

**African Bioinformatics
Institute
Information Session
31st October 2024**



Agenda

- Welcome & logistics
- Mentimeter
- Work leading up to now
- Introduction to the African Bioinformatics Institute concept
- Suggested structure and governance
- Value proposition
- Equity, Diversity and Inclusion
- Mentimeter and Q&A
- Upcoming events and actions
- Mentimeter
- Closing



Mentimeter

Welcome & logistics

- Welcome to all attendees (>550 registrations)

- **Logistics:**

We have a translator tool for French speakers which you should see on the screen

We will be using Mentimeter to get your input

The session will be recorded, and the recording made available

- Please use the **Q&A** function, **NOT** the chat box to ask questions, and we will address these during the Q&A

Let's find out more about you:



Welcome to the African Bioinformatics Institute (ABI) Information Session Live Poll!

Go to

www.menti.com

Enter the code

2662 2454



Or use QR code



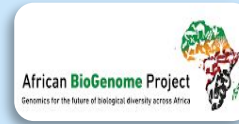
Work leading up to now

- H3ABioNet developed bioinformatics capacity and resources for H3Africa –main focus was in human genomics
- Many other bioinformatics initiatives worked in parallel, e.g. AfricaBP has been doing capacity development for biodiversity

Motivation:

- How do we sustain the capacity developed by these initiatives to address the ever-increasing need for bioinformatics across all life sciences
- How do we support all the emerging big data initiatives on the continent

Need to support multiple existing and emerging African life science initiatives



Development of the ABI concept



- Idea was presented >10 years ago in H3ABioNet by Faisal Fadelmola
- H3ABioNet sustainability WG took the idea forward to investigate possible models, charter, etc. through an internal ABI Steering Committee
- We realized the need to go broader than H3ABioNet and human genomics
- Had discussions with and/or presented to some large data initiatives (AfricaBP, APCC, H3Africa Genome Analysis WG, Africa CDC, African Open Science Platform)
- Engaged funders, and were given a window of opportunity with short turn-around time to submit a request for seed funding

Thanks to

Wellcome Trust (Ekin Bolukbasi & Christiane Hertz-Fowler)

Chan Zuckerberg Initiative through the Silicon Valley

Community Foundation (Dario Taraborelli)

Introducing the African Bioinformatics Institute (ABI) idea

What ABI is NOT

- H3ABioNet II
 - H3ABioNet was a funded resources project with predetermined nodes and deliverables for H3Africa
 - ABI goes beyond H3ABioNet and human focus
- *A Fait Accompli*
 - No predetermined hub or sites
 - Placeholder @ UCT -funding will move to a newly established entity
 - Concept needs to be shaped and co-created by stakeholders
- Funded sufficiently to address everyone's bioinformatics needs
 - Seed/catalytic funding, first requirement is stakeholder engagement
 - Then we can move rapidly into implementation
 - Need to be strategic in leveraging funds to attract additional funding –demonstrate value and impact
- Everything bioinformatics in Africa
 - ABI doesn't have to control everything, there is a choice to join
 - ABI can support and link bioinformatics activities
- A society
 - ASBCB exists, ABI will have specific mandates, but should work with ASBCB

What ABI should strive for

Mission

Provide the resources, expertise, and infrastructure in the field of bioinformatics for the African continent to advance life science research and application to address the sustainable development goals

Address the need to increase **the continent's capacity in bioinformatics** and data science

Provide a high quality bioinformatics infrastructure for **pandemic preparedness, health and precision medicine**

