”, findings show that increasing societal awareness of ASD and enhancing the motivation of Rwandan teachers would help to reduce the stigma of ASD for families and within communities.

ASD is defined as a lifelong developmental disability that typically appears during early childhood and characterized by persistent differences in communication, interpersonal relationships, and social interaction across different environments.

The research investigates how technological enhancements may have a positive impact on the lives of children with ASD. The objective of the study was

to understand perceptions of students with ASD, their parents, and their teachers, on the use of Information and Communication Technology (ICT) in the education of those with ASD.

The results found out the existence of multidimensional constraints of culturally valid and acceptable educational curricula, inadequate training for teachers, and a lack of strategies for teachers to improve their methodologies in inclusive classroom settings. The use of ICT was acceptable among both teachers and parents of children with Autism.

It is hoped that this study will help future researchers in this domain in looking at the use of ICT for people with ASD, with program implementation, and completing a similar evaluation in a larger population sample.





University of Rwanda site designated for ACES

## Africa's clean cooling Centre of excellence moves closer to boosting farmer's livelihoods

**R**wanda Government has formally launched the new African Centre of Excellence for Sustainable Cooling and Cold Chain (ACES), hosted by the University of Rwanda. At the inception meeting, a high-level cross-departmental team was established to lead the Centre's development.

In collaboration with the core technical partners - the University of Birmingham and UN Environmental Programme's United for Efficiency (UNEP U4E) - progress in setting up the centre has quickened with the official endorsement of planned activities. ACES will help get farmers' produce to market quickly and efficiently - reducing food waste, boosting profits and creating jobs as well as look to improve cold-chains for vaccines and health, now recognized globally as a key challenge for COVID-19 immunization.

ACES bring together multi-disciplinary UK and in-country expertise with commercial partners to develop and demonstrate ways of delivering affordable lowest carbon emissions cooling and cold-chain systems while meeting Africa's social and economic cooling needs. Associated "Living Labs" will conduct state-of-the-art research and offer technical

assistance, demonstrations and knowledge transfer. The first Living Lab is anticipated in rural Rwanda, with others to follow in additional countries.

Dr. Mujawamariya Jeanne d'Arc, Rwanda Minister of Environment, commented: "The Rwanda Cooling Initiative with UNEP U4E assisted the development of National Cooling Strategy in 2019 and it is now providing the foundation for ACES. This will bring together talent from across Africa to develop and deploy world-class cooling solutions. Rwanda government supports the establishment of the Centre with our partners over the months and years ahead."

Researchers from the University of Birmingham, Cranfield University, London South Bank University and Heriot Watt University are applying their expertise with rural cooling and cold-chain, backed by funding from the UK Department for Environment, Food and Rural Affairs (Defra).

The Ag. Vice Chancellor of the University of Rwanda noted: "We are delighted to announce that UR designed part of the Rubirizi campus as the site for ACES. The layout of the site is under development. The location is ideally situated in the capital of Kigali, with existing facilities and space for demonstration of new

technologies and future expansion. We also established an interdisciplinary cohort of experts from across the University's colleges to underpin the development of ACES' cooling solutions"

Project co-developer and technical lead Toby Peters, Professor of Cold Economy at the University of Birmingham, said: "Farmers need robust means of getting perishable produce to urban markets and medical staff must move temperature-sensitive vaccines to rural communities, but cold chain logistics must be sustainable. The Centre's progress means we move closer to this goal in Rwanda and the wider continent without using fossil fuels. It gives Africa the means to feed millions of citizens effectively and meet export targets to drive growth."

**The Centre's progress means we move closer to this goal in Rwanda and the wider continent without using fossil fuels. It gives Africa the means to feed millions of citizens effectively and meet export targets to drive growth**

# Problem-based research among key drivers for constructing efficient National Innovation System in Rwanda – research reveals

**T**he National Innovation Systems is generally defined as a framework to understand and organize the flow of knowledge among people, enterprise and institutions, which is key to the innovation performance of a country. In his recent research, Yongabo Parfait discusses Rwanda's efforts in the construction of the National Innovation System-NIS while identifying weak areas that are likely to affect the building up of sustainable innovation capabilities. Under the title **Constructing the National Innovation System in Rwanda: Efforts and Challenges**, the research is poised to contribute to Rwanda's aspiration towards knowledge-based economy as reflected in the national development plans and programmes.

