Communication and Marketing Department
Isebe loThungelwano neNtengiso
Kommunikasie- en Bemarkingsdepartement
Private Bag X3, Rondebosch, 7701, South Africa
Tel: +27 (0) 21 650 5427/5428/5674
www.uct.ac.za | www.news.uct.ac.za

14 October 2026

UCT receives funding from Google to accelerate scientific breakthroughs using AI

The University of Cape Town (UCT) has secured USD$1.6 million (approximately R26.4 million) from Google.org to develop an artificial intelligence (AI)-powered platform that could help doctors make safer, more effective treatment decisions for African patients by mapping genetic variants that affect how their bodies process medicines.

UCT is one of only 17 organisations worldwide selected for the Google.org Impact Challenge: AI for Science, following a competitive process that attracted more than 3 000 applicants across 30 countries. The selected organisations will share an updated total of $36 million in funding.

The UCT academics involved in the project are Professor Kelly Chibale, the Neville Isdell Chair in African-centric Drug Discovery & Development and founder and director of H3D, UCT's drug discovery and development centre; Dr Musalula Sinkala from the Department of Integrative Biomedical Sciences, Division of Computational Biology; Dr Mwila Mulubwa, senior investigator at the H3D centre; Dr Mathew Njoroge, chief investigator at the H3D centre; and Professor Jonathan Shock, interim director of the UCT AI Initiative based in the Department of Mathematics and Applied Mathematics.

"Medicines do not work the same way in everyone, yet the evidence that guides prescribing in Africa has largely been generated elsewhere. Africa is home to the greatest human genetic diversity on Earth, and that diversity must be at the centre of the science that shapes how medicines are used. This award allows us to bring artificial intelligence and laboratory science together to close that gap, and to do so in Africa, led by African scientists, with tools that are open to all. Our goal is safer, more effective treatment for patients on this continent and beyond," said Chibale.

Accelerating the research

Google.org's award will fast-track AfriPGx-AI, an AI-powered platform that maps how genetic variation in African populations shapes how the body metabolises medicines. "This is a timely boost to pharmacogenomic research in Africa, which is research into how human genes affect the way the human body responds to medications. Pharmacogenomic research is very limited in African populations. Using computational approaches and artificial intelligence (AI), the team will catalogue genetic variation across more than 50 drug-metabolising genes in African populations and predict which variants are most likely to alter

how medicines are metabolised. The strongest predictions will then be tested in the laboratory, creating a tight loop between computational prediction and experimental validation that focuses effort where it matters most," explained Chibale.

Breaking down barriers

Most pharmacogenomic guidelines have been developed almost entirely from European and East Asian data, leaving clinicians in Africa to prescribe critical medicines without population-specific evidence. AfriPGx-AI starts with drugs for tuberculosis, HIV and malaria – the diseases that weigh most heavily on the continent and combines AI predictions with experimental data and mathematical modelling to build the evidence needed for safer medicine selection and dosing for African patients.

Chibale said the project's decision-support tools are being designed for low-bandwidth settings so they can be used where they are needed most.

Scaling impact

Software, AI models and curated datasets from the project will be released openly, and findings will be shared through international research databases, allowing researchers worldwide to build on the work.

Because the platform's methods are not tied to a single population or class of medicine, they can be extended to other underrepresented populations and to new therapeutic areas, including cancer and cardiovascular treatments. The award will also train several African researchers, including postdoctoral fellows and postgraduate students (PhD and MSc) in AI, bioinformatics and pharmacogenomics, building lasting expertise on the continent.

"We're at an extraordinary moment for science, as advances in AI open up new possibilities for discovery that were difficult to imagine just a few years ago," said Leslie Yeh, director of scientific progress at Google.org.

"UCT is bringing together AI and deep scientific expertise in ambitious, creative ways to address some of humanity's most important questions. We're honoured to support their work as they apply AI to map genetic variation in African drug-metabolising genes to push the boundaries of scientific discovery and turn breakthrough ideas into real-world impact," concluded Yeh.

ENDS

Issued by: UCT Communication and Marketing Department

Thami Nkwanyane
Media Liaison and Monitoring Officer
Communication and Marketing Department
University of Cape Town
Rondebosch
Tel: (021) 650 5672
Cell: (072) 563 9500
Email: thami.nkwanyane@uct.ac.za
Website: www.uct.ac.za