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BioGenome project helps address enormous need for bioinformatics training in Africa

The University of Cape Town (UCT) will be one of the beneficiaries of the African BioGenome Project (AfricaBP), a project that seeks to accelerate knowledge exchange in biodiversity genomics and bioinformatics among African scientists.

The successful implementation of the project was published in the [Nature Biotechnology](#) journal on Tuesday, 12 September 2023. The AfricaBP will work in close collaborations with local African institutions.

Since its inception in 2021, the AfricaBP has made significant gains towards its ambitious goal of sequencing 100 000 endemic African species within the next 10 years. It has hosted widely-attended workshops in partnership with African institutions and organisations and global partners such as the University of Port Harcourt (Nigeria), Inqaba Biotechnical Industries in South Africa, and the Vertebrate Genome Project in the United States.

Over 700 registered participants from 29 countries learned about the cutting-edge technologies shaping the biodiversity and genomics field. The event provided insights into various aspects of genomics and bioinformatics, including understanding current global genomic databases, tools and resources.

Professor Nicola Mulder of the Division of Computational Biology at UCT said: "The AfricaBP Open Institute is helping to address the enormous need for bioinformatics training in Africa, particularly in biodiversity. This follows on from and complements the extensive training activities of H3ABioNet, which we have led from UCT.

"H3ABioNet has trained over 4 500 people in Africa in various bioinformatics topics and is providing support to the AfricaBP. A continent-wide institute that supports the data-related needs in genomics is essential to ensure African scientists are empowered to analyse their own data."

The Open Institute of AfricaBP aims to lower some of the barriers that prevent the advancement of biodiversity genomics and bioinformatics knowledge exchange across Africa by focusing on five key priority areas:

- Curriculum development

- Technology development and infrastructure
- Promoting grassroots knowledge exchange and equitable partnerships
- Maximising data ownership and sovereignty
- Scientific enterprise and industry

Professor Anne Muigai, chair of AfricaBP and Professor at the National Defence University-Kenya, said: "The high number of applications we are receiving for each workshop shows that there is a need and a hunger for training in bioinformatics and genomics in Africa. The Open Institute seeks to address this by making the workshops and training accessible at almost no cost to the participants".

Looking to the future of the Open Institute, AfricaBP will broaden outreach to increase representation of participants from across the continent, especially in areas that currently have minimal genomic activity. Attendees of the 2022 events expressed satisfaction with material and content delivery and had interest in participating in future and upcoming workshops. There are currently five more workshops planned by the end of 2023, including two online and three hybrid workshops.

Verena Ras, training co-ordinator at UCT's Division of Computational Biology, joined the project towards the end of July 2021 and later took on the role of chairing the Sample Collection and Processing Sub-committee within AfricaBP's pilot project. "I have two co-chairs and together we work to drive the development of collection and processing standards alongside all our stakeholders and partners. We also aim to ensure the ethical collection of all specimens contributed to the project.

"The project holds the potential of becoming a pivotal force in catalyzing and propelling the accumulation of essential expertise in biodiversity genomics throughout the continent. With the 'genomics revolution' well underway in Africa, it is imperative to assemble a formidable collective of knowledge and skills capable of harnessing the wealth of biodiversity data being generated," said Ras.

Dr ThankGod Ebenezer, founder and co-chair of AfricaBP and a bioinformatician at the University of Cambridge School of Clinical Medicine, said: "One of the major significance of the project is its timeliness at a moment when the African Continental Free Trade Area (AfCFTA) agreement is already in effect. Through such a knowledge exchange platform, there is an economic case and justification for organisations, African national science agencies, local and international partners, to support this effort which keeps Africa on the right track for a federated genomic and bioinformatics infrastructure that will contribute to Africa's bioeconomy".

[Read the article.](#)

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