The research findings show that Rwanda exhibits promising progress in the process of establishing and reinforcing infrastructures and institutions as well as policies to promote innovation. However, there are still challenges associated with low research capacity, low level of interactions among stakeholders, limited financial resources as well as lack of coordination framework. All these contribute to hampering the building up of sustainable innovation capabilities.

The survey of STI personnel in Rwanda reveals that the NIS concept in Rwanda is not uniformly understood by all stakeholders. The general low level of awareness of the concept among some stakeholders makes it harder for the actors in the innovation system to work in harmony.

**Without a clear understanding of the inner workings of the innovation system, the identification and alignment of inter and intra-institutional responsibilities become haphazard at best**

“Without a clear understanding of the inner workings of the innovation system, the identification and alignment of inter and intra-institutional responsibilities become haphazard at best” the research argues.

At policy level, the research suggests considerable efforts in stabilizing policies through the enhancement of policy-making processes that involve key actors in the system. This would contribute to overcoming the identified challenge of policy implementation and coordination. This can also contribute to building long term relationships among actors involved in the process and a departure from crisis management interventions.

It was further recommended that for emerging national innovation systems, the setting up of organizations and institutions for facilitating the production, acquisition, diffusion, transfer and use of economically valuable knowledge are among the key steps. Knowledge infrastructures development is important as well as human capital development.



**Parfait Yongabo, PhD student**  
Lund University

*Yongabo is a faculty member of the College of Agriculture, Animal Science and Veterinary Medicine, University of Rwanda currently following his PhD studies in Research Policy at Lund University in Sweden. He is among the UR-Sweden Program PhD students under the bilateral research cooperation between Rwanda and Sweden supported by Swedish International Development Cooperation Agency (Sida).*





## New research elucidates Kigali urban land change dynamics over the past 32 years: A move for continuous urban land cover change monitoring

**A recently published research has indicated that monitoring the complex urban land cover dynamics can be a lot easier, thanks to increased availability of analysis-ready Earth Observation (EO) data and the access to big data analytics capabilities on Google Earth Engine (GEE). This research was conducted by Theodomin Mugiraneza under the title “Continuous Monitoring of Urban Land Cover Change Trajectories with Landsat Time Series and LandTrendr-Google Earth Engine Cloud computing”. The research used Kigali, Rwanda’s capital as a case study. The case study is reckoned to be one of Sub-Saharan Africa urban environments with a spread of informal settlements and unregulated constructions in the last three decades. The study availed key statistics for better understanding of the spatial-temporal land cover change trajectories in Kigali over the past 32 years-from 1987 to 2019.**

This research proposed a framework for analyzing urban land cover change trajectories based on Landsat time series and LandTrendr, a well-known spectral-temporal segmentation algorithm for land-based disturbance and recovery detection. The land cover change reconstruction was implemented using Google Earth Engine, a cloud-based platform for planetary-scale geospatial analysis and Earth observation big data analytics method.

The results were helpful for producing reliable land cover classification and reconstructing annual dense land cover in the study area. The proposed scheme was found to be cost-effective and useful for continuously monitoring the complex urban land cover dynamics, especially in environments with earth observation data affordability issues, and in data-sparse regions.

The results illustrated that urbanization was gradually increasing between 1987 and 1991, with an annual growth rate ranging between 2% and 3%. The period from 1991 to 1995 was characterized by a slowdown in the urbanization process, mainly due to political instability and economic recession emanating from war and armed conflict that took place in Rwanda between 1990 and 1994. From 2004 onwards, urbanization was taking off with the post-conflict reconstruction period, which was characterized by the emergence of estate development companies and investment promotion in the construction industry. During the post-genocide period, the increase in the built-up area is estimated at a 4.5% annual growth rate. Despite the persistence of unregulated constructions in urban fringe zones, the endorsement of the 2013 Kigali City Master Plan slowed down the spread of informal settlements.



