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BioInnovate Africa featured in 'A Sustainable Food Future' conference

BioInnovate Africa was featured at the Sustainable Food Future 2018 conference in a presentation by BioInnovate Advisory Committee member and SEI Executive Director Prof. Mans Nilsson. Drawing on his experience in the programme advisory committee, he explained how innovation-driven food systems can contribute to multiple SDG targets throughout the 2030 Agenda. Read article [here](#).

Dr. Peggy Oti-Boateng appointed new Director of Science, Policy and Capacity Building - UNESCO



BioInnovate Africa congratulates Dr. Peggy Oti-Boateng for her recent appointment to the position of Director of the Division of Science Policy and Capacity Building in the Natural Sciences Sector at UNESCO Headquarters as of 1st November 2018. Dr. Oti-Boateng is the Chairperson of the BioInnovate Africa Programme Advisory Committee (PAC). The PAC provides technical support and strategic guidance to BioInnovate Africa, which is so far, the largest regional innovation-driven bioeconomy initiative in Africa!

Progress visits to BioInnovate Africa partner organisations

BioInnovate Africa Programme Management Office (PMO) organised visits to the project partners in Cohort one. The purpose of the visits was to meet the partners and understand the context of their work, as well as to assess implementation progress of the teams. The PMO visited project teams in the partner countries.



L: Cricket breeding for feed in Makerere University; R: Meeting with Kibwezi Agro Ltd.

Integrating gender in African based innovation projects

Gender integration has been identified and accepted as a strategy for achieving gender equality, which is one of the most important Sustainable Development Goals. Improving women's uptake of innovations, requires collaborative efforts among different stakeholders to ease the prevailing norms that limit women's control over decisions about productive assets and resources.

BioInnovate Africa, in partnership with Penn State University (USA) hosted a Gender Integration Workshop in Addis Ababa Ethiopia in October 2018. The theme of the workshop was 'Gender Integration and innovation: working with communities to build a more inclusive future'. The overall goal of this workshop was that BioInnovate Africa teams would be equipped with skills and knowledge, develop their own understanding of gender integration and be able to confidently apply their insights in a culturally acceptable and measurable way to their projects.

Fifty one BioInnovate Africa team members from Eastern Africa participated in the three-day workshop which was officially opened by Dr Shumete Gizaw, State Minister of Science and Technology in the Federal Republic of Ethiopia. View more photos of the workshop [here](#)



Dr Shumete Gizaw officially opens the Gender Integration Workshop



Group discussions, brainstorming and sharing of lessons and experiences across different projects and countries



Nine more projects funded

Nine research teams from Ethiopia, Kenya, Rwanda, Uganda and Tanzania have received grants totalling USD 5 million, with the generous support of the Swedish International Development Cooperation Agency (Sida). The funded projects focus on value addition to agricultural produce, bio-waste treatment and/or conversion, as well as industrial processes to minimise or eliminate environmental pollution. A total of 20 projects are now being funded in the second phase of the BioInnovate Africa Programme.

