



UNIVERSITY of  
RWANDA

# ANNUAL REPORT 2019-2020



KK 737 St – Gikondo  
P.O. Box 4285 Kigali  
Email: [info@ur.ac.rw](mailto:info@ur.ac.rw)  
Website: [www.ur.ac.rw](http://www.ur.ac.rw)  
Twitter: Uni\_Rwanda  
Facebook: University of Rwanda

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Many of the photographs in this report were taken before the Covid pandemic and before social distancing and masks became practice.

## Foreword



This annual report marks a period that will be remembered for the global disruption to many sectors including education by the Covid-19 pandemic.

This report should demonstrate that the heart and soul that drives academia does not diminish, and that productivity has continued. There have been tangible differences this year, campuses have become quiet, teaching has stopped, and staff are working from home. Funders have modified their expectations regarding project implementation, but research and scholarship have continued.

Teaching, particularly in undergraduate programs, may have ceased though we have been prompted to reflect on learning as a lifelong journey to betterment rather than something we do to pass examinations.

This year has seen a rapid maturation of our vision for learning, teaching and assessment, and while campuses have emptied, faculty and technical staff have developed our online learning capability. Our students have made promising contributions to this development too.

We now have to re-envision our University of the future. We often plan to implement improvement projects from a what is already a low baseline but from a desire to improve what we have rather than to create something daring and ahead of its time.

And so, we move from ‘implementing projects’ which is rather ordinary, to ‘projecting implementation’ to a future version of the University that we could only dream of.

The University’s research publication output continues to rise, and not only this, the metrics show us that the quality is also rising. We recognise the contribution of our four African Centres of Excellence (ACE): in Data Science, in Internet of Things, in Energy for Sustainable Development

and in Innovative Teaching and Learning Mathematics and Science, as well as our other Centres in Biodiversity and the Environment, Vaccines, Immunisations and Supply Chain, Biomedical Engineering and Theoretical Physics.

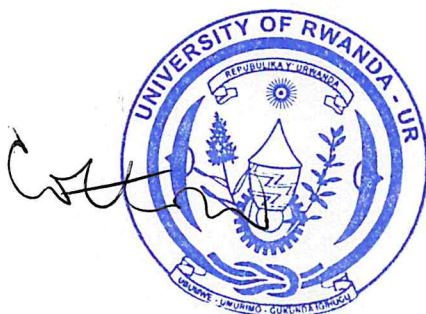
UR has been investing in research careers and celebrates 351 PhD holders among its staff which is a significant improvement on the days of the merger.

The University is fortunate to have partners in the Swedish universities, among many. The support of the World Bank, in embracing the national agenda of Priority Skills for Growth has enabled the University to take a key strategic role on developing young people to contribute meaningfully to the economy. In the same way, UR is evolving its support for innovation and entrepreneurship for both students and staff.

The University is here to improve life chances for the young people who choose to study with us, at whatever level, and it is our duty to match their resolve to make a difference in this nation and world.



**Prof Philip Cotton**  
**Vice Chancellor**

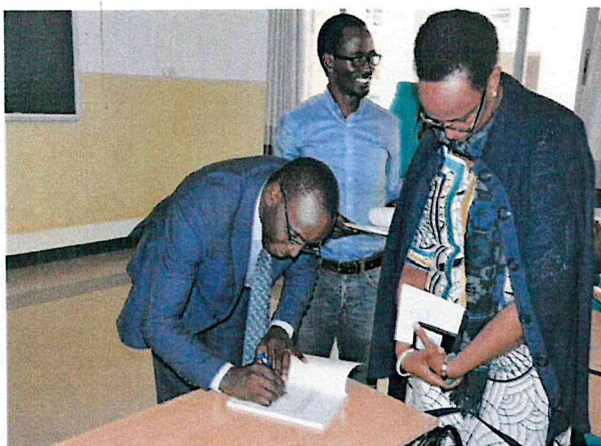


## Research and Innovation in the service of the communities we serve

UR's research agenda is to contribute to poverty eradication and the social economic transformation of Rwanda in meaningful ways, through building research capacity rooted in institutional support for co-production of a high-quality research ecosystem.

