icipe quarterly e-bulletin

Volume 6, Issue No. 1, 2016

From the Chair of the Governing Council of *icipe*

Dear colleagues and friends of *icipe*

Science not only generates new knowledge, but is also the process by which that knowledge has been, and is produced. At *icipe,* our scientists continue to increase our knowledge regarding arthropods by investigating brand new ideas and building on the research that has already taken place. In this way they are finding new solutions to combat poverty, food insecurity, and poor health for peoples of the tropics.

This newsletter is a demonstration of how research at *icipe* continues to develop and make an impact. The Director-General in her thought leadership column is focusing on capacity building. Certainly, training and launching the careers of young African scientists has been a key commitment for *icipe* since the establishment of the Centre.

His Excellency Prime Minister Hailemariam Desalegn, the Prime Minister of Ethiopia officiated at the commencement of the Young Entrepreneurs in Silk and Honey project in collaboration with the MasterCard Foundation. This event built upon the work and commitment of *icipe* in Ethiopia, which has been ongoing since 1993, and also upon more than 20 years of experience in implementing beekeeping and silk farming enterprises.

Research into identifying the genes responsible for sensing chemicals in tsetse flies is an example of *icipe*'s constant scientific endeavour to understand vector insect behaviour and ecology. *icipe* has developed technologies such as repellent collars, traps and odour baits for combating the enormous burden of disease that tsetse flies inflict upon host nations.

The Adaptation for Ecosystem Resilience in Africa (AFERIA) Project is another example that builds upon previous work. Their interventions around climate change in Kenya, Ethiopia and Tanzania will directly benefit vulnerable smallholder farming families.

Finally, my thanks go to the Swiss Government for funding the renewable energy initiative at *icipe* that will reduce the carbon footprint of the Centre and also safeguard the environment. *icipe* is committed to conducting research on the effects of climate change and to developing appropriate solutions; therefore, the greening *icipe* project is congruent with this intent.

I wish you enjoyment in reading the current issue of the newsletter, and, of course, in our collaborative work at *icipe.*

Prof. Dr Bill S. Hansson
Chair, *icipe* Governing Council

IN THIS ISSUE

Launch of the Young Entrepreneurs in Silk and Honey project – Page 3

icipe by the numbers:

Multi-year restricted projects signed January to March 2016

15

Published and 'in press' research papers for *icipe* (January–March 2016)

54

New PhD level DAAD-supported scholars (2015/2016 academic year)

10

Number of fruit fly integrated pest management (IPM) packages developed by *icipe*

5

Indigenous tree seedlings planted in schools in Kenya, Tanzania and Ethiopia as part of the CHIESA/AFERIA project

560

icipe quarterly e-bulletin
Volume 6, Issue No. 1, 2016

THOUGHT LEADERSHIP COLUMN: DIRECTOR-GENERAL

Capacity Building at *icipe*

Africa's development depends on its capacity to generate, adapt, innovate and use scientific and technical knowledge, to meet Africa's development goals. Quality research is fundamental to increasing crop productivity, improving food and nutrition security, reducing post-harvest losses, and improving human, animal and environmental health. *icipe* is passionate about engaging and developing Africa's next generation of leaders in insect science, science and technology in agriculture, and health and the environment, in support of sustainable development in Africa. Building African research capacity will ensure delivery of Africa's food and nutrition security, as well as development outcomes.

A key focus of *icipe's* capacity building is the training of young, talented researchers from across Africa in insect and related sciences at MSc, PhD and postdoctoral levels, and is conducted through the African Regional Postgraduate Programme in Insect Science (ARPPIS), the Dissertation Research Internship Programme (DRIP), and the Postdoctoral Fellowship Programme. To date, 608 postgraduate students at MSc and PhD levels have completed their research training at *icipe*. Our postgraduate programmes have a continent-wide impact, as our alumni and current research fellows represent 37 countries in Africa. *icipe* is committed to advancing excellence in science through gender equity: 43% of all postgraduate and postdoctoral fellows are women, and 47% of fellows in our PhD programmes are also women. Our partners in postgraduate training have included 43 African universities from 18 African countries and 39 universities from 14 countries across the globe. In addition, we partner with renowned organisations who share our passion and goals in capacity building, such as the African Women in Agricultural Research and Development (AWARD) career-development programme, Organization for Women in Science for the Developing World (OWSD), Alexander von Humboldt Foundation (AvH), World Academy of Sciences (TWAS), International Foundation for Sciences (IFS), and several others.

