



IITA research scientist Dr Charity Mutegi wins prestigious 2013 Norman Borlaug Award for Field Research and Application

IITA Research Scientist Dr Charity Mutegi is the recipient of the 2013 Norman Borlaug Award for Field Research and Application, endowed by the Rockefeller Foundation. Mamadou Biteye, the Rockefeller Foundation's Managing Director for Africa, made the announcement yesterday at the request of the World Food Prize Foundation during the African Green Revolution Forum in Maputo, Mozambique.

The World Food Prize is the foremost international award recognizing the achievements of individuals who have advanced human development by improving the quality, quantity, or availability of food in the world. Dr Mutegi was recognized for her work as a member of the IITA research team that has achieved major breakthroughs by applying locally adapted and easy to use biological tools in combating contamination with deadly aflatoxin mold that occurs in staple crops such as maize, grain, or groundnut.

The new technology, first developed by the US Department of Agriculture – Agriculture Research Service (USDA-ARS), uses safe, non-toxic strains of the *Aspergillus flavus* fungus. These are introduced to the field, where they compete with their toxic cousins, pushing them away and thus protecting the crop. In Africa, the method was adapted to local conditions by IITA, USDA-ARS, the Nairobi-based African Agriculture Technology Foundation, and their partners.

"IITA congratulates Charity for her

excellent work which has led to her winning the prestigious Norman Borlaug Award for Field Research and Application," says Dr Nteranya Sanginga, IITA's Director General. "She is a great role model for all young African scientists and we are proud to have her on our team."

Dr Mutegi, a Kenyan citizen, received her PhD in Food Science in the Food Security Program from the University of KwaZulu Natal in South Africa. Her research focused on the extent of aflatoxin contamination on groundnut from households in western Kenya and the causative factors of contamination. After completing her PhD in 2010, Dr Mutegi returned to Kenya and worked for the Kenya Agricultural Research Institute (KARI) and the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) as a visiting scientist. In June 2011, she took a leave of absence from KARI to fill the position as the Kenya Country Coordinator for the IITA Aflatoxin Biocontrol Project.

Dr Mutegi credits her success to her supportive work environment, guidance from senior scientists, mentorship, and personal work ethics, and says she has dedicated her life's work to food security because she has seen the effects of contamination first-hand.

"The devastating effects on many Kenyan households of maize grain contaminated with aflatoxins cannot be understated. Lives have been lost, tons of staple food



Dr Charity Mutegi (left), Kenya Country Coordinator for the IITA Aflatoxin Biocontrol Project, with local partners.

destroyed, losses from the livestock sector run to millions of shillings, and by extension, livelihoods have been destroyed through economic disempowerment," she said.

The World Food Prize Borlaug Field Award is presented annually to a young extension worker, research scientist, development professional, or other individual who best emulates the dedication, perseverance, and level of innovation demonstrated by the Nobel Peace Prize Laureate Dr Norman Borlaug while working in the field with farmers in Mexico in the 1940s and 1950s. The award will be formally presented to Dr Mutegi on 16 October 2013 in Des Moines, Iowa, during the World Food Day.



DG Sanginga: Decisive actions needed to end food insecurity

Unless decisive actions are taken to assist small-scale farmers to grow more and more valuable crops, food security in Africa remains elusive with isolated successes.

Director General Nteranya Sanginga gave this assessment on Tuesday at Michael Okpara University of Agriculture Umudike (MOUA), Abia State while delivering the second 'Distinguished Lecture of the University' titled "The Need of a Brown

Revolution in Africa and Engagement of the Youth in Science-Driven Agribusiness."

Sanginga, in his 18-page lecture, posited that low soil fertility and nutrient depletion continue to represent huge obstacles to securing needed harvests, adding that "improving access to fertilizers is a necessary countermeasure. However, the low returns from unskilled use of these products present a major impediment to their adoption by most small-scale farmers".

Dr Nteranya Sanginga (right) and Dr Gbasse Tarawali (left) during the inaugural lecture at the Michael Okpara University of Agriculture, Umudike.

