



By attending this training, I hope to gain the necessary knowledge, skills, and hands-on experience in the production of enzymes, specifically DNA polymerases, to reduce the cost and time of experiments in my laboratory. Manufacturing enzymes locally can also provide an income-generating opportunity for our institution. With this training, I believe we can achieve cost-effective and efficient production of essential enzymes for our research and commercial purposes.

**Grace Uwanyagasani**

MSc. Student, Jinja University  
of Agriculture and Technology



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**

Research Institute  
JARARS, Molecular & Plant tissue culture laboratory  
Bahir Dar, Ethiopia



With the ability to produce enzymes locally, it will create opportunities for entrepreneurship, job creation and income generation within the scientific community. This masterclass offers an opportunity to enhance my research skills, to network and collaborate with other researchers in the field, and to advance my career as a molecular biologist.

**Joshua Magu Gichuhi**

Post-graduate Student - Dept. of Biochemistry,  
Microbiology and Biotechnology



Bioactive  
Compound  
Extraction &  
Analysis

## Contact Information

For more information you may contact  
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## 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 (GE) 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.