These programmes not only build the capacity of individual scientists, but they also add new research capacity to *icipe*, which has led to important research outputs and scientific discoveries, thus contributing to knowledge creation and sustainable development, and enhancing the status of *icipe* as a world-class centre for insect science research and development. Students

Dr Segenet Kelemu
Director General, *icipe*

are critical for the outputs of the Centre. For example, students were responsible for almost half of the 143 high quality scientific journal articles that *icipe* published in 2015. Some of the best research findings by the graduate students have been highlighted by the international media, and a number of *icipe* fellows are recipients of prestigious international awards and recognitions.

By strengthening the research capacity of universities and research institutions in sub-Saharan Africa, *icipe* alumni are playing an important role in the multiplier effect of capacity building and development outcomes in Africa. Approximately 80% of all *icipe* alumni remain in research, development and academia in Africa, where they conduct research, impart knowledge to the next generation of researchers, and contribute to development. It is notable that a number of *icipe* alumni have key leadership positions in their countries. Jack H. Pen-Mogi Nyeko is Vice-Chancellor of Gulu University in Uganda, Mabel Imbuga is Vice-Chancellor of Jomo Kenyatta University of Agriculture and Technology (JKUAT) in Kenya, and Lucy Irungu is Deputy Vice-Chancellor, Research, Production and Extension, University of Nairobi. Government and civil service appointees include David Bugeme, who is Advisor in Charge of Agricultural Production & Agronomic Research to the Prime Minister of the Democratic Republic of Congo (DRC), and Thomas Gbokie Jr. who is Deputy Minister for Regional Development, Research & Extension, Ministry of Agriculture, Republic of Liberia.

Capacity building at *icipe* goes beyond the formal scientific research programmes. It supports training and capacity building for those who facilitate the adaptation and adoption of new technologies. For example, we conduct training for farmers, national programmes, and private sector partners, in knowledge-intensive areas of *icipe*'s technologies and products, which include the push–pull, integrated pest management, insect mass rearing, and tsetse repellent technologies, as well as training programmes on biopesticides, beekeeping and silk farming. In 2015, we held 37 courses and more than 350 field days. We also trained 10,844 individuals of whom 57% were women.

As capacity building has been a focus of *icipe* since inception 45 years ago, we shall continue this commitment to strengthen individual scientists and their institutes. *icipe* has long-standing partners in this area. The German Academic Exchange Service (DAAD), UK-Aid, and the Swedish International Development Cooperation Agency (Sida) are among several donors supporting our capacity building programmes, and we are grateful for their generous support. Science needs new ideas and fresh academic vigour; thus, we believe that our students and young scientists invigorating the teams they work in, and asking thought-provoking questions. We are privileged to assist in their development and careers, as well as the development of African science and its impact.

New *icipe* website

icipe is pleased to announce the launch of its new website (**http://www.icipe.org**).

The website has been designed with the goal of providing our partners, stakeholders and the general public with a comprehensive, user-friendly and efficient platform on the Centre's activities.

The site's homepage is primarily dedicated to highlighting the latest news at *icipe.*

It also features a Donors and Partners section. Here, we focus on the range of institutions that support *icipe*, including

investors, research and private sector partners, and communities.

The site, which is responsive on desktop and mobile devices, is synchronised with all *icipe* social media networks – Twitter, Facebook, Linkedin, Flickr and YouTube.

icipe quarterly e-bulletin
Volume 6, Issue No. 1, 2016

INSTITUTIONAL EVENTS

Ethiopian Prime Minister launches the Young Entrepreneurs in Silk and Honey, a joint project between *icipe* and The MasterCard Foundation

His Excellency Hailemariam Desalegn, Prime Minister of the Federal Democratic Republic of Ethiopia (3rd left), listens as *icipe* scientist Everlyn Nguku (2nd left), explains the Centre's silkworm rearing technology. Next to him are *icipe* Director General, Segenet Kelemu (4th left), and Suresh Raina, Head of Environmental Health Theme, and Team Leader Beneficial and Commercial Insects Programme (foreground left).

Unemployed and out-of-school youth in Ethiopia are the direct beneficiaries of a new initiative that was launched by His Excellency Hailemariam Desalegn, Prime Minister of Ethiopia, at a ceremony in Addis Ababa, Ethiopia on Thursday 3 March 2016. The USD 10.35 million (approximately 220 million Ethiopian birr) commitment will create employment opportunities for young people through beekeeping and silkworm farming.

Two beneficiaries, Ayenalem Ketema (left) and Tsegaye Abrha (right), respectively from the *icipe*-IFAD-Biovision Foundation project in Tolay, Oromia region and the *icipe*-IFAD project in Agula, Tigray region were speakers at the launch, and described how taking part in the *icipe* projects had changed their lives.

The five-year project is expected to benefit 12,500 unemployed and out-of-school youth, and provide opportunities to an additional 25,000 people involved in the value chain from harvesting, processing, packaging to marketing honey and raw silk.