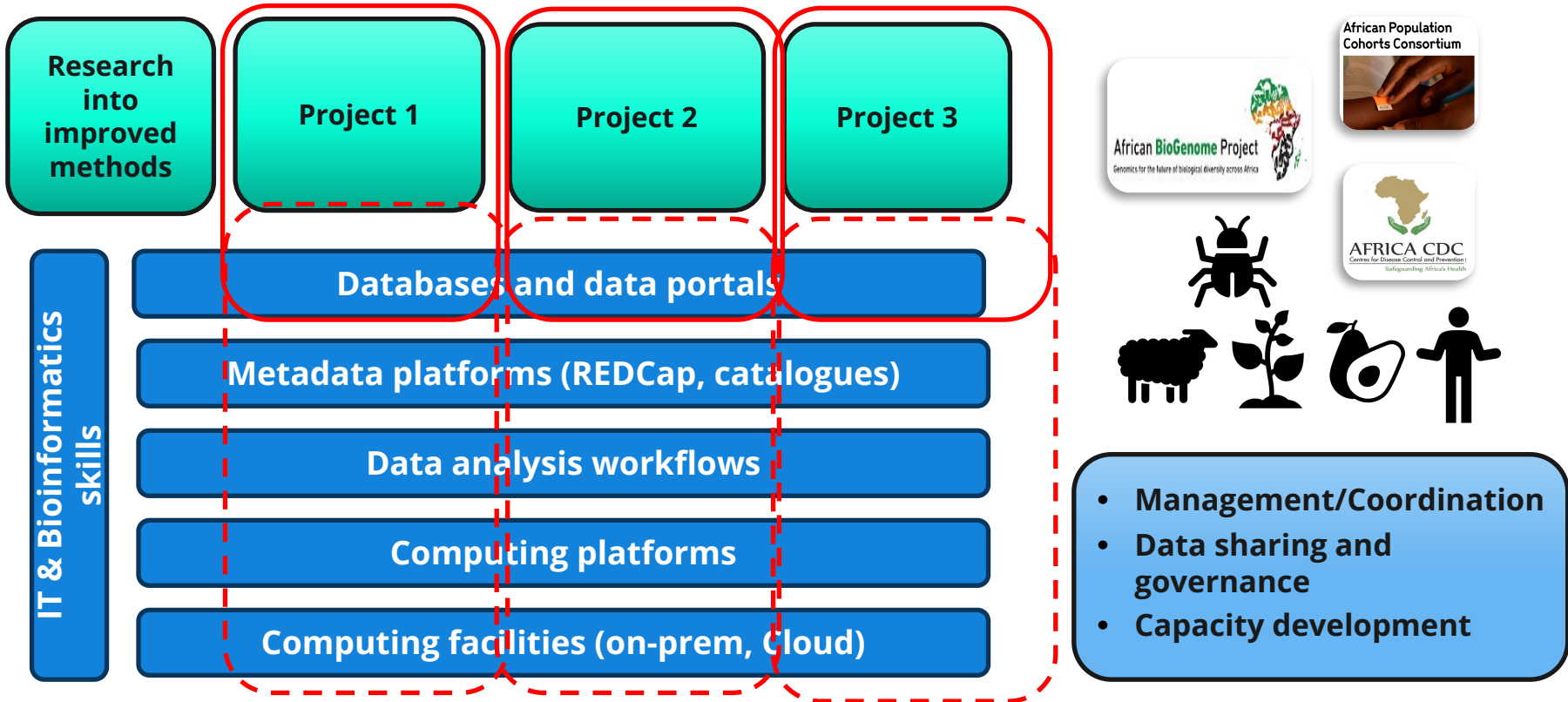
Provide a high quality bioinformatics infrastructure to **support agriculture, biodiversity and other life sciences**

Promote knowledge exchange, and sharing of data and insights to **strengthen life science applications**



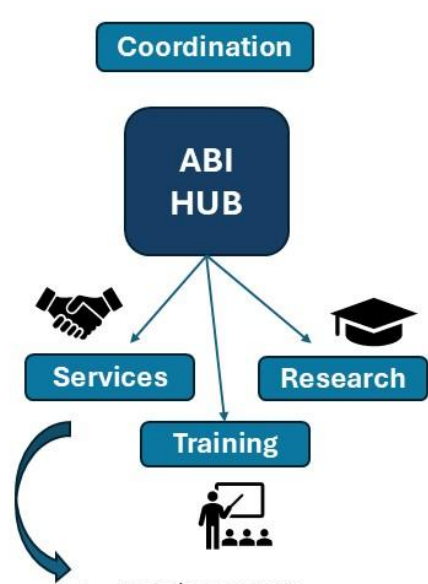
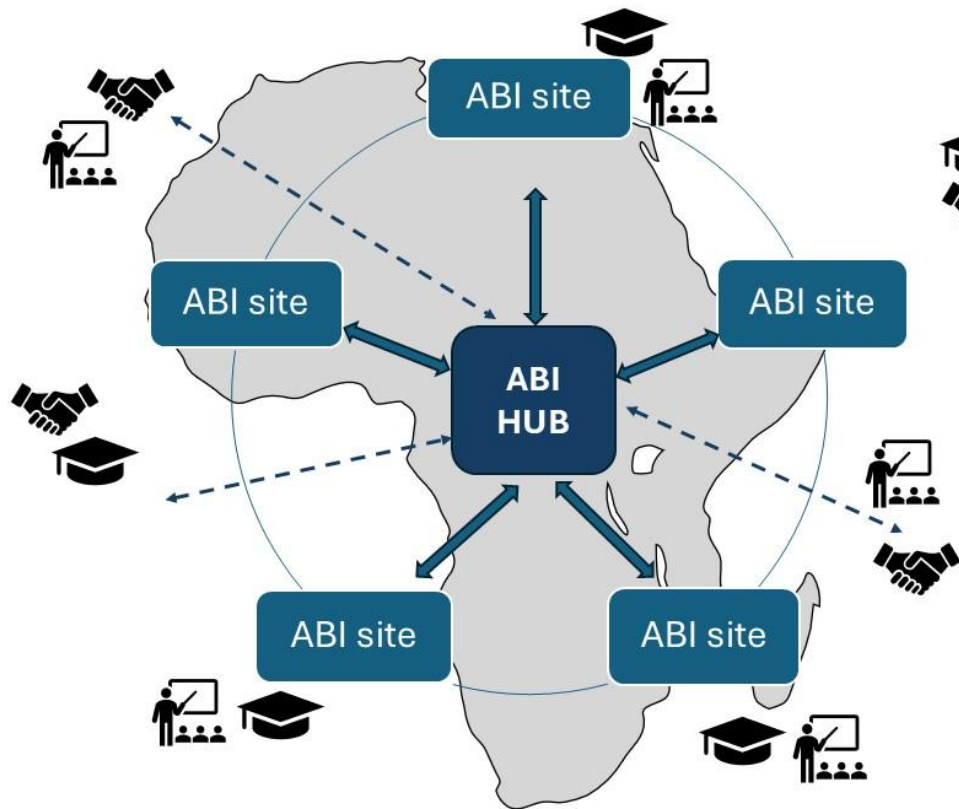
Federate world-class **bioinformatics researchers** and deliver **training in bioinformatics**

