I am truly grateful for the opportunity to participate in this short-term training. Molecular biology and biotechnology are relatively new sciences in Ethiopia and they come with unique challenges, particularly in accessing essential materials required for basic molecular biology activities. This training is essential in bridging the gap by providing me with the knowledge and skills required to manufacture our enzymes, such as DNA polymerases, thereby making it easier to carry out our research and contribute to biotechnological advances in agriculture. Additionally, this training presents networking opportunities and the chance to learn from experienced professionals in the field. I am excited to learn and contribute to the growth of these sciences in Ethiopia.

Hulubanche Tadele Kassa
Researcher - Amhara Agricultural Research Institute (ARARI), Molecular & Plant tissue culture laboratory
Bahir Dar, Ethiopia

Contact Information
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Severe scarcity of reagents especially enzymes and the low budget allocation for undergraduate student’s practical’s has made these experiments very costly. As a molecular biologist, specializing in restriction enzymes (molecular scissors), this training will help me learn new innovative ways to solve these challenges locally.

Rotich Alex Kiplagat
Graduate Research Assistant - Jomo Kenyatta University of Agriculture and Technology, University of Eldoret & Mt. Kenya University.

Building Capacity for Home-grown Biosciences Research and Commercialization
The Africa Biosciences Hub (AfriBIOHub) is a center of competence in biotechnology hosted by Kenyatta University. It was established through the Feed the Future Striga Smart Sorghum for Africa project, a collaborative program between the International Service for the Acquisition of Agri-biotech Applications (ISAAA) AfriCenter, Kenyatta University, Addis Ababa University, Ethiopia’s Bio and Emerging Technology Institute (BETin), and the African Agricultural Technology Foundation (AATF), with technical backstopping from Beneficial Bio Limited, United Kingdom. The AfriBIOHub is dedicated to establishing a technology platform that incorporates biology, intellectual property, hardware, policy, social science and economics, towards creating a sustainable, open and equitable bioeconomy in the region.

Our objectives are to:

1. Accelerate diffusion of biotechnology through provision of training and promotion of home-grown research & development activities in the region.
2. Reduce cost of conducting biotechnology research by promoting local biomanufacturing of essential reagents and equipment.
3. Nurture biotechnology start-ups through bioentrepreneurship training and mentoring Africa’s rich pool of young early career scientists.

Current Projects & Activities

**Enzyme Manufacturing MasterClass**

In partnership with Beneficial Bio, AfriBIOHub has protocols and tools that can be used to optimize different aspects of the production of essential enzymes for use in teaching and research.

**Plant Transformation**

In partnership with a leading global crop science company, AfriBIOHub is developing an agri-biotechnology platform to support application of the advanced biotechnology to local context through a flagship project *Feed the Future Striga Smart Sorghum for Africa (SSSfA)*. The Project aims to develop and deploy of genome edited (GEd) demand-driven sorghum varieties resistant to Striga, a parasitic weed that adversely affects food and nutritional security in sub-Saharan Africa. The genome-editing platform will be made available to researchers for use in other crops.

**Bioentrepreneurship Training & Mentoring Program**

The bioentrepreneurship training and mentoring program aims to help researchers and inventors in biosciences develop a roadmap to realize the socio-economic and commercial potential of their innovations. Bioentrepreneurs receive training and guidance to discover, build and actualize their skills, talents and confidence, guided by a community of technical and business mentors. They complete the program by pitching commercialization plans to potential investors.

**BioDesign MakerSpace**

The AfriBIOHub houses a production unit that can supply common molecular biology reagents to hub users as well as a Biodesign Makerspace to locally design and fabricate simple molecular biology equipment such as gel imagers, gel electrophoresis tanks, magnetic separation beads and other simple equipment cutting on the prohibitive cost of purchasing them. The BiomakerSpace also has equipment for routine molecular biology activities that can be made available to researchers at a small fee.