Using Black Soldier Fly Larvae as an environmentally sustainable source, of affordable protein for Chicken and Fish Feed	<p>Project Leader - Kigen Compton</p> <p>Partner Organisations - The Recycler Limited, Tanzania; Tanzania Fisheries Research Institute (TAFIRI), Tanzania; Kenya Marine and Fisheries Research Institute (KMFRRI), Kenya; Ethiopian Institute of Agricultural Research (EIAR), Ethiopia</p>
Production, processing and marketing of catnip (<i>Nepeta cataria</i> L., Lamiaceae) products to prevent malaria in Eastern Africa	<p>Project Leader - Tatien Masharabu</p> <p>Partner Organisations - University of Burundi, Burundi; Karire Products, Burundi; Gudie Leisure Farm, Uganda; Jicho Communication Ltd, Zanzibar</p>
Development of improved semiochemical prototypes and their integrated 'push-pull' deployment in areawide control of tsetse flies in Eastern Africa	<p>Project Leader - Paul Mireji</p> <p>Partner Organisations - Kenya Agricultural and Livestock Research Organization, Kenya; Gulu University, Uganda; Vector and Vector Borne Disease Institute (VVBD), Tanzania; Veterinary Laboratory Agency (TVLA), Tanzania; Kenya Tsetse and Trypanosomiasis Eradication Council (KENTTEC), Kenya; Vector Health International (VHI), Tanzania.</p>
Small-scale community biorefining of sorghum for food, sugar, and biomaterials in rain fed areas of Eastern Africa	<p>Project Leader - Fantahun Woldesenbet Misganaw</p> <p>Partner Organisations - Ethiopian Biotechnology Institute (EBTi), Ethiopia; National Livestock Resources Research Institute (NaLIRRI), Uganda; Jomo Kenyatta University of Agriculture and Technology (JKUAT), Kenya; Bomvitae Agro-Industries Limited (BAIL), Uganda; Soil and More, Ethiopia</p>
Orange-fleshed Sweetpotato (OFSP) puree for bakery applications in East Africa for nutrition, post-harvest loss management, and youth & women economic empowerment	<p>Project Leader - Antonio Magnaghi</p> <p>Partner Organisations - Euro-Ingredients Limited (EIL), Kenya; International Potato Center (CIP), Kenya; A Womens Bakery, Rwanda; Hawassa University, Ethiopia; Makerere University, Uganda</p>
Delivering bio-alkanol gel fuel as a renewable energy source to rural households of communities living in the Lake Victoria basins (BIOGEL-LVB)	<p>Project Leader - Benson Nyambega</p> <p>Partner Organisations - Maseno University, Kenya; Lake Basin Development Authority (LBDA), Kenya; National Agricultural Research organization (NARO), Uganda; Tropical Pesticides Research Institute (TPRI), Tanzania</p>
Biomanagement of coffee waste from coffee processing industries through vermicomposting and its integration with aquaculture, horticulture, and poultry	<p>Project Leader - Gezahegn Degefe</p> <p>Partner Organisations - Debre Berhan University, Ethiopia; Research Program on Climate Change, Agricultural and Food Security, Kenya; Selian Agricultural Research Institute, Tanzania; Wondo Genet College of Forestry and Natural Resources, Ethiopia</p>
Developing an innovation - led bioeconomy strategy for Eastern Africa (BiSEA)	<p>Project Leader - Gertrude Ngabirano</p> <p>Partner Organisations - East African Science and Technology Commission (EASTECO), Rwanda; African Technology Policy Studies Network (ATPS), Kenya; Scinnovent Center, Kenya; Stockholm Environment Institute SEI Africa Center, Kenya; Bioinnovations Company Limited, Uganda</p>



Deliberate steps to enhance women involvement in the African bioeconomy

BioInnovate Africa launched the first Fellowship for Women Scientists in October 2018 during the Gender Integration workshop in Addis Ababa, Ethiopia. The main objective of this four-month program is to increase the participation of African women in bio-entrepreneurship and bio-innovation projects in eastern Africa. The fellowship is also an opportunity for mid-career scientists to contribute their skills and expertise in bioinnovative projects while being mentored by diverse experts.

Twelve female fellows from Ethiopia, Kenya, Uganda, Tanzania and Burundi were selected through a competitive process to participate in the fellowship outside their home country. The fellows will each spend four months in selected BioInnovate Africa projects across eastern Africa that will provide resources, networks, and experiences necessary to advance the Fellows skills, innovation capacity and overall career progression.

This pioneer BioInnovate Africa Fellowship for women scientists was officially launched by Shumete Gizaw (PhD), State Minister for Science and Technology, Federal Republic of Ethiopia.



First Cohort of the BioInnovate Africa Fellowship for Women Scientists

PROFILES OF BIOINNOVATE AFRICA FELLOWS 2018/19



Diana Asero
Uganda

Host Institution: Jomo Kenyatta Institute of Agriculture and Technology, Kenya; **Mentor:** Prof. Arnold Onyango
BioInnovate Project: Adapting refractance window drying technology to produce high quality fruit and vegetable bioproducts

Fellowship goals: Experimenting on the efficiency of the refractance window dryer to dry fruits and vegetables. Carrying out a cost benefit analysis of drying the fruits using a fabricated Refractance Window Dryer and market analysis for the dried food products. Processing of yogurt, baked products and fruit drinks with the use of the high-quality dried products as ingredients

Diana holds a bachelors Degree in Agribusiness Management from Makerere University. She specialized in Agribusiness Management at University of Pretoria, 2014, while pursuing her Master of Science in Agriculture and Applied Economics at Makerere University. She is Acting Head of Department Agribusiness and Extension, at the Faculty of Agriculture and Animal Sciences, Busitema University.



Nadege Mugisha
Burundi

Host Institution: Makerere University, Uganda; **Mentor:** Prof. John Muyonga and Dr Julia Kigozi
BioInnovate Project: Adapting refractance window drying technology to produce high quality fruit and vegetable bioproducts

Fellowship goals: To investigate the design and functionality of a Refractance Window Drying system : the mechanical system of refractance window dryers, thermal efficiency of the system , energy consumption of the system ,the process parameters that affect drying and the automation of the system. Scrutinize Refractance Window Dryer equipment fabrication, operation and maintenance. Market survey for Refractance Window Dryer Equipment.s.