**Theodomin Mugiraneza**  
PhD student, KTH

Mugiraneza is a faculty member of the College of Science and Technology, University of Rwanda currently following his PhD studies in Geoinformatics, School of Architecture and the Built Environment at KTH Royal Institute of Technology in Sweden. He is among the UR-Sweden Program PhD students under the bilateral research cooperation between Rwanda and Sweden under the support of the Swedish International Development Cooperation Agency (Sida).

# INTRODUCING POSTGRADUATE PROGRAMMES

## MARCH INTAKE

- ◉◉ **Master of Education in Biology Education, Chemistry Education, Mathematics Education and Physics Education** (African Centre of Excellence for Innovative Teaching and Learning Mathematics and Science (ACEITLMS))
- ◉◉ **Master of Arts (MA) in Development Studies (DS)**
- ◉◉ **MSc in Information Systems (Option: e-Government)**
- ◉◉ **MSc in Information Systems (Option: Internet Technologies)**
- ◉◉ **MSc in Information and Communication Technologies (Option: Operational Communication)**
- ◉◉ **MSc in Computer Science (Option: Software Engineering)**
- ◉◉ **Master of Business Administration (MBA) With specialization in Finance, Project Management, Human Resource Management, and Marketing.**
- ◉◉ **Executive MBA in Impact Entrepreneurship**
- ◉◉ **Postgraduate Diploma in Education**
- ◉◉ **MSc in pharmaceutical sciences quality assurance & quality control.**



### Application process

Go to UR Website ([www.ur.ac.rw](http://www.ur.ac.rw))

Go to Admission, Applicant Portal and click on (New Application)

Fill the Biographical Form and click (Save) and at the end you will get "Your Student ID Reference Number". Please keep this ID Number as it will be your ID identification for all transactions at UR

Create a PIN of 5 numeric digits, do not start with a 0 (this PIN will serve as your password to access your student account), leave the page and open the link below.

Candidates are requested to submit all required documents by using the

[Link: pgfile.ur.ac.rw/pgfile/findme.php](http://pgfile.ur.ac.rw/pgfile/findme.php)

**Note:** All documents must be in PDF

If all required documents are not submitted, you cannot go to the next step.

When your submission succeeds, you will get a message in your email box

For more details about [application requirements](#) and deadlines, please visit UR website: [www.ur.ac.rw](http://www.ur.ac.rw) / [Announcement section](#)





# Laidlaw Program

## ONGOING PROJECTS

Designing/ Prototyping A Cellphone  
Detecting System For High School And  
Primary Students Surveillance

Design And Manufacture Of Maize Corn-Grain  
Separation Machine

Optimization Of Wolfram Recovery By Modern  
Ground-Sluicing Without Compromising The  
Socio-Environmental Benefits

Humic Acid Extraction From Compostable  
Materials In Nduba Landfill And Investigation Of  
Its Impact On Plant Growth In Bugesera

Preservation Of Food By Using Papaya Seeds  
Antimicrobial Extract Food Preservation

Materiality In Architecture As An Expression Of  
Local Identity

Intelligent Gas Leakage Detecting And Alerting  
System

Open Inventory Management System

School Paperless Project

TUZA Electronic Payment  
(Local Security Fees Collection Using Mobile  
Phone)

The Laidlaw Research and Leadership Scholarship Program at University of Rwanda started in January 2019 with the signature of the DEED OF GIFT between the Irvine Laidlaw Foundation and the University of Rwanda. The purpose is to equip a body of outstanding undergraduates with the skills and values necessary to become leaders in their chosen occupation.

The scholarship started with the pilot of 10 scholars from the College of Science and Technology who are working on their innovation projects mainly during the holidays. One of the criteria for students to apply was that they should be among three (3) best students from the results of the previous semester.



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