

ADVANCED GENOMICS AND BIOINFORMATICS TRAINING WORKSHOP
The Biosciences eastern and central Africa – International Livestock Research Institute Hub (BecA-ILRI)
Hub in collaboration with the Swedish University of Agricultural Sciences (SLU)
August 8 – 19, 2016
Nairobi, Kenya

CONCEPT NOTE

Background

In the last 10-15 years, computational biology and bioinformatics has increasingly attracted attention in developing countries, owing to the relatively low requirements in terms of capital and technological infrastructure *vis-a-vis* its wide scope of application in genetics, biochemistry and molecular biology research. Indeed bioinformatics has enabled researchers in many developing countries to make significant advances in diverse research areas such as virus discovery, diagnostics, environmental genomics and diverse opportunities in biotechnology. In the Africa National Research Systems (NARS), however, extremely wide disparities exist in human resources and infrastructural capacities to access and fully exploit the application scope of genomics and bioinformatics. Efforts to build capacities of researchers in Africa's NARS have the potential to catalyze cutting-edge, hypothesis-based research that will accelerate Africa's scientific and technological development. The African continent has suffered considerably from the digital divide, and unless efforts are focused on priority strategic capacity building to support the Science Agenda for Agriculture in Africa (S3A), Africa runs the risk of suffering severely under the emerging "bio-divide". It is imperative that researchers in African NARS continuously build their capacity in biosciences, including genomics and bioinformatics.

The Biosciences eastern and central Africa-International Livestock Research Institute (BecA-ILRI) Hub and SLU have designed the training workshop on Advanced Genomics and Bioinformatics to "*train the trainer*". The impact will go beyond the 20 researchers that will be trained at BecA-ILRI Hub, thus expanding the network of NARS researchers with strengthened capacity for application of genomics and bioinformatics in research addressing pressing agricultural challenges in Africa.

The BecA-ILRI Hub - SLU capacity building partnership

The BecA-ILRI Hub - SLU partnership was initiated to provide scientific informatics support for research projects led by researchers in the NARS in eastern and central Africa. The intention is to build genomics and bioinformatics capacity to address previously intractable problems constraining Africa's development by making available genomics protocols, computational hardware and bioinformatics software used to conduct research in areas that offer promise. The scope covers agriculture improvement and food security and their intersections with human health and nutrition, and the sustainable use of Africa's natural resources.

Training workshop objective

The primary objective of the training workshop is to strengthen the capacity of researchers in African NARS of BecA countries to apply genomics and bioinformatics in research for addressing demand-led research challenges. The skills and knowledge gained will be transferred to a wider group through BecA-ILRI Hub capacity building program's Participant Action Plan Approach (PAPA) mechanism.

Target group

The training workshop primarily targets researchers in the NARS of the eighteen BecA countries. Key among these are the early career researchers and women engaged in bioscience research utilizing computational methods and familiar with molecular biology and genomics wet-lab based activities.



Expected outputs and outcomes

- At least 20 researchers improve their skills and knowledge in application of advanced genomics and bioinformatics in research. The researchers trained during this course will transfer the skills and knowledge gained to a greater number of researchers in the national research systems through mechanisms facilitated by BecA-ILRI Hub.
- A better understanding among researchers of the potential of genomics and bioinformatics in improving agriculture in Africa.
- A synthesis of key issues affecting rigorous application of genomics and bioinformatics by researchers in Africa. These will inform future strategic direction for BecA-ILRI Hub's capacity building program and partners' programs.
- New connections and networks created as a result of interaction during the training.
- A greater number of NARS researchers.

Important dates

- Application deadline: 8th July 2016
- Notification to successful applicants: 15th July 2016
- Training dates: 8st – 19th August 2016

Training venue

The training workshop will be held at the BecA-ILRI Hub located within the ILRI Campus, Nairobi, Kenya. BecA-ILRI Hub is a shared agricultural research and biosciences platform located at and managed by ILRI in Nairobi, Kenya. The platform increases access to world-class laboratories for African and international scientists conducting research on African agricultural challenges. The BecA-ILRI Hub's mission is mobilizing bioscience for Africa's development, by providing a centre for excellence in agricultural biosciences. This enables research, capacity building and product incubation, conducted by scientists in Africa and for Africa, and empowers African institutions to harness innovations for regional impacts in improved agricultural productivity, income, and food and nutritional security. More information is available at: <http://hub.africabiosciences.org/>

Sponsors

The training workshop is funded by the Australia Government Department for Foreign Affairs and Trade (DFAT) through a partnership between Australia's Commonwealth Scientific and Industrial Research Organization (CSIRO) and the BecA-ILRI Hub, the Syngenta Foundation for Sustainable Agriculture, the Bill & Melinda Gates Foundation (BMGF), the UK Department for International Development (DFID) and the Swedish International Development Cooperation Agency (SIDA).