Project participants will receive starter kits and equipment (such as hives, rearing trays and spinning wheels) to get their new businesses off the ground. They will also benefit from an innovative mix of technical knowledge on modern beekeeping and silkworm rearing, business management skills training, access to financial services, and links to local and international markets.

The initiative will target young people between 18 and 24 years of age who have completed a grade 10 education, and who are based in the East and West Gojjam zones of Ethiopia's Amhara Region, as well as in Goma Gofa zone in the Southern Nations, Nationalities, and Peoples' Region (SNNPR).

The 'Young Entrepreneurs in Silk and Honey' project shall contribute to a broader developmental agenda, such as food security (by scaling-up beekeeping to promote pollination services), and environmental protection (through sustainable beekeeping and silk farming).

While on a tour of the exhibition area, the Prime Minister, together with other dignitaries, viewed the *icipe* beekeeping and silk production technologies, as well as other *icipe* exhibits (such as the tsetse repellent technology, and the push–pull and fruit fly IPM technologies).

icipe has over 20 years of experience in implementing beekeeping and silk farming enterprises, including in Ethiopia's Tigray, Oromia, and Southern Nations, Nationalities and Peoples regions.

Shifa Ballo, *icipe* Ethiopia office, tells launch guests more about the push–pull technology.

Rajinder Kumar Saini shows guests how the *icipe* tsetse repellent collar works.

More photos: https://www.flickr.com/photos/icipeinsects/albums/72157665511952185

icipe quarterly e-bulletin
Volume 6, Issue No. 1, 2016

INSTITUTIONAL EVENTS

icipe to advance research-based interventions for climate change adaptation

In March 2016, Her Excellency Tarja Fernández, Ambassador of Finland to Kenya and Christopher Prideaux, Director of Research and Partnerships, International Centre of Insect Physiology and Ecology (*icipe*), signed an agreement to initiate the Adaptation for Ecosystem Resilience in Africa (AFERIA) Project.

The EUR 1,000,000 project is a two-year initiative funded by the Ministry for Foreign Affairs of Finland, and coordinated by *icipe.* It will focus on implementing research-based interventions to support food security and reduce the vulnerability of smallholder farming families in Jimma Highlands (Ethiopia), Taita Hills and Murang'a (Kenya), and Mt. Kilimanjaro (Tanzania).

The AFERIA project will work in partnership with national and local organisations in the target areas, and positively affect smallholder farmers (mainly women and special needs groups). The final beneficiaries are the 11,200 smallholder farmers coping with the impact of climate change in the four target areas of Ethiopia, Kenya, and Tanzania.

The AFERIA project is a follow up initiative to the Climate Change Impacts on Ecosystem Services and Food Security in Eastern Africa (CHIESA) project. CHIESA was a four year (2011 to 2015) research and development project funded by the Ministry for Foreign Affairs of Finland and coordinated by *icipe*.

For more information: http://www.icipe.org/news/new-initiative-climate-change-adaptation

LEFT: Her Excellency Tarja Fernández, the Republic of Finland Ambassador to Kenya, and Chris Prideaux, *icipe* Director of Research and Partnerships, sign the agreement for the launch of AFERIA.

RIGHT: Her Excellency Tarja Fernandez views the curated bee exhibit at the *icipe* African Reference Laboratory for Bee Health.

International Conference on Legislation and Policy on the Use of Insects as Food and Feed

An international conference on legislation and policy on the use of insects as food and feed was held in Kisumu, Kenya in March this year. The conference endorsed the important role of insects as alternative sources of food for human consumption and as feed for livestock, globally and in East Africa.

Worldwide, issues surrounding population growth, urbanisation, climate change, diminishing land and water resources, over- and undernutrition, and persistent poverty, have created uncertainties and pressures on current food and economic systems. Insects are increasingly being seen as part of a sustainable solution towards addressing these complexities. This is because insects are ubiquitous—they reproduce quickly, have high growth and feed conversion rates, and a low environmental impact. What is more, they are important sources of essential nutrients that the body needs, such as minerals and vitamins.

The Kisumu conference participants noted that, to unlock the immense (yet untapped) potential of insects, decision makers need to address a range of issues; therefore, the participants produced a set of recommendations for key stakeholders (the Academia, government, donors, and the private sector).

Sunday Ekesi, Head of *icipe*'s Plant Health Theme, presenting the conference recommendations to participants.