For the second time, ACE Internet of Things (IoT) hosted scientists from 8 African countries for training on long range 'LoRa' technology to ensure that Internet of Things platforms are open and easy-to-use to support third party innovation. The training reviewed IoT technology and presented case studies on applications in Rwanda and other East African countries.

The training was an opportunity for sharing experience within the African context.



UR researchers launched a book in Kinyarwanda entitled 'Ubushakashatsi mu Bumenyi Nyamuntu n'Imibanire y'Abantu' (Research Methods in Humanities and Social Sciences).

Assoc. Prof. Evode Mukama, one of the editors and authors of the book, explained the decision to write in Kinyarwanda "to help Rwandans to advance in research as the book explains in their mother tongue how to do research but also to have common understanding on some complicated vocabularies."

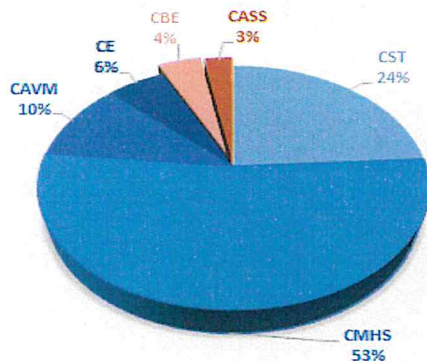
For the first time in Rwanda, a Mastitis Symposium was organized in UR-CAVM in collaboration with the University of Veterinary Medicine in Vienna and the New Vision Veterinary Hospital.

The two-day symposium brought together University scientists, students, and partners from milk processing firms and industries, veterinarians, government institutions and the private sector, with the theme “Best Mastitis Management Practices for Safer Milk and Sustainable Dairy Production” and emphasized three areas: Dairy Production, Mastitis Prevention and Treatment, and Milk Hygiene and Microbiology.



## PUBLICATIONS

PROPORTION OF PUBLICATIONS BY COLLEGE

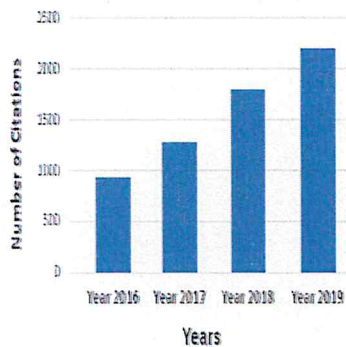


NUMBER OF PUBLICATIONS PER YEAR

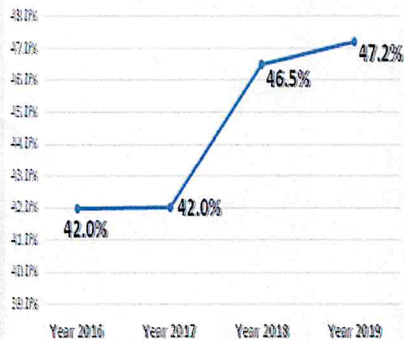


Data are based on publications in international peer reviewed journals only. (Source: Web of Science)

