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1 December 2025

UCT accelerates Africa's genomics future with launch of pioneering short course

A groundbreaking new initiative, the African Genomics Short Course (AGSC), was launched at the University of Cape Town's (UCT) [Faculty of Health Sciences](#) on 1 December 2025. Running until 10 December 2025, the programme marks a significant step in strengthening genomics education, research capacity and scientific leadership across Africa.

The AGSC is a collaborative effort led by UCT and African Society of Human Genetics (AfSHG), Wellcome Connecting Science (WCS) and The Jackson Laboratory (JAX), supported by a growing global network of genomics partners and experts.

Addressing a growing gap in global genomics

Africa is the cradle of humankind and home to the greatest genetic diversity on the planet, yet African scientists and institutions remain underrepresented in global genomics research. As Professor Ambroise Wonkam wrote in *Nature*, "Less than 2% of human genomes analysed so far have been those of African people, despite the fact that Africa, where humans originated, contains more genetic diversity than any other continent."

The AGSC aims to help close this gap by training a new generation of African genomics leaders equipped with advanced research skills, teaching expertise and the ability to build long-term, locally driven training programmes within their home institutions.

The inaugural cohort includes 30 participants, supported by experienced trainers, keynote speakers and curriculum coordinators from across Africa and beyond.

AfSHG Secretary and senior lecturer at UCT, Dr Vicky Nembaware, said: "This course is a powerful example of what can happen when collaborations are genuinely equitable, African insights shaped the agenda, and global partners supported that vision in a respectful and meaningful way. In the long term, we anticipate that this work will meaningfully contribute to the advancement of precision medicine."

Dr Michelle Bishop of WCS expressed deep appreciation for the global collaborative effort, noting: "This programme is grounded in African experience and ambition – created by African researchers for African researchers, and shaped around the priorities of their communities. Alongside training the next generation of genomics scientists, we are also

mentoring emerging leaders who helped design and will deliver the course, working in partnership with established experts in Africa. This intentional support for Africa's rising leadership creates a strong, sustainable pipeline that will drive genomics forward across the continent."

A first-of-its-kind programme for Africa

The African Genomics Short Course addresses persistent challenges in genomics education on the continent, including limited training programmes, shortages of experienced educators and fragmented capacity-building initiatives.

Drawing on globally recognised models such as the McKusick-Nathans Short Course and the African Genomic Medicine Training Initiative, the AGSC integrates these strengths into a single continental training platform anchored by UCT's scientific leadership.

Designed as an intensive 10-day residential programme, the AGSC will rotate annually across African institutions and includes hands-on training in:

- Human and infectious disease genomics
- Bioinformatics, AI and data science
- Medical and clinical genetics
- Public health genomics
- Research ethics and equitable data practices
- Leadership, mentorship and curriculum development

Strengthening Africa's role in global genomics

"Africa's genomic diversity is unmatched in the world, and expanding African leadership in genomics is essential for global scientific advancement," said Professor Collet Dandara, Head of the UCT [Department of Human Genetics](#). "The African Genomics Short Course is more than a training programme – it is an investment in Africa's future scientific workforce, institutions and innovation ecosystem."

Looking ahead: A decade of impact

Over the next decade, the AGSC aims to:

- Train at least 250 Africa-based researchers
- Build a continent-wide network of genomics educators and mentors
- Strengthen institutional capacity for genomics research and teaching
- Promote equitable, ethical and sustainable genomics research practices

By expanding genomics research and training across Africa, the AGSC is set to increase African representation in global reference datasets and accelerate the continent's contribution to precision medicine. In establishing this programme, UCT's leadership underscores the institution's role as a key driver of scientific excellence and capacity development across Africa.

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