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8 July 2024

UCT partners in groundbreaking genomics and bioinformatics training for 400+ African scientists annually

The University of Cape Town (UCT) has played a significant role in the African BioGenome Project (AfricaBP), an initiative highlighted in a recent Nature Genetics report which has launched successful grassroots genomics and bioinformatics programmes to train over 400 African scientists annually. It represents a landmark in advancing scientific capacity across the continent.

In 2023, AfricaBP implemented the Open Institute for Genomics and Bioinformatics Regional Workshops (Open Institute), conducting 28 workshops across 11 African countries and covering all five African geographical regions. These workshops attracted over 3 700 registered participants, with 408 scientists receiving hands-on training in molecular biology, genomics, bioinformatics, and the ethical, legal, and social issues associated with acquiring genetic resources. Notably, over 40% of the participants were female, reinforcing the commitment to inclusive representation within the field.

UCT's involvement in AfricaBP underscores its dedication to research excellence, education, and capacity building. Chairperson of the Sample Collections and Processing Sub-committee and UCT Training and Outreach Program Manager Verena Ras stated: "Our participation in the African BioGenome Project showcases UCT's commitment to fostering a robust network of skilled genomicists. We are unlocking the full potential of Africa's natural heritage for future generations."

The workshops have already led to several exciting and transformative outcomes, including:

- **Launch of the African Genome Center (AGC) Fellowships:** In collaboration with the African Genome Center in Morocco and the Carl R. Woese Institute for Genomic Biology at the University of Illinois Urbana-Champaign, these fellowships support emerging genomics leaders.
- **Mainstreaming Genomics and Bioinformatics:** Integrating local genomics into mainstream research and applications.
- **Public-Private Partnerships (PPP):** Engaging 24 academic partners and nine industry sponsors to mobilise resources, establish partnerships, and increase awareness of available technologies, products, and services.
- **Multilingual Education:** Offering workshops in English and French, with future plans for translations into local languages such as Kikongo and Arabic.

- **African Digital Sequence Information Databank:** Establishing a databank for biodiversity and agriculture.

Chairperson of AfricaBP and Deputy Vice-Chancellor of the National Defence University-Kenya Professor Anne Muigai, emphasised the programme's long-term vision: "The success of the 2023 workshops is a foundation we will build on to ensure sustainable capacity development in genomics and bioinformatics across Africa. We envision a future where African institutions lead the way in fostering a sustainable and continuous impact."

AfricaBP's influence extends beyond immediate training outcomes. The project aims to shape the future of genomics and bioinformatics through strategic initiatives and partnerships. Co-Founder of AfricaBP, Professor Appolinaire Djikeng, highlighted the project's broader significance: "The 400+ scientists trained are now part of a community of practice supporting efforts to address biodiversity challenges in Africa. Our resilience in food systems relies on leveraging our rich biodiversity, and AfricaBP is at the forefront of this endeavor."

The future of the Open Institute is bright, with plans to expand practical sessions, create new fellowship opportunities, and engage with funders to better support African scientists. Founder & Co-Chair of AfricaBP, Dr ThankGod Echezona Ebenezer, said: "Future workshops will exemplify solutions for specific genomics problems in the African context through innovative approaches like hackathons."

UCT remains committed to supporting AfricaBP's vision and contributing to the continent's scientific advancement and sustainable development. This groundbreaking initiative represents a new era for genomics and bioinformatics in Africa, fostering collaboration, innovation, and policy change.

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