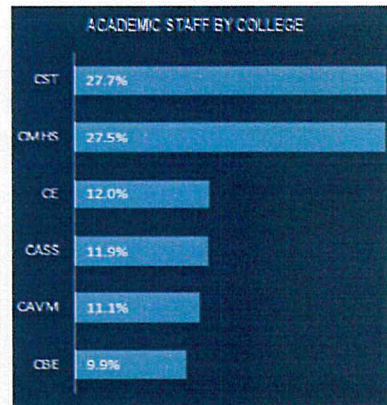
UR Research Visibility



UR Contribution to Rwandan ISI-Publications

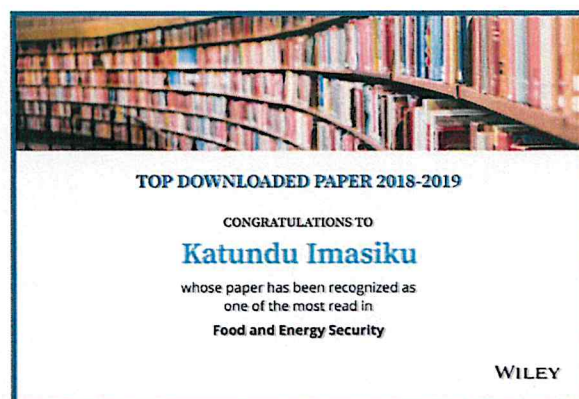


ACADEMIC STAFF BY COLLEGE



Katundu Imasiku, a Zambian PhD student at UR's African Centre of Excellence in Energy for Sustainable Development specializing in Renewable Energy, conducted a study entitled 'An impact analysis of population growth on energy-water-food-land nexus for ecological sustainable development in Rwanda'. The study was published on 16<sup>th</sup> October 2019 and has been among the most downloaded papers for that journal.

The study investigated the effects of disconnected approaches to dealing with energy-food-water nexus projects with land usage, and proffers an integrated approach.



## Doctoral degree achievements



*Berthilde Uwamwezi defending her PhD thesis virtually, due to limited mobility caused by COVID-19 pandemic.*

This year, thirty-six (36) staff members were awarded PhD degrees from various universities across the world.

This is an 11% increase in the number of doctoral degrees in one year.

The 4<sup>th</sup> phase of UR Sweden Program (2019-2024), kicked off in July 2019, and has prioritized training of academic staff and at least 80 PhD candidates will be enrolled at both UR and other universities in Sweden.

The induction day for 41 new PhD students and 26 post-doc researchers took place in January 2020.



## Innovation and Entrepreneurship

UR has an established framework to help its innovators and entrepreneurs to work effectively through the Centre for Innovation and Entrepreneurship (CIE). In August 2019, University students and staff with the most promising innovation projects proved that they are ready to take their projects to a new level through the entrepreneurship workshop organized by the Centre. Innovation projects are operational under the funds of UR-Sweden Programme while a long-term partner of UR, the University of Koblenz-Landau in Germany facilitated the training.



UR students took part in an intensive one-week entrepreneurial training programme known as Next Generation Entrepreneurship Training (NGET). The training was organized by UR Centre for Innovation and Entrepreneurship in collaboration with Handong Global University from the Republic of Korea. This training was presided over by H.E Ambassador of the Republic of Korea and the UR Vice Chancellor.





NGET is dedicated to sharing knowledge and experience while delivering education opportunities for developing countries. Prof. Beomha Jee, who led the team that facilitated the training, told us that the programme is geared towards nurturing future leaders who will make an impact to the world peace and prosperity.

The African Center of Excellence in Energy for Sustainable Development (ACE-ESD) won a grant of USD 250,000 to establish an Incubation Centre. The new facility will bridge the gap between academia and industry by tailoring African university graduates as well as research data to industrial needs and current market demands.

The ACE-ESD Incubation Centre provides business coaching and training through boot camps, seed-funding for startups, supports prototype business commencement and helps students to network with industry practitioners, funders, experts and business communities.



## Awards

✚ The Board for International Food and Agricultural Development (BIFAD) has selected Jean-Baptiste Ndahetuye, a doctoral student at SLU, as the winner of the 2019 BIFAD Student Award for Scientific Excellence in a Feed the Future Innovation Lab.

Ndahetuye received the prize in October 2019, for his leadership and engagement on the impact of milk production and udder health and its impact on malnutrition.

✚ Theogene Rizinde, a PhD student in Data Science (Biostatistics) in the African Center of Excellence in Data Science, won an Excellent Research Grant of 43,666,000 RWF provided by the National Council for Science and Technology (NCST). This adds to the 6,021,556,907 RWF other grants in UR.