For more information: http://www.icipe.org/news/recommendations-insects-food-and-feed

icipe quarterly e-bulletin
Volume 6, Issue No. 1, 2016

INSTITUTIONAL EVENTS

Sustainable Peri-Urban Milk Value Chain Development in Somaliland

View from inside Gobanimo Market after rehabilitation

icipe, the Food and Agriculture Organization of the United Nations (FAO), and the Somaliland Ministry of Livestock are partners in a major project funded by the European Union that is aimed at enhancing the performance of the dairy value chain in Somaliland.

The project aims to achieve this goal through three main strategic thrusts:

Governance and coordination: This pathway involves enhancing the governance and coordination of the dairy sector in Somaliland by working with the Government to establish and strengthen the appropriate regulatory system under which the value chain operates.

Increasing the production of milk and its quality, as well as strengthening linkages along the dairy value chain: Milk production and quality are significantly impacted by animal nutrition and health, so *icipe*'s push–pull technology to control pests and weeds (and produce fodder) in an integrated crops production system is being utilised. Somaliland and the surrounding regions are experiencing a severe drought, and any technology that helps address the extreme shortage of fodder is welcome. The project is also drawing on *icipe*'s experience in the management of insect-transmitted diseases. The Somaliland Milk Value Chain differs from other projects that may come to mind, in that camels play a significant role in the production of milk, with surra (camel trypanosomosis) being a major limiting factor in its production; thus, *icipe* is engaged in developing next generation solutions and deploying control programmes to address this.

Improving the production of milk and its products, and enhancing gender-based income-generating opportunities. This area focuses on providing training to actors along the milk value chain, as well as enhancing infrastructure to support the transformation of the value chain in both quantity and quality, and safety of milk and milk products (cheese and yoghurt) produced.

The project, through the activities of FAO, has established dairy co-operatives that have been supplied with containers designed for the hygienic collection, storage and transportation of milk.

FAO has also established solar-powered milk chillers at collection centres and rehabilitated the Gobanimo Milk Marketplace, to improve milk handling and hygiene at the retailer level in Hargeisa.

In February, the newly completed facility was handed over to the women's group who operate out of the centre, at a ceremony attended by the President of Somaliland, Hon. Ahmed Mohamed Mohamoud, the Minister for Livestock, Hon. Omer Sheikh Mohamed Farah, the EU Ambassador and Special Envoy to Somalia, Michele Cervone d'Urso, the FAO-Somalia Officer in Charge, Richard Trenchard and the Director of Research and Partnerships of *icipe*, Christopher Prideaux.

The EU Ambassador and Special Envoy to Somalia, Michele Cervone d'Urso (far left), the Minister for Livestock, Hon. Omer Sheikh Mohamed Farah (holding a microphone), and the FAO-Somalia Officer in Charge, Richard Trenchard and the Director of Research and Partnerships of *icipe,* Christopher Prideaux (right foreground)

External view of Gobanimo Market after rehabilitation

The refurbishments represent a major transformation of the facility with new hygienic working surfaces, drainage facilities, washrooms, and a solar-powered chilling unit similar to the one deployed at the collection centres.

icipe quarterly e-bulletin
Volume 6, Issue No. 1, 2016

INSTITUTIONAL EVENTS

Next stage of the "Greening of *icipe*" commences

icipe has embarked on a USD 2.5 million renewable energy initiative, funded by the Swiss Agency for Development and Cooperation (SDC).

One of the largest of its kind in Africa, the scheme is part of the Greening of *icipe* Initiative, which, in addition to renewable energy, also includes energy saving and water conservation measures, with the aim of reducing the Centre's carbon footprint and making its environment more eco-friendly.

The initiative will create a sustainable energy supply and reduce diesel fuel dependency after the construction of solar photovoltaic (PV) power plants at its Duduville Campus in Kasarani, Nairobi, and at the *icipe* Thomas Odhiambo Campus on the shores of Lake Victoria.

The design and construction of the *icipe* solar PV plants, expected to be ready for commissioning in late 2016, will be undertaken by Solarcentury (East Africa), which has been awarded the contract through a rigorous, international selection process.

A total of 4130 PV modules will be installed on rooftops on both campuses, creating the largest rooftop solar PV plant in Kenya. Photovoltaic modules placed on roofs have various advantages, such as better use of available space and natural cooling of the spaces underneath. Another 228 PV modules will be fixed on various facades, such as carports.

The solar PV plants will have a combined generating capacity of 1154 kiloWatts peak (kWp), which is equivalent to the power required to light 750 homes in a middle class Nairobi estate. To ensure that the solar energy is generated and used in the most optimum manner, a system that will enable energy interchange between the solar systems and the national electricity grid will be installed, with the grid serving as a virtual battery storage.