Nadege holds a Master of Science Degree in Electronics and a Civil Engineer Degree in Electromechanics. She is currently an Assistant Lecturer at University of Burundi, Faculty of Engineering, Departments of Information and Communication Technology and Electromechanics. Her research interests are in Electricals and Electronics.



Genet Tsegaye
Ethiopia

Host Institution: Nelson Mandela African Institute of Science & Tech., Tanzania; **Mentor:** Prof. Karoli N. Njau
BioInnovate Project: A regional enterprise to commercialize an integrated technology for waste water treatment and Bio waste conversion in eastern Africa.

Fellowship Goals: To know how to develop and commercialize an integrated technology for waste water treatment and bio waste conversion and The research will also investigate optimal waste water treatment technology.

Genet holds a BSc. degree in chemical Engineering from Bahirdar University and Msc in Energy Technology from Addis Ababa University. She is currently a Researcher in bioenergy and biofuels at Ethiopia Biotechnology Institute (EBTi).





Jenipher Akinyi Odak
Kenya

Host Institution: Makerere University, Uganda; **Mentor:** Prof. Yusuf Byaruhanga

BioInnovate Project: Unlocking the commercial potential of new sorghum and millet products for improved nutrition and socio-economic gains in Eastern Africa

Fellowship goals: Determine the content of phenolic/polyphenol compounds of both the chemical and the enzymatic extracts of sorghum and finger millet varieties; the antioxidant Activities of phenolic compounds from sorghum and finger millet varieties using both 2,2-azino-bis(3-ethylbenzthiazoline-6-sulphonic acid) (ABTS) and 2,2-diphenyl-1-picrylhydrazyl (DPPH) radical scavenging activities and the effects of both malting and extrusion conditions on phenolic anti oxidants of sorghum and finger millet varieties. characterize and quantify phenolic compounds from sorghum and finger millet varieties with high antioxidant activities using high performance liquid chromatography (HPLC).

Jenipher holds PhD degree in Organic/Analytical chemistry and MSc in Natural Products Chemistry from Maseno University. She is a member of the Teaching Staff of Maseno University, School of Physical and Biological sciences, Department of Chemistry.



Gloria Kuhumba
Tanzania

Host Institution: Makerere University, Uganda; **Mentor:** Prof. Yusuf Byaruhanga

BioInnovate Project: Unlocking the commercial potential of new sorghum and millet products for improved nutrition and socio-economic gains in Eastern-Africa

Fellowship goals: Value addition of sorghum and millet products. Studying the effect of extrusion conditions, amylases and proteases on phenolic anti-oxidants in finger millet and sorghum varieties. The research will also determine the textural properties of extruded sorghum and millet products

Gloria holds a BSc in Food Science and Technology from Sokoine University of Agriculture, Tanzania; MSc in Food Science and Human Nutrition from the University of Florida. She is a Researcher in the Food and Biotechnology Division at Tanzania Industrial Research and Development Organisation (TIRDO).



Zainah Nampijja
Uganda

Host Institution: Makerere University, Uganda; **Mentor:** Dr Dorothy Nakimbugwe

BioInnovate Project: INSBIZ: INSEct-based agriBIZness for sustainable grasshopper and cricket production and processing for food in Kenya and Uganda

Fellowship goals: Develop rations for mass rearing of crickets and grasshoppers and assess their performance on the developed rations.

Zainah holds a Bsc. in Agriculture and Msc. in Animal Science oth from Makerere University Uganda. She is a member of International Network of Women Engineers and Scientists (INWES), Makerere University Animal Science Journal club, Makerere University Agriculture Students Association and Makerere University Farmers Association (MUFA).



Ahishakiye Rosine
Burundi

Host Institution: Nelson Mandela African Institution of Science and Tech., Tanzania; **Mentor:** Prof. Karoli N. Njau

BioInnovate Project: A regional enterprise to commercialize an integrated technology for waste water treatment and Bio waste conversion in eastern Africa.

Fellowship Goals: Evaluation of the efficiency of the bioreactors. Quantification and characterization of organics loaded wastes into bioreactors as well as the by -products. Chemical analysis of the gas produced in order to indentify its components. Develop a new processes with view of maximizing the bio-waste conversion into green energy.

Rosine holds a BSc degree in Chemical Science from University of Burundi, MSc in Chemical Engineering from Tianjin University, China. She is currently a Teaching Assistant at University of Burundi, Biochemistry department of Institute of Applied Pedagogy.