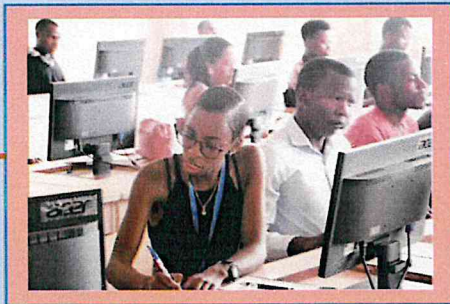
The research project is entitled ‘Prediction and Classification of Heart Failure (HF) in Rwanda using Hybrid Machine Learning Algorithm’.

✚ Eight students from the School of Law emerged winners during the Law Moot Competition which brought together four other local universities.



# Learning and Teaching

## HIGHLIGHTS



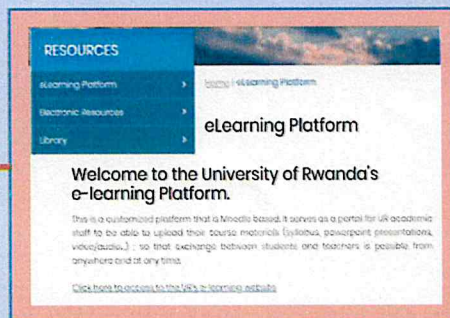
Students and faculty of UR-CST completed a 2 week intensive training to advance skills in Python programming. The training was facilitated by a team from Programming Workshop for Scientists in Africa- PWSAfrica at the University of Glasgow in Scotland.

By introducing the Python programming language through a hands-on approach focused on problem-solving, PWSAfrica initiative intends to provide fundamental skills meant to empower UR scientists to become competitive in their professional careers.



UR has earned a premier international accreditation from the Data Science Council of America (DASCA) – the global giant in data science standards and credentialing. Notably, UR’s African Center of Excellence in Data Science (ACE-DS) is Africa’s first institution to earn the prestigious DASCA accreditation.

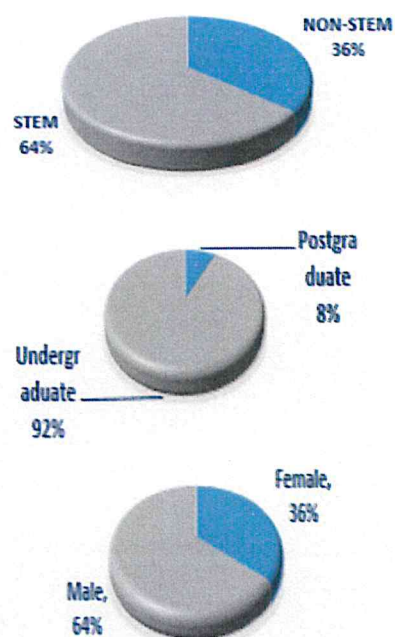
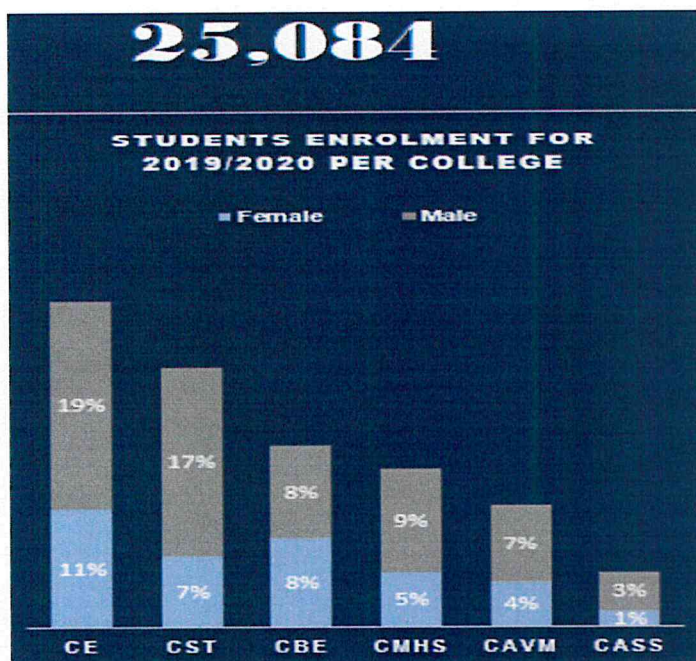
UR-CBE, the host of the ACE-DS, has therefore become an Authorized Education Provider of DASCA, which gave ACE-DS the capability to offer world-class Master’s and PhD programs in frontier areas of Data Science.



