

ADVANCED BIOINFORMATICS TRAINING WORKSHOP

organized by

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 18 – 29, 2014

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, however, extremely wide disparities exist in human resources and infrastructural capacities to access and fully exploit the application scope of bioinformatics. Efforts to build capacities of researchers in Africa's national research systems 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 BecA-ILRI Hub and SLU have designed the training workshop on Advanced Bioinformatics to “*train the trainer*”. The impact will go beyond the 25 researchers trained at BecA-ILRI Hub, thus expanding the network of NARS researchers with strengthened capacity for application of 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 national agricultural research systems of eastern and central Africa. The intention is to build 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 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 national research systems of BecA countries to apply 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 /mechanism.

Target group

The training workshop primarily targets researchers in the national research systems of the eighteen BecA countries. Key among these are the early career researchers and women engaged in bioscience research utilizing computational methods.

Expected outputs and outcomes

- At least 25 researchers improve their skills and knowledge in application of advanced 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 bioinformatics in improving agriculture in Africa.
- A Synthesis of key issues affecting rigorous application of 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 researchers.



Important dates

- Workshop announcement date: 30th May 2014
- Application deadline: 30th June 2014
- Notification to successful applicants: 10th July 2014 (indicative)
- Training dates: 18th – 29th August 2014

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 United Nations Educational, Scientific and Cultural Organization (UNESCO), the *Syngenta Foundation for Sustainable Agriculture*, the Bill & Melinda Gates Foundation, and the Swedish Ministry for Foreign Affairs through the Swedish International Development Cooperation Agency.