For more information: http://www.icipe.org/news/us-25m-renewable-energy-project

His Excellency, Ambassador Dr Ralf Heckner, Swiss Ambassador to Kenya, Uganda, Rwanda and Burundi (right) and Segenet Kelemu, Director General, *icipe* (centre), pictured with Guy Lawrence (left), Director, Solarcentury (East Africa), during the launch of the *icipe* renewable energy project.

RECENTLY PUBLISHED

Research into the genes of tsetse flies

A recent study by *icipe* that has identified the genes responsible for chemical sensing in tsetse flies could help to improve the way that the insects are managed, because they carry the trypanosome parasite that causes human sleeping sickness and the livestock disease nagana.

In a paper published in the February issue of *PLoS Neglected Tropical Diseases*, *icipe* researchers and collaborators report that they have discovered that different species of tsetse responsible for transmitting sleeping sickness and nagana use the same set of genes to find their hosts (humans or animals). This is surprising, considering that tsetse fly species differ in their responses to animal odours.

With funding from the German Academic Exchange Service (DAAD) through *icipe*'s African Regional Postgraduate Programme in Insect Science (ARPPIS), Rosaline Macharia undertook this research at *icipe* as part of her PhD in Bioinformatics. Tsetse flies, like mosquitoes, search for their food by detecting chemicals that the hosts produce (such as carbon dioxide). The research found that tsetse flies have fewer chemosensory genes as compared to other insects.

Tsetse fly (*Glossina morsitans*)

She explains: "Tsetse flies only feed on blood, which means that they do not need the same number of chemosensory genes as other insects that feed on other hosts. However, tsetse flies have more genes that can sense carbon dioxide than other insects. These genes are the key players for the tsetse fly being able to find their food. If it is possible to disrupt these genes, then the tsetse fly is less likely to feed on humans and animals, and therefore, less likely to transmit sleeping sickness".

"Overall, there are no major differences in the numbers or types of genes for sensing chemicals that are present in different species of tsetse, despite the fact that they respond differently to chemicals in the environment. This research is exciting, because it means that we can develop a unified approach to control of the tsetse fly", adds Daniel Masiga, Head of the Molecular Biology and Bioinformatics Unit at *icipe*.

Sleeping sickness is a fatal disease (if untreated), which is transmitted by the bite of an infected tsetse fly.

This study continues *icipe's* long history of research into how insects communicate with their environment, and its commitment to developing simple, effective, integrated vector and disease control tools and strategies that communities can use. *icipe* technologies include tsetse repellent collars for cattle, tsetse traps and odour baits, and biological control agents.

The researchers recommend further studies to identify what other chemicals the tsetse fly responds to, to develop more effective baited traps.

For more information: http://journals.plos.org/plosntds/article?id=10.1371/journal.pntd.0004421

icipe quarterly e-bulletin
Volume 6, Issue No. 1, 2016

RECENTLY PUBLISHED

Study on the edible stink bug

A recent study at *icipe* has confirmed the nutritional importance of the edible stink bug, which is eaten in parts of southern Africa.

Published in January 2016 in *PLoS ONE*, *icipe* researchers report that the stink bug is a rich source of nutrients and antioxidants, and has the potential to play a vital role in improving food and nutritional security, as well as incomes of rural African communities.

"Our research showed that the edible stink bug, which is known scientifically as *Encosternum delegorguei* Spinola, and in some parts of southern Africa as 'thongolifha', contains vital nutritional components. We found the bug to be a rich source of fatty acids, including seven that are considered essential for human nutrition and health. The insect also contains some flavonoids, a nutrient group most famous for its antioxidant and anti-inflammatory health benefits," explains *icipe* scientist, Baldwyn Torto.

He adds: "The edible stink bug provides 12 amino acids, two of which are often lacking in the predominantly cereal-based diets consumed in many parts of Africa. The insect also contains high content of crude protein and fats; and, although not a great source of minerals, it contains phosphorus in relatively high levels."

When harvested and stored properly (and not in woven baskets), the edible stink bug can be an important source of nutrients and antioxidants in the diets of African rural communities

However, the *icipe* study also revealed the need for improved care, in the harvesting and storage of the edible stink bug, to safeguard the nutritional value and prevent harmful compounds from contaminating it.

With funding from the German Academic Exchange Service (DAAD), through *icipe*'s African Regional Postgraduate Programme in Insect Science (ARPPIS), lead author Robert Musundire undertook this research at *icipe* as part of his PhD in Entomology. He notes: "Edible stink bugs are usually collected from tree branches and are then killed using either warm water or heat, before being stored in woven baskets or used grain bags, for later consumption or sale. We found that these traditional harvesting and storage practices of the insect can lead to fungal contamination".

The researchers, therefore, recommend better handling and storage of the edible stink bug, to ensure its safety as food. This could include the use of alternative, affordable materials (such as plastic-lined gunny bags), which are easy to use and clean.