UR lecturers have injected more efforts to upload and avail their modules online. The statistics, as of June 2020, indicates that 91% of modules taught at UR are hosted on the eLearning platform.

Particularly, during the COVID-19 pandemic lockdown, all lecturers have worked hard to finish uploading the modules online so that students can remain engaged in their learning process. The number of users have grown from 300 users daily, before Covid-19 pandemic, to 9000 users daily, during lockdown.

## Students Enrolment

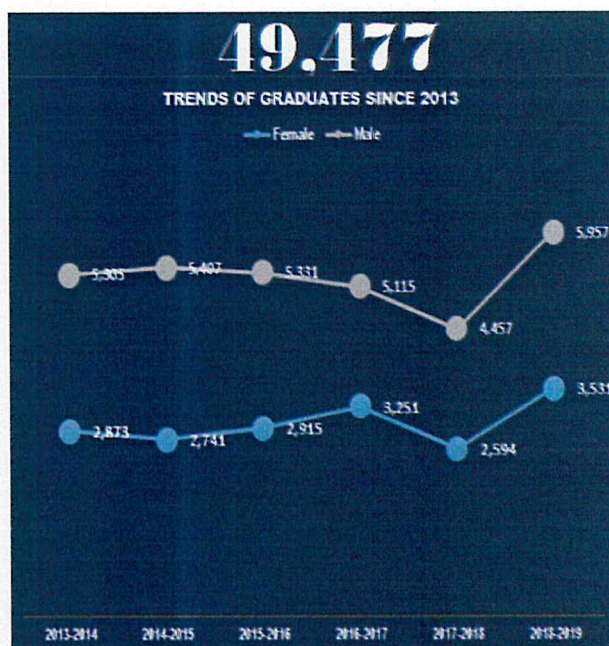


The number of students who were enrolled in Postgraduate programmes in the academic year 2019/20 has increased to 8% from 6% which were enrolled in the academic year 2018/19.

## Graduation

The University held its 6<sup>th</sup> Graduation ceremony, which saw 9,488 graduands conferred with degrees. For the second time, the graduation ceremony took place in Huye Stadium and was presided over by the University's new Chancellor, Patricia Campbell.

The Prime Minister of the Republic of Rwanda, the Rt Hon. Dr. Edouard Ngirente, was guest of honour. In his keynote speech, the Hon. Prime Minister commended the University for initiatives introduced in its teaching, learning and research that complement the Government ambition to develop Rwandans and make them a capable and skilled labour force.



Among the graduates, 25 students were the first intake of the EAC Regional Center of Excellence for Vaccines, Immunisation and Health Supply Chain Management (RCE-VIHSCM) who had completed a two-year Masters program in Health Supply Chain Management.



For sixth time, UR-CST organized a training workshop to equip students with industrial practical skills and field experience in order to revitalize the academia-industry partnership for graduates to be competitive on labor market.

The training was facilitated by Liquid Telecom and KT Rwanda Networks to equip students with skills in fiber optics.



## Engaging with the Community



As a celebration of the International Day of Women and Girls in Science, Dr. Lydie Mpinganzima, spent a day inspiring young scientists. Dr. Mpinganzima shared with the students some real-life applications of mathematics and experiences as a mathematician, lecturer, researcher, woman, and mother.

Following the COVID-19 pandemic outbreak, the Government of Rwanda has established a Rwanda's Joint Task Force in charge of fighting COVID-19 activities. The taskforce is made up of officials and volunteers from various government and non-governments institutions.