IITA Southern Africa Hub refines regional strategy

From 19 to 21 August, staff of the IITA Southern Africa Hub gathered at the Chaminuka Safari Lodge in Chibombo District, about 30 km east of Lusaka, to refine the Hub's 10-year regional strategy. Dr David Chikoye, Regional Director for Southern Africa, said that the exercise aims to better harmonize the regional strategy with IITA's 2012-2020 Refreshed Strategy.

In his welcome remarks, Dr Chikoye said that "we need to closely inspect our regional strategy and make sure that what we are planning to do and achieve in the next couple of years are in line with the institute's vision of where we want to be by 2020."

"Remember, this is OUR strategy. Each of us has a responsibility and a role to play to ensure that we successfully see this strategy through for the benefit of the poor rural farmers in the region," Dr Chikoye added.

In the refined strategy, the region aims to achieve R4D gains that contribute to reducing poverty, hunger, malnutrition, and environmental degradation for smallholder farmers in southern Africa. In line with CGIAR's new Strategic Results Framework (SRF), the region will focus

on the four system level outcomes (SLOs), namely, (i) increase in food security; (ii) reduction of rural poverty; (iii) reduction of undernutrition; and (iv) more sustainable management of natural resources.

Indicators of success will be increases in maize productivity from average yields of 1000 to 1600 kg/ha (60% or additional 600 kg/ha), increase cowpea yield from 300 kg/ha to 500 kg/ha (60% or additional 200 kg/ha); increase soybean yield from 800 kg/ha to 1300 kg/ha (62% or additional 500 kg/ha soybean), and increase cassava yield from 10 t to 16 t/ha (60% or additional 6 t/ha) in the communities that we work in over the next 7 years.

One of the main discussion points during the strategy refinement exercise was the establishment of the IITA Southern Africa research campus in Lusaka. To be called the IITA Southern Africa Research and Administration Hub (SARAH) Campus, the facility is slated to be launched with a ground-breaking ceremony on 12 September (see related story below).

"The establishment of the SARAH Campus will catalyze our R4D work in



Dr David Chikoye briefing IITA-SA Hub staff about the regional strategy.

the region and facilitate the achievement of the mission and vision of IITA in Southern Africa as reflected in our refined regional strategy," Dr Chikoye concluded.

IITA to break ground for Southern Africa Hub Research campus in Zambia

IITA will hold a ground-breaking and foundation stone-laying ceremony for the IITA Southern Africa Research and Administration Hub (SARAH) Campus in Kabangwe, Lusaka Province on 12 September. The site – a 50-ha plot of land within the Zambia Seed Company Farms – is about 25 km north of Lusaka City. This area is strategically located with access to farming communities, proximity to private and public sector collaborators, and local markets.

The ceremony will be graced by the Hon. Dr Guy Scott (MP), Vice President of the Government of the Republic of Zambia. He will be accompanied by Hon. Robert Sichinga, Minister of Agriculture and Livestock. Dr Nteranya Sanginga, IITA Director General, with senior management of the institute will be there. Other guests include members of the diplomatic community, donor representatives, IITA staff, and local and regional partners.

The IITA senior management will also be in Lusaka for a retreat on 11-12 September.

According to Dr David Chikoye, IITA Regional Director for Southern Africa, the SARAH campus facilities will be built over a period of five years. SARAH will be a comprehensive node of research, training, outreach, and business support. Its key facilities will include laboratories for natural resource management, agronomy and crop physiology, pest management, social sciences, plant breeding, biotechnology, GIS, crop utilization, and nutrition as well as a postharvest facility. The campus will also have a tissue culture

facility, modern greenhouses, processing facilities for producing high-value cassava-based products, a fabrication workshop for labor-saving agricultural machinery as well as training facilities for students, producers, processors, and other actors within the priority value chains. There will also be a Knowledge Center with computer workstations and access to online databases, broadband internet connectivity, and capacity for 50 people. A student hostel, recreational facilities, and secure parking area will complete the campus' ensemble.

In addition to the SARAH campus, the long-term vision of IITA is to establish two testing sites in the country representing the more humid zones (northern Zambia) and dry savanna (Zambezi valley) of southern Africa.

The establishment of the SARAH campus is aligned with the Zambian Government's vision of developing an efficient and competitive agricultural sector that assures food security as well as maximizes the contribution of the sector to the GDP, thereby making agriculture an engine for economic growth, development, and poverty reduction.