For more information: http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0145914

Study on jumping spiders

How far can the behaviour of small animals, such as insects and spiders, go in the direction of cognition? In a recent study published in the *Journal of the Experimental Analysis of Behavior,* authors Fiona Cross and Robert Jackson (both from *icipe* and the University of Canterbury in New Zealand) used jumping spiders (family Salticidae) in experiments designed to determine whether small eight-legged predators with brains that fit comfortably on a pin head do something that at least approximates what we would mean when we say people think and plan ahead.

Salticids have good eyesight, so the 15 species used in these experiments were able to see prey in a location that could only be reached by first moving in the opposite direction and losing sight of the target, and then taking one of two circuitous walkways. There was no prior training, and instead, each spider had a single opportunity to solve the novel problem. Despite these challenges, all 15 species completed the correct route with a significant degree of accuracy.

Thinking before acting appears to apply to the behaviour seen in these experiments, and the authors propose that a capacity for genuine cognition may be widespread among salticid spiders.

For more information: http://onlinelibrary.wiley.com/doi/10.1002/jeab.189/abstract

Portia africana displays "genuine cognition" by thinking before acting

Jumping spiders (family Salticidae)

More than 5800 salticid species have been described (Maddison, 2015), making this one of the major groups of predators on Earth. Their unique eyes give them abilities for high-precision vision that are unsurpassed by any other animal of similar size (Harland et al., 2012). Using their exceptional eyesight, they deploy some of the most complex predatory strategies known for the animal kingdom as a whole (Jackson and Cross, 2011).

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PARTNERS

MOUs

icipe continues to grow its scientific partnerships in research and development. The Centre is pleased to announce two further Memoranda of Understanding (MOU), and welcomes these institutions as partners.

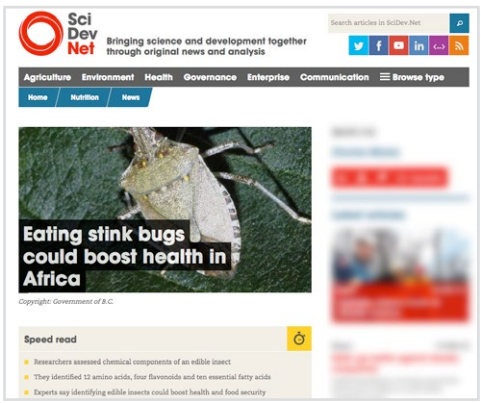
The Ruhr University of Bochum, Faculty of Biology and Biotechnology in Ruhr, Germany has signed an MOU with *icipe* for collaboration in scientific research, knowledge exchange, and capacity and institutional development. *icipe* and the University will study the biology, behaviour, health, and pollination efficiency of social and solitary non-managed African bee pollinators.

An MOU has also been signed with One Acre Fund (1AF), to strengthen the technological capacity of developing countries, through scientific research, knowledge exchange, and capacity and institutional development. The 1AF partnership will have effect in push–pull, as the collaborative effort will scale up the system to smallholder farmers in Uganda and Kenya.

A bee visiting a flower in Kakamega Forest, Western Kenya, to collect nectar

icipe IN THE MEDIA

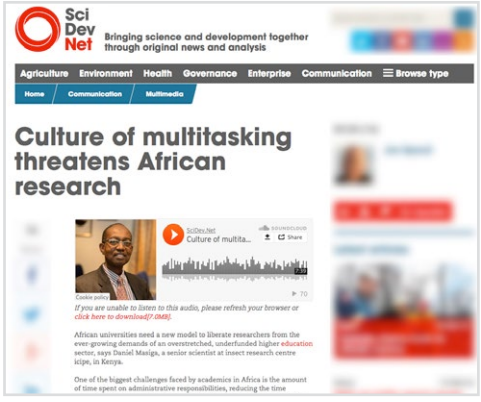
Ethiopian Herald: Young Entrepreneurs in Silk and Honey launched
http://www.icipe.org/sites/default/files/Yesh_Herald_newspaper.pdf



SciDev.net: Eating Stink Bugs Could Boost Health in Africa
http://www.scidev.net/global/nutrition/news/stink-bugs-boost-health-nutrition-africa.html

Money News: Rolex Announces Enterprise Awards Jury for 40th Anniversary Year: Eminent Judging Panel to Select World-Changing Pioneers
http://news.money.ca/2016/01/25/rolex-announces-enterprise-awards-jury-for-40th-anniversary-year

Business and Tech: *icipe* launches $2.5 million renewable energy project
http://www.capitalfm.co.ke/business/2016/03/icipe-launches-us-2-5-million-renewable-energy-project/