Being a leading medical teaching institution, the UR-CMHS staff and students are actively involved COVID-19 screening, Infection Prevention and Control, trace and track Rwandans and residents who have come into contact with cases of confirmed COVID-19 cases to avoid further spread of the coronavirus.



## COMMUNITY OUTREACH



Following the emergence of COVID-19 pandemic and its high threat to people's health, countries worldwide including Rwanda took drastic measures like lockdowns as immediate response. The lockdown affected many sectors both public and private such as transport, bar, restaurants and hotels, education. As a result, many companies have reengineered their operations which in one way or another have affected employees.

To complement to the Government's effort to avail food for the most affected people, UR staff collected money to support the needy located in various Districts of the country with commonly consumed food and other commodities.

## Networking and Partnerships



In August 2019, a delegation of legislators from the Senate of the Republic of Kenya, led by Hon. Enoch Wambua, had a working visit at the RCE-VIHSCM to see the progress of the Centre.

The delegation held discussions with the senior management of the University and the Center's administrators.

The President of Chongqing Normal University, Professor Chen Zhijun, visited the College of Education at Rukara Campus to strengthen academic collaboration between the two universities with an emphasis on teaching and learning Chinese Language and Culture.



Professor George Njoroge, in his welcome note, highlighted that teaching and learning Chinese language and culture is coordinated by the Confucius Institute at the University of Rwanda.



To promote academia-industry linkage, UR teamed up with REMA and INES Ruhengeri in a joint 5-year research project. The collaboration will result in research with direct links to policy in thematic research areas such as:

- Agro-ecology intensification and agro-diversity
- Climate change and variability
- Biodiversity and ecosystem

In the framework of the Partnership for Enhanced and Blended Learning (PEBL), UR has been chosen to share a crosscutting module of the “Introduction to Information Technology”, taught to all UR 1<sup>st</sup> year students, to be offered by PEBL participant universities through blended learning.

PEBL university partners include State University of Zanzibar, Open University Tanzania, Kenyatta University, Strathmore University (Kenya) and Makerere University (Uganda) and University of Rwanda.

UR and Unicaf University entered into agreement to boost capacity for online delivery of UR programmes. Unicaf University’s instructional designers have started working with UR academics to convert a number of University of Rwanda programmes for online delivery through the Unicaf state-of-the-art digital platform and the Virtual Learning Environment, starting with 2 programmes, namely the PGCTLHE and the Master’s degree programme in Health Sciences

## OTHER PARTNERSHIPS

The School of Engineering at the UR-CST signed a joint agreement with Harbin Institute of Technology, School of Transportation Science and Engineering (HIT-TSE) China.

The agreement will see the establishment of a Joint Laboratory for Intelligent Construction, Maintenance Technology and Equipment (ICNTE-Lab) for Transportation Infrastructure. The agreement was signed by the Vice-Dean of HIT-TSE, Prof. Lianzhen Zhang and Dr. Ignace Gatare the Principal of UR-CST.



## Students' Life Experience

In collaboration with Study in Rwanda, UR organized a get-together with new and continuing international students.

The event was an opportunity to come together to share experiences at a holiday period when many students would be staying away from families.



The 6<sup>th</sup> White Coat Ceremony (WCC) was organized and held at Huye Campus, in January 2020, for the Doc 1 students, Class of 2022.

The WCC marks the transition of medical students from preclinical classes to clinical classes.

UR students enjoy sports facilities and opportunity to play at national level in various sports disciplines available in UR.

This year, UR had teams registered at national level competitions in 7 sports disciplines. Those include: Basketball (Men and Women), Football (Men), Handball (Men and Women), Volleyball (Men), Rugby (Men), Karate and Goalball.





# Infrastructure Development

In January 2020, UR welcomed the Korea International Cooperation Agency (KOICA) Country Director in Rwanda who presided over the reopening of the ICT building, known as KOICA building in UR Huye Campus.

