

Research Matters: A world of answers opens up on UP's new science communication platform

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The University of Pretoria (UP) is launching its Research Matters science communication platform to help increase the flow of scientific knowledge and fight misinformation in South Africa, across Africa, and around the world.



“The world is changing at a speed that can leave us dizzy and overwhelmed as we navigate a path to the future,” says Professor Tawana Kupe, UP vice-chancellor and principal. “Universities are right at the centre of research programmes that will shape this future – but their valuable work is often locked up in ‘academic bubbles’ and ‘ivory towers’ that remain mostly inaccessible to the average person.” To help change this picture, UP has thrown open a new window that will help society to get a much clearer view of what happens inside our laboratories, lecture rooms and research spaces.

The specially curated Research Matters portal showcases examples of the rich variety of research underway at UP’s nine faculties and its business school, the Gordon Institute of Business Science (GIBS). Furthermore, it has launched an accompanying digital research magazine, Re.Search, which features articles which are easy to read and demystify the science behind issues. UP aims to cut through scientific jargon by making information more accessible to a broad audience in plain language, supplemented by graphics, video animations and other engaging visual explainers.

“Research Matters will literally open up a new world of answers at the click of your mouse on anything from archaeology to zoology,” Prof. Kupe says. “Asking the right questions and working to get the answers is at the core of what the university aims to do. What the world needs is answers, and UP works to make them a reality.”

Some examples of recent research at UP include the development of synthetic avocado pears made with 3D printers and equipped with tiny electronic sensors to determine what might affect fresh produce during transportation before it reaches supermarket shelves. A master’s student from UP also discovered around 20 gas-rich galaxies hiding in plain sight in a well-studied section of the sky using South Africa’s MeerKAT telescope. Images of the galaxies are housed within a gallery for people with an interest in astronomy to view. Elsewhere on the campus, the Vehicle Dynamics Group is doing research on how to reduce traffic congestion and improve vehicle safety on South Africa’s increasingly busy freeways and urban highways. This includes testing the viability of self-driving cars or early-warning systems for potholes or slippery roads by harnessing 5G communication technology.

UP is the only university in South Africa with a veterinary science faculty, which carries out research that provides unique insights on wild and domesticated animals and pet species. For example, two University of Pretoria veterinarians once saved the life of a sick 5.5-ton elephant at Poznan Zoo in Poland, by performing a surgical extraction of its damaged tusk. Other veterinary research teams have focused on artificial insemination protocols for wild lions, which could help in breeding other endangered large wild cat species.

To enable farmers to adapt to climate change, Professor Este van Marle-Koster at UP's Department of Animal Science is putting together a detailed picture of the genetics of southern African cattle breeds. "As average temperatures rise, we need animals that are adapted to heat, such as the Nguni and the Afrikaner, which have the potential to grow economies and reduce hunger," she explains.

This research forms part of UP's drive to generate research that is future-focused, cross-cutting and transdisciplinary. This means that instead of tackling issues in isolated silos, UP researchers will collaborate with each other across disciplines and with partners in South Africa, our continent Africa and globally to draw together apparently disparate research topics into something more holistic.

Prof. Kupe notes that UP is a leading African research institution both nationally and internationally and that the new website will have more than 450 features conveniently classified under searchable themes. The articles published on Research Matters and in the Re.Search magazine housed on the site will also be of use to academics, media and alumni, along with school learners and the public who yearn for reliable information about our increasingly complex universe.

"The decisions we make today matter as we continuously deliver a world of answers to society through our teaching and learning, our UP ethos, our people and our research," Prof. Kupe says. "Through inclusion, relevance, innovation and impact, UP will positively contribute to communities, societies, ecosystems and the world at large – our commitment is to make a difference locally and globally to today's challenging questions."

The aim is to demonstrate how UP research impacts lives and transforms societies while also creating greater awareness of its research, both locally and globally. "Most western universities have a linear model for research and education, whereas African universities have to take a lateral view on research to show the transformative effect before jumping to innovation itself."

Information generated by Research Matters is crafted to meet the needs of target audiences, by engaging them through interactive content that is media rich and linked to the research theme. Prof. Kupe says, "When scientists communicate more effectively about their research, science thrives. We do all of this to uplift and transform society, finding African solutions for local and global problems."

Specific themes featured in Research Matters include:

- Justice and Society
- Environment
- Art and Society
- Technology
- Animals
- Health
- Architecture and Urban
- Food and Nutrition
- Education
- Engineering
- Science
- Sustainability
- Economics and Business
- Spirituality

- Language and Communication
- History, Heritage and Culture
- Wellness and Wellbeing
- People and Society
- Plants and Soil
- Genomics and Biotechnology
- Biology

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