Sharon Alice Ochieng
Kenya

Host Institution: University of Dares salaam, Tanzania; **Mentor:** Prof. Antony Mshandete and Prof Amelia Kivaisi

BioInnovate Project: Nitrogen bio-fortified and pelletized commercial grade organic fertiliser made from urban waste to improve soil productivity

Fellowship Goals: Optimize the composting of urban waste to produce organic fertilizer. Develop nitrogen-bio-fortified fertilizer that will eventually replace the non-renewable synthetic fertilizer and diversify the means of managing organic urban waste.

Sharon holds a BSc. in Industrial Chemistry from The University of Nairobi and is currently pursuing her MSc in the same field at the same university. She is also a member of the Royal Society of Chemistry.





Sayuni Philipo Nasari
Tanzania

Host Institution: icipe, Kenya; **Mentor:** Dr. Subramanian Sevgan

BioInnovate Project: Promoting small holder access to fungal bio-pesticides through Public Private Partnership in East Africa

Fellowship goals: Screen commercial and non-commercial selected isolates of Entomopathogenic fungi (EPF) against mealybugs and study the interactions between the bio-control agents-Aplefly and Entomopathogenic Fungi to suppress mealybugs population

Sayuni holds a Masters of Education, Bachelor of Science with Education (Biology & Geography) and a Diploma in Education (Biology & Geography). She is currently a PhD candidate in Biodiversity and Ecosystems Management- The Nelson Mandela African Institution of Science and Technology and an Assistant Lecturer at Stefano Moshi Memorial University College



Dorothy Murugu
Kenya

Host Institution: Makerere University, Uganda; **Mentor:** Dr Dorothy Nakimbugwe

BioInnovate Project: INSBIZ: INSEct-based agriBIZness for sustainable grasshopper and cricket production and processing for food in Kenya and Uganda

Fellowship goals: Develop and characterize food products, incorporating processed insects that contribute significantly to the Recommended Daily Intakes (RDIs) for nutrients of public health concern for women of reproductive age and children aged five years and below

Dorothy holds a Bsc in Food Science and Technology from Egerton University and an MSc in Public Health (MPH) from the Institute of Tropical Medicine and Infectious Diseases (ITROMID), Jomo Kenyatta University of Agriculture and Technology, Kenya.



Alice Turinawe
Uganda

Host Institution: icipe, Kenya; **Mentor:** Dr Samira Mohamed

BioInnovate Project: Promotion of Postharvest Disinfestation of Key Horticultural Crops in Kenya and Uganda

Fellowship goals: Investigate perception and willingness to utilize the post-harvest disinfestation treatment technologies. Conduct a cost benefit analysis of the post-harvest disinfestation treatment technologies.

Alice holds a PhD in Agricultural Economics and a Masters degree in Agricultural and Applied Economics. She is a Lecturer at Makerere University, Department of Agribusiness and Natural resource economics. She is also the Coordinator of Undergraduate Programs and Director of Makerere University Agricultural Research Institute, based in the College of Agricultural and Environmental Sciences. Her current research is in the areas of entrepreneurship and business incubation, value chain analysis, agricultural extension, nutrition and household welfare and agricultural technology adoption and its impacts



Mehader Getachew
Ethiopia

Host Institution: Tanzania Industrial Research and Development Org., Tanzania; **Mentor:** Ms. Bertha Mamiro

BioInnovate Project: Innovation and Commercialization of Nutrient Rich Mushroom Substrate Block (OSB) in East Africa

Fellowship Goals: To produce and sell readymade mushroom substrate blocks and to create jobs to unemployed youths, women and retirees. To mitigate environmental pollution and improve income for the individual and for the government.

Mehader holds a BSc in Physics from Addis Ababa University and MSc in Environmental Biotechnology, from Pukyong National University, Busan, South Korea. She is currently the Assistant Researcher at Ethiopia Biotechnology Institute.

BioInnovate Africa Programme now online

The BioInnovate Africa website is now up and running! This is your one-stop shop of all the information on the diverse projects across the six Eastern Africa countries. Daily and weekly updates are posted on the programme

Twitter [@BioInnovate](https://twitter.com/BioInnovate)

Website <https://bioinnovate-africa.org/>

Upcoming Events

January 2019
Progress visits to partner organisations, Tanzania

March 2019
Policy Seminar, Uganda
Programme Advisory Committee Project visits



*BioInnovate Africa
Programme Management
Office wishes you a happy
holiday and a prosperous new
year.*

*Our offices remain closed
from December 22, 2018 to
January 2, 2019.*

BioInnovate Africa Programme is supported by the Swedish International Development Cooperation Agency (Sida) and is based at the International Centre of Insect Physiology and Ecology (icipe) in Nairobi, Kenya.



<https://bioinnovate-africa.org>

Improving lives through sustainable bio-innovations



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