Inaugurated in 2011, the building has been upgraded for the School of ICT.



The works to replace asbestos roofing at UR Huye Campus, the biggest of all the nine (9) UR campuses, commenced. Works in other campuses had already started.

The construction works of the CEBE building in the Kigali Special Economic Zone is progressing.

CEBE is a Regional Center of Excellence in Biomedical Engineering and e-Health.



The construction works of the UR Infrastructure Development Project (IDP) has reached 37.32% overall execution rate. The IDP include the construction of the UR Headquarters building (35.93% progress rate), the School of Mining and Geology building (43.59% progress rate), and 3 ODeL Centers (Nyagatare ODeL at 36.46% progress rate, Huye ODeL at 36.32% progress rate, and Busogo ODeL at 25.56% progress rate).



*UR Headquarters Building*



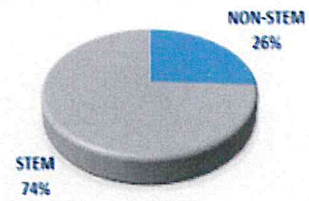
*School of Mining and Geology Building*

# Key Statistics

Trend of students enrollment in Masters and PhD programmes since 2013



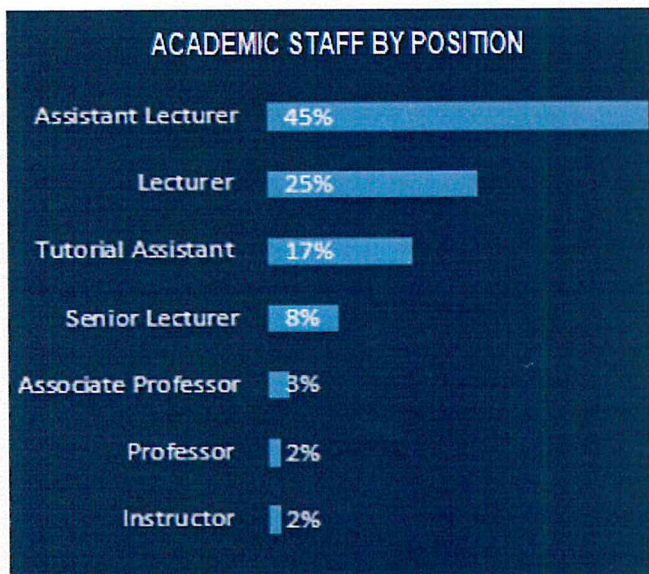
Enrollment in Master's degree Programmes



Enrollment in PhD Programmes



## ACADEMIC STAFF BY POSITION



Part time  
11%



Full time  
89%

Female  
25%



Male  
75%

# Acronyms

ACE-DS:	African Center of Excellence in Data Sciences
ACE-ESD:	African Center of Excellence in Energy for Sustainable Development
ACE-IoT:	African Center of Excellence in Internet of Things
BIFAD:	Board for International Food and Agricultural Development
CASS:	College of Arts and Social Sciences
CAVM:	College of Agriculture, Animal Sciences and Veterinary Medicine
CBE:	College of Business and Economics
CE:	College of Education
CMHS:	College of Medicine and Health Sciences
CST:	College of Science and Technology
DASCA:	Data Science Council of America
DFIG:	Doubly-Fed Induction Generator
ICT:	Information Communication Technology
KOICA:	Korea International Cooperation Agency
PEBL:	Partnership for Enhanced and Blended Learning
PGCTLHE:	Post-Graduate Certificate in Teaching and Learning in Higher Education
PWSAfrica:	Programming Workshop for Scientists in Africa
RCE-VIHSCM:	Regional Centre of Excellence for Vaccines, Immunization and Health Supply Chain Management
REMA:	Rwanda Environmental Management Authority
SABE:	School of Architecture and Built Environment
SDGs:	Sustainable Development Goals
SLU:	Swedish Institute of Agricultural Science
STEM:	Science, Technology, Engineering, and Mathematics
UR:	University of Rwanda