How ABI can support large data-driven projects



ABI suggested structure

Looked at existing successful models: EBI, ELIXIR, **SIB**

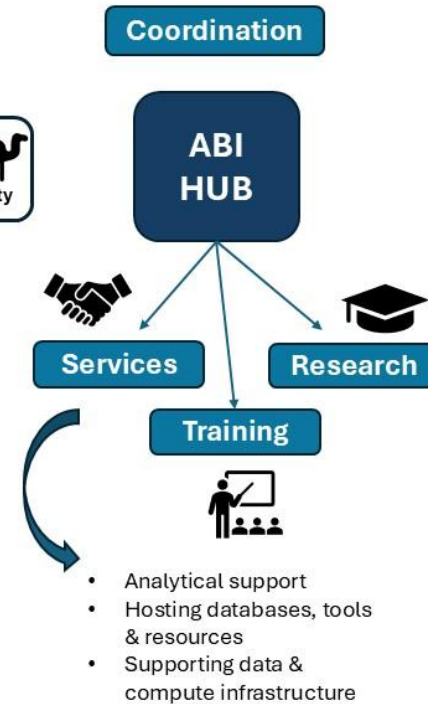
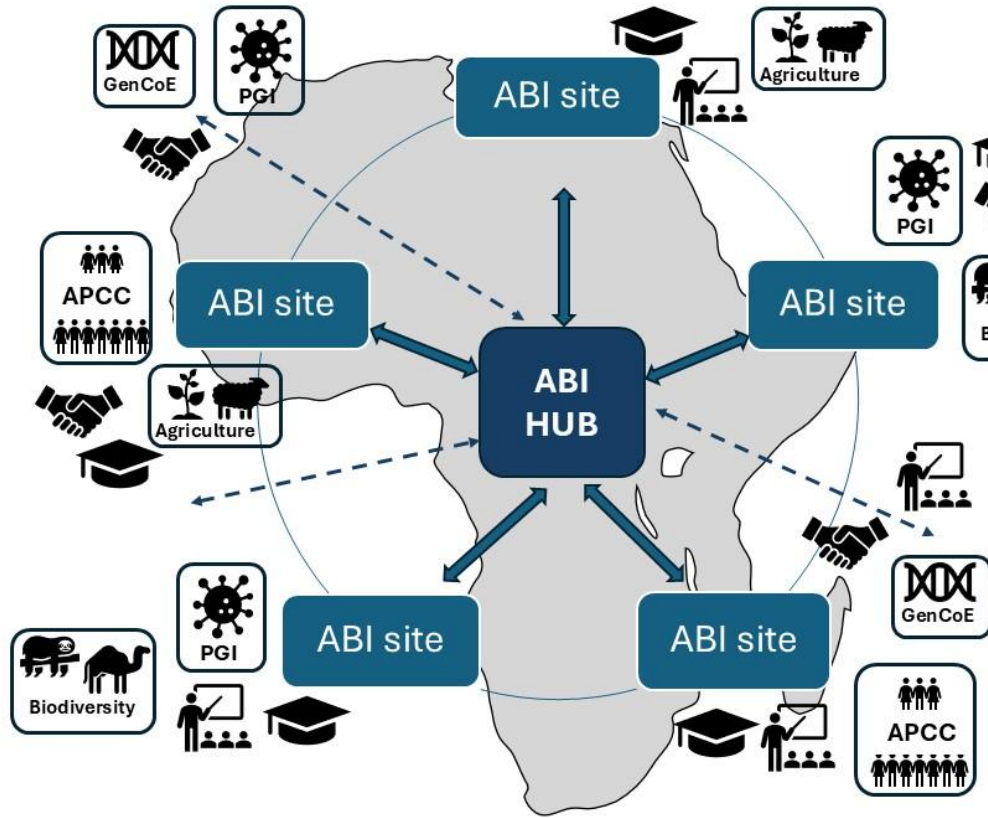