SciDev.net: Culture of multitasking threatens African research
http://www.scidev.net/global/communication/multimedia/culture-multitasking-threatens-african-research.html

National Geographic: Jumping Spiders Can Think Ahead, Plan Detours
http://news.nationalgeographic.com/2016/01/160121-jumping-spiders-animals-science/

icipe quarterly e-bulletin
Volume 6, Issue No. 1, 2016

EXTERNAL RECOGNITION

The **Director-General, Segenet Kelemu** has been appointed to an eminent selection panel constituted to select world-changing pioneers. The international jury will meet in April to select 10 winners of the commemorative edition of the Rolex Awards for Enterprise. The 2016 series of the Awards marks the 40th anniversary of this global philanthropic programme that has given support to 130 pioneers working on original projects worldwide.

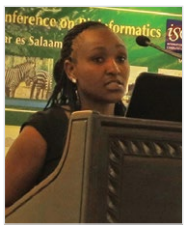
As well, the Director General has accepted an invitation by Ms. Irina Bokova, Director General of UNESCO, to serve as a member of the Council of the United Nations University (UNU). The UNU is an autonomous UN organisation that carries out research, trains postgraduate scholars, and disseminates knowledge.

A Festschrift in honour of Robert Ray Jackson's contributions to arachnology will be published in a special issue of the *New Zealand Journal of Zoology soon*. This special collection of his work is a celebration of his productive and successful career in arachnology, and also marks his 70th birthday and retirement from the University of Canterbury, New Zealand as well *as from icipe, where has been been a Visiting Scientist*. He has published over 250 peer-reviewed journal articles and numerous book chapters. Much of his success has stemmed from having a fascination with spiders and from being dedicated to his work. His research has helped to challenge the notion that complex, flexible behaviour can only be found in animals with large brains.

Baldwyn Torto, Principal Scientist and Head, Behavioural and Chemical Ecology Unit, has been invited to join the Editorial Board of *Pest Management Science*. **Baldwyn** was also Guest Speaker and Invited Speaker, respectively at the 13th Arbovirus Surveillance and Mosquito Control Workshop, and the NE 1443 Regional Project 2nd Annual Meeting, co-hosted in St Augustine, Florida, USA.

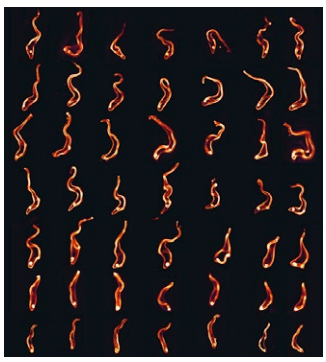
Damaris Matoke, a postdoctoral research fellow at *icipe*, was named the best biotechnology presenter at a conference convened by the Kenya Medical Research Institute (KEMRI), for her work on environmental determinants of sandfly and leishmaniasis distribution.

Subramanian Sevgan, Senior Scientist, Plant Health Theme, was recently appointed as an Editorial Board Member for *SpringerPlus, a* peer-reviewed, open access journal.



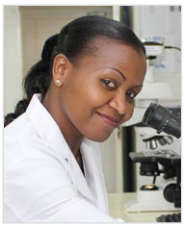
Rosaline Macharia, an ARPPIS PhD Scholar, received an award at a conference convened by the Kenya Medical Research Institute (KEMRI) for "Best Oral Presentation — Young Investigators Forum".

The Editors-in-Chief of *PLOS Pathogens* selected the image on the right, from **ARPPIS PhD scholar** Joel Bargul's article, "Species-specific adaptations of trypanosome morphology and motility to the mammalian host" as the cover image for the February issue of the journal. [http://www.plospathogens.org/article/info:doi/10.1371/journal.ppat.1005448]



Cover image caption: Each row of the figure shows several cells of a different trypanosome species or strain. Characteristic cellular waveforms are identifiable with the three-dimensional views of single cells.

Bridget Bobadoye, a DRIP PhD Scholar, will be participating in the 2-week- long 'ICE 16' Graduate Course in Insect Chemical Ecology at the Max Planck Institute for Chemical Ecology, Jena, Germany.



Lucy Murungi, a Post-doctoral Research Fellow in the Behavioural and Chemical Ecology Unit, has been selected as an African Academy of Sciences (AAS) affiliate for 2016–2020. She will receive assistance that will help her develop into a research leader in her field.

George Obiero has been awarded the Georg Forster Research Fellowship, becoming the first *icipe*-supported recipient of a fellowship from the Alexander von Humboldt Foundation. The award is tenable for 2 years at the Max Planck Institute for Chemical Ecology. Ewald Grosse-Wilde, who works with the *icipe* GC Chair Bill Hansson, will be his mentor.

