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The African Bioinformatics Institute: Building Data Infrastructure for Genomics in Africa

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Africa has traditionally lagged behind in life sciences research due to limited funding, infrastructure, and human capacity. Yet the growth of genomics and other large-scale data-driven projects now demands robust cyber-infrastructure for data storage, processing, and sharing. H3ABioNet made a significant contribution to building bioinformatics capacity across Africa over 12 years, but its funding has ended. In 2024, the community received a major boost with support from the Wellcome Trust and Chan Zuckerberg Initiative to establish the African Bioinformatics Institute (ABI).
The ABI is being developed as a distributed network of African institutions, with a mandate to coordinate bioinformatics infrastructure, research, and training. A central focus is on enabling African scientists and public health institutes to manage and analyse large, complex datasets generated by initiatives such as national genome projects, pathogen genomics surveillance, and the African Population Cohorts Consortium. To meet these needs, the ABI is working with global partners, including the GA4GH, to promote adoption of international standards and tools that enable secure, responsible data sharing.
The Institute will coordinate the development of a federated network of trusted research environments (TREs), ensuring data governance frameworks are locally appropriate while interoperable with global systems. By hosting African databases and resources, and fostering collaborations across institutions, the ABI will both drive demand for advanced compute and storage solutions and contribute to shaping how cyber-infrastructure supports genomics on the continent. In doing so, it will bridge local and global research ecosystems and advance the responsible use of genomic data for health impact.

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