- Analytical support
- Hosting databases, tools & resources
- Supporting data & compute infrastructure

Can consider regional hubs

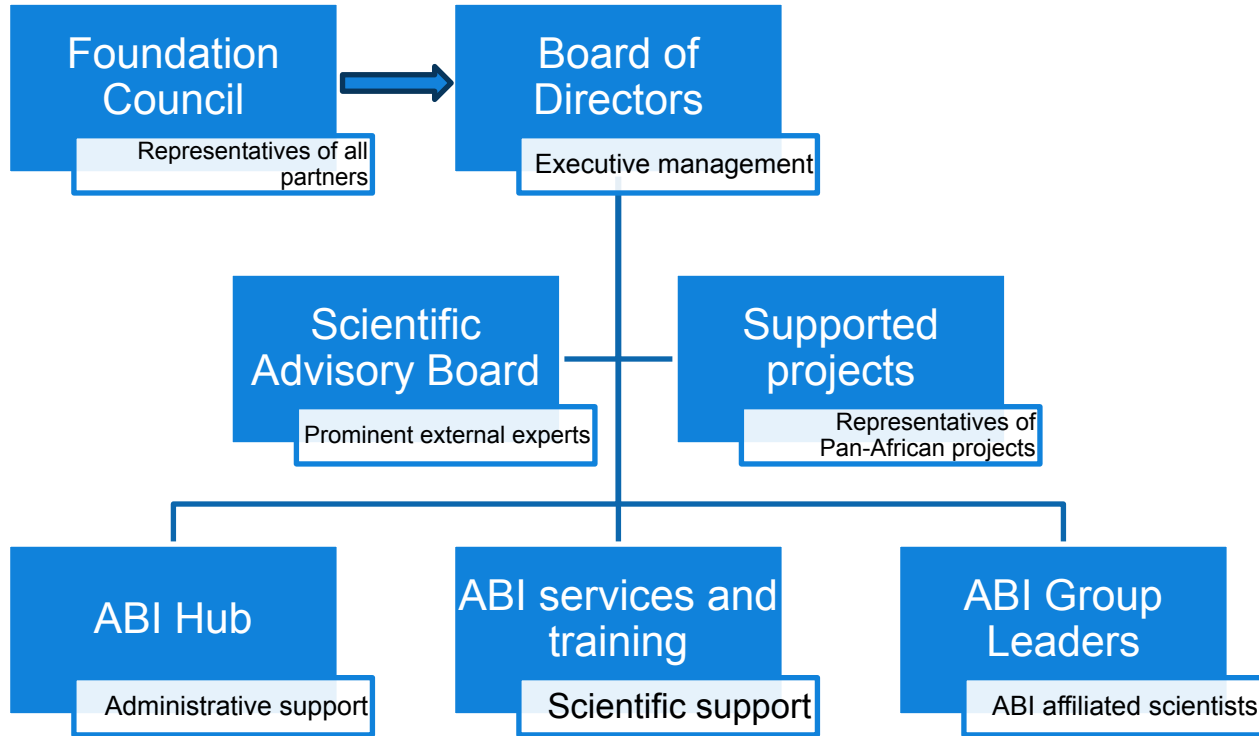
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Support National Public Health Institutes

Proposed Governance model for the ABI



Foundation Council

- Holds ultimate power over ABI strategy and operations
 - Approves budgets, approves top management hires, approves group leader appointments, approves contracts
- Includes representatives of all ABI partners and stakeholders
 - Academic and research institutions, public health institutions, governments, funders, international organizations, private sector partners
- No limit on size, meets once a year in person or remotely
- Chairperson liaises with ABI management