IITA's total investment in SARAH – taking into account the cost of land, buildings, scientific equipment, utilities and establishing a research farm – is approximately 75-100 million Zambian Kwacha (about US\$14-19 million). Construction of Phase 1 is expected to start by 30 September 2013, subject to obtaining building permits and approval of environmental assessment reports. Phase 2 will commence in January 2015.



Perspective map of SARAH campus, Kabangwe, Lusaka Province, Zambia.

Humidtropics holds first inception meeting in Uganda

The IITA-led Humidtropics program has organized the first inception meeting in Kiboga district, Kyanwanzi, one of the field sites. The meeting is the first in Uganda and in Africa as well and follows the launch of the program in the country early last month.

The guest of honor was Hon. Ruth Nankabirwa, State Minister for Fisheries.

While launching the program she stressed the importance of Humidtropics' systems approach. In her talk, she highlighted the link of the four government pillars for rural transformation: production and improved productivity, value addition and postharvest handling, knowledge management and communication, and rural agricultural financing.

Meanwhile, Humidtropics director, Kwesi Atta-Krah, noted that the Humidtropics' intermediate development outcomes (IDOs) were closely aligned with the plans of the central government. These include reducing rural poverty, increasing food security, improving nutrition and health,

and sustainable management of natural resources.

The meeting was held on 22 August and was facilitated by Makerere University, National Agriculture Research Organization (NARO) and a local entity, Agro-Empowerment Centre. Kiboga-Kyakwanzi is one of the four field sites identified in the launch meeting held on 1-2 August in Kampala. The others are Masaka-Rakai, Mukono-Wakiso, and Luwero-Nakaseke.

During the meeting, program researchers discussed with the over 40 partners from local government, farmers' associations, private sector representatives, who presented the needs and opportunities in the area to be addressed by the program through agriculture research.

The next step would be to create a local stakeholders' platform to develop the program and activities for tackling the constraints identified holistically. More inception meetings will follow in the other selected sites.



Farmer-participants and project implementers in a workshop.

New York university scholar builds capacity on bioinformatics

Dr Manpreet S. Katari, Clinical Assistant Professor of Bioinformatics from New York University spent a month at IITA-Nairobi in the ILRI BecA hub, training the institute's PhD students on the basics of Linux, various software packages to analyze DNA sequence information, and the statistical programming language 'R'.

The students include Teddy Amuge affiliated with the National Crop Resources Research Institute, Uganda, who has been analyzing data to identify differentially expressed genes between cassava brown streak disease (CBSD)-infected plants and a control; Esther Masumba from the Agriculture Research Institute, Tanzania, who is characterizing molecular variants within three genomic regions putatively associated with CBSD resistance in variety 'Namikonga'; and Inosters Nzuki, BecA, who has done de novo genome assemblies to identify genomic regions in the variety 'Kiroba' derived from the wild species *Manihot glaziovii*.

"All this is designed to help us locate the genomic regions associated with resistance to CBSD. Our collaboration with the ILRI-BecA hub has enabled us to benefit from the high performance computing (HPC) cluster ably managed by the Linux Systems

Administrator, Alan Orth," said Morag Ferguson, IITA molecular scientist based in Nairobi. "We thank both 'Manny' and Alan for their contribution, their time, patience and knowledge and we look forward to working with them in the future."



Dr Manpreet S. Katari (center), Clinical Assistant Professor of Bioinformatics from New York University, spent a month at IITA-Nairobi, to train the institute's IITA PhD students.

Regional Administrators' Meeting held in Ibadan

The IITA DDG-Corporate Services and Regional Administrators' Meeting was held in IITA, Ibadan, Nigeria, 4-5 September. DDG-CS Kwame Akuffo and the regional administrators that included Yacoubou Aboubakar, Central Africa Hub; Evelyn Odiambo, Eastern Africa Hub; Suzan Katebalirwe, Southern Africa Hub; and Sylvia Oyinlola, Western Africa Hub, met to deliberate on operational matters affecting the various hubs.

The discussions covered issues that concerned human resources, finances, internal controls, IITA internal policy, risk management and project administration.



Participants concluded that it was a very productive deliberation with many actions

points raised in line with IITA's refreshed strategic plan.