Xavier Cheseto has been awarded a Rothamsted International Fellowship. Xavier's successful application was entitled "The enantioselective synthesis of plant-based semiochemical kairomones of tropical insect disease vectors".

Amanuel Tamiru has received an Early Career Scientist (ECS) Award, to attend the 2016 ISPC Science Forum (SF16) of the CGIAR Independent Science and Partnership Council (ISPC). Furthermore, he will have an opportunity to submit a proposal for funding and facilitate partnerships after the Forum. The 2016 Science Forum will be held in Addis Ababa, Ethiopia, and will be co-hosted by the United Nations Economic Commission for Africa (UNECA). It addresses the topic: "Agricultural Research for Rural Prosperity: Rethinking the Pathways".

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EXTERNAL RECOGNITION

icipe Director-General is the new Chair of AIRCA

icipe's Director General Segenet Kelemu, succeeded AVRDC's Dyno Keatinge as AIRCA, Association of International Research and Development Centers for Agriculture Chair in January 2016.

A key event for the 9-member alliance was the AIRCA 5th Annual Steering Committee Meeting on 8 and 9 February 2016 at CATIE in Costa Rica.

Upper row left to right: Sayed Azam Ali (CFF), Trevor Nicholls (CABI), Scott Angle (IFDC), Dyno Keatinge (AVRDC), Jose Joaquin Campos (CATIE), David Molden (ICIMOD), Dennis Rangi (CABI)

Front row left to right: Marita Dieling (AIRCA Secretariat), Segenet Kelemu (*icipe*), Jan McAlpine (INBAR), Leida Mercado (CATIE), John Beer (CATIE).

STAFF AWARDS

In February, *icipe* recognised its outstanding staff and partners at an annual staff awards ceremony.

The 2015 awardees were:

'Outstanding Partner of the Year 2015': The German Academic Exchange Service (DAAD)

'Outstanding Principal Staff of the Year 2015': Annah Njui

'Outstanding Employee of the Year 2015': Milka Gitau

'Outstanding Publication of the Year 2015': Discovery of an oviposition attractant for gravid malaria vectors of the *Anopheles gambiae* species complex by Jenny M. Lindh, Michael N. Okal, Manuela Herrera-Varela, Anna-Karin Borg-Karlson, Baldwyn Torto, Steven W. Lindsay and Ulrike Fillinger.

'Outstanding Support Staff of the Year 2015': Brian Mwashi and Syprine Amollo Abongo.

'Outstanding Team of the Year 2015': Plant Health Team and the Facilities Team.

Annah Njui

Syprine Amollo

Brian Mwashi

Milka Gitau

Spotlight on Milka Wanjiru Gitau, Team Leader, Insectary Services

Milka Gitau has never had any fear of insects. As a child, she would play with any insect she came across. Little did she know that her acquaintance with insects would later blossom into a full time career.

After finishing her studies, Milka joined *icipe* in 1997 where she received training on how to rear insects such mosquitoes, locusts, termites, stemborers, and fruit flies.

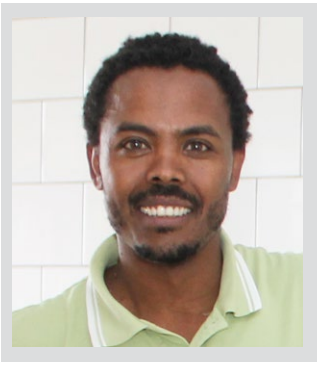
She was later transferred to the *icipe* Termite Research Project in Kajiado, and then to the Chiromo campus in 1983. In 1987, she rejoined the Arthropod Mass Rearing and Containment Unit (ARCU) at *icipe* headquarters. She is credited with initiating several insect colonies in ARCU.

Facilities Team

Plant Health Team

The Director General and the Director of Research and Partnerships officiating at the ceremony

APPOINTMENTS



Merid Negash Getahun, Research Scientist

Merid obtained his BSc in Biology and MSc in Insect Science from Addis Ababa University in Ethiopia. After working as a researcher at the same university, he proceeded to Germany, where he obtained his PhD in Neuroethology from the Max Planck Institute for Chemical Ecology. Prior to joining *icipe*, he was a Research Associate at the same institute. Here, he investigated how insects smell using the model insect *Drosophila*, as well as how olfactory sensory neurons (OSNs) transduce chemical signals into electric signals, overcome different challenges such as sensitivity, and adapt during odour source navigation.

Gladys Moraa Nyaribo
Human Resources Assistant

Jacob George Wakesho
Senior Research Assistant - Monitoring & Evaluation

Susan Wangoi Mwangi
Treasury Accountant, Payroll

Emily Injete Amondo
Senior Research Assistant