Board of Directors

- Small group (5-7 people) composed of ABI Director and Associate Director, representatives of Group Leaders, and representatives of stakeholders
- Meets on a regular basis (typically monthly or bi-monthly) to discuss ABI current affairs
- Can make executive decisions
- Responsible for setting the agenda of the Foundation Council, in consultation with its Chair

Scientific Advisory Board

- Composed of 5-6 prominent computational biologists with deep knowledge of African context, meets at least once a year
- Primary role in ensuring scientific excellence of the ABI
- Assesses candidates for Group Leader appointments
- Assesses quality and success of ABI research, services and training programs
- Produces yearly report on ABI activities, proposes changes in strategy if needed

ABI Hub

- Physical site of the ABI administration, at a location to be determined through the stakeholder engagement process
- ABI will incorporate as a non-profit organization at the location of the Hub
- The Hub will likely house much of the ABI computing infrastructure
- The Hub will be responsible for coordination of ABI activities across Africa

ABI Group Leaders

- Any scientist working on computational aspects of life sciences is encouraged to apply
- Dossiers will be vetted by the Scientific Advisory Board
- Group Leaders may have a primary mission of research, service or training, or any combination thereof
- Most Group Leaders will keep their existing affiliations and salaries at academic institutions across Africa, but some may be hired by the ABI to fulfil specific missions
- Group Leaders are expected to participate in ABI collaborative projects

ABI value proposition and anticipated outcomes

ABI can address critical challenges in African life science and health through cutting-edge bioinformatics research, capacity building, and the development of innovative solutions. **The ABI offers a unique opportunity to make a lasting impact on the health and well-being of Africa's people, flora and fauna and address several SDGs**



Training & Capacity Building

ABI can federate and support African researchers and deliver training in bioinformatics and data science. It should focus on building a computing infrastructure for the life sciences and supporting data gathering and analysis projects.



Supporting life science research

ABI should establish bioinformatics capacity dedicated to supporting life science research in Africa. This will facilitate the analysis, interpretation, and integration of data, enabling advancements in research relevant to Africa.



Promoting translation and innovation

ABI can provide high quality bioinformatics services and expertise for translating data into products, contributing to global health security and enhancing innovation and biotechnology



Supporting software Development, Data Repositories

The ABI should support the development and maintenance of software tools and workflows, as well as repositories specifically designed to support the analysis, curation, custody, and dissemination of African datasets

Equity, diversity and inclusion

Recognizing that the seed funding cannot address every bioinformatics need on the continent, ABI must strive for EDI through:

- Inclusion of all relevant stakeholders in the co-creation process (please connect us) and lobbying our institutions & governments

Engagement sessions should ensure geographical reach and language should not be a barrier to participation

- Hold sessions in different regions, all will be hybrid to enable virtual attendance, and translators should be available

While ABI should aim for research, training and service excellence, it should not leave others behind

- ABI should deliver world class bioinformatics and at the same time help to develop capacity where it is needed

Current funding is limited, but diversity in data and organism is important

- All life sciences should be given the opportunity to participate

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Questions?

Please type your question in the **Q&A** function NOT the chat box

If we do not get to answer your question now, we will try to create a FAQ to answer your question after the session

Plans & Next Steps

Lobby institutions and governments to fund raise

Stakeholder engagement sessions

Establish ABI hub and appoint Director

Appoint Group leaders to host sites

Establish ABI governing bodies

Co-create the ABI

Set up the ABI structure

Commence ABI activities

Establish training program

Federate world class research

Support big data projects

Establish other Bioinformatics services

Demonstrate value & impact

Capacity Development

Upcoming events and actions required

Expression of interest in hosting an ABI site

Expression of interest in hosting the ABI hub

Expression of interest in Director position

Stakeholder engagement sessions

REDCap survey: to get an idea of the interest and existing capacity for sites and interest in hub

<https://redcap.h3abionet.org/redcap/surveys/?s=RAA4ERLP3KNTEMKE>

Draft advert, send email to **abi-info-group@uct.ac.za**

<https://tinyurl.com/yn663vm2>

- November: Africa CDC CPHIA conference Morocco –*conference postponed*
- January: hybrid session in Cape Town and virtual
- February: AfSHG conference Uganda
- *More to come...*



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Thank you for attending

*We look forward to your
contributions to ensure the ABI is
established to serve the needs of
its stakeholders*

Contact us: abi-info-group@uct.ac.za