

The Prospective

A publication of the International Association of Research Scholars and Fellows



Maiden edition

April – October 2022

Inside ...

Also inside

02  From the Capacity Development Office

02  From the President's desk

03   Scientists' speak

05  Meet our Alumnus

06  OneCGIAR News

07   Inspiring Scholars

- 08** ▶ Training
- 08** ▶ Job/Study Opportunities
- 09** ▶ Editorial team

From the Capacity Development Office

Since inception, the International Association of Research Scholars and Fellows (IARSAF) has gathered research fellows that significantly contribute to the institute's work, vision, and goals.

IITA's research has been carried out by its scientists, partners, and research scholars and fellows from various African universities, academic institutions, and National Agricultural Research Systems. Given the importance of research and development in Africa, building the capacity of African researchers is at the core of the institute's mission.

Being a part of these researchers' career journeys is a vital opportunity for IITA to spread the outputs of its research, and expand its network of future partners. IARSAF Alumni

are spread across Africa and other regions, serving in various institutions working on Agricultural development. They continue to be an important part of the institute's larger community and act as ambassadors for advancing research to transform African agriculture.

IARSAF engages in many activities to strengthen fellow's research skills, expand their networks, and enhance their professional profiles. The association regularly holds research discourses, presentations, training courses, excursions, discussions with alumni, symposia, etc. The latest initiative of the Association is a bi-annual newsletter.

This newsletter highlights IARSAF's work and role within IITA to a wider audience. Furthermore, it will serve as a vehicle of expression and discovery at the frontier of agricultural research, particularly



Ms. Zainatou Sore

in Africa. This newsletter ought to bring forth the engagement and commitment of researchers and scientists to the agricultural transformation agenda of the continent. I wish complete success to this newsletter in achieving its goals and captivating and sustaining its audience with critical and relevant knowledge and information on agricultural research for development in Africa.

From the President's desk



Faith Olayiwola Atoyebi

We know that postgraduate students and postdocs do much of the heavy lifting of research in universities and institutes, even though due acknowledgment is not usually given. This laboring

behind the scenes often demotivates early-career researchers, especially when they do not have a major say in deciding research policies and direction. However, our modern world is powered by innovation, and indeed the 21st century can be called the century where discoveries are on steroids. If the early-stage career researchers represent the workhorse of doing research, this rapid development heavily depends on what we do.

To fuel our drive, we must never forget that our work contributes much to the larger community. Our forebears in history made this clear. For example, the major work of Albert Einstein that transformed the world of physics and for which he won the Noble prize was carried

out before he became tenured as a professor at the University. Moreover, as technology makes strides in our present world, our role as scientists only comes to the fore more evidently.

Technological innovations will only transform our human existence to the extent that scientists do thorough research that result in discoveries and new theories. Without these, our present world will stagnate in its rapid development and be unable to confront effectively the challenges bedeviling our world.

Therefore, dear researcher, take advantage of this piece and the others you will read in this newsletter to refine your passion for sound and innovative scientific research.

Scientists' speak

How to make remarkable strides for humanity through sound and innovative science

As an early career scientist (ECS), the best approach to making remarkable strides for humanity through sound and innovative science is to define clear goals for your career and focus on achieving them along with the institutional goals.

In general, this can be achieved through the following tips:

Innovation: This has to do with staying updated on new trends emerging in your research field. You have to be constantly reading manuscripts, book chapters, and newsletters and attending conferences and training/workshops in your field of expertise to help you stay updated and innovative.

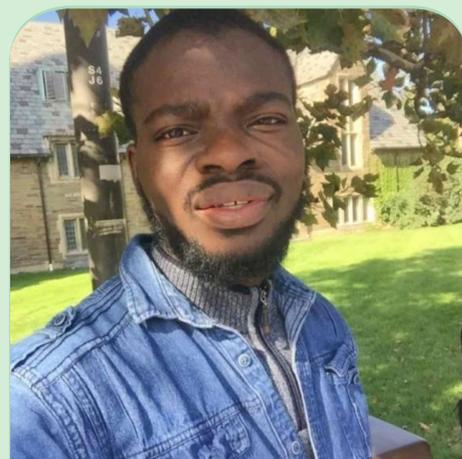
Scientific contribution: Strive to publish your work in well-known and reputable journals, including open access platforms that increase your visibility.

Collaboration: Good collaboration towards implementing novel approaches is fundamental for early career success.

Proposal development for funding opportunities: This is a key component for a young scientist to be more independent and to contribute to their institution's financial stability.

Excellence: As an ECS, striving for excellence in your day-to-day activities should be part of your lifestyle for achieving extra miles in your career and building a good reputation among your peers.

“ the best approach to making remarkable strides for humanity through sound and innovative science is to define clear goals for your career and focus on achieving them along with the institutional goals.”



Dr Paterne Agre

Dr Paterne Agre is a molecular breeder/scientist at the International Institute of Tropical Agriculture (IITA). He is currently working on yam (*Dioscorea* spp.), a multispecies polyploid tuberous crop with ~600 species. He mainly focuses on quantitative trait loci (QTL) detection and implementation of marker-assisted selection to speed up and optimize yam breeding. He also has an experience in genetic resource management using bioinformatic tools. Dr Agre has published more than 50 manuscripts since he joined IITA. He also collaborates with world-class research institutes such as Cornell University, IBRC Japan, CIRAD France, and other African research institutes.



IARSAF Fellows Visit to soilless farm in Abeokuta, Ogun State in 2022



IARSAF Newsletter

Contribution – James Legg

James Legg is a plant virologist at IITA, with more than 20 years experience of working on plant viruses and their insect vectors.

James has published widely in peer-reviewed journals and has also contributed extensively to the development of training materials in various media formats, including video.

He has worked closely with a wide range of national and regional research institutions, as well as donor organizations, in developing research for development programs in sub-Saharan Africa.

What informed your choice of career and specialization?

From a very early age, I had a powerful curiosity about the natural world. Biology was always a favourite subject at school, and my first degree was in Pure and Applied Biology. I got a scholarship to take a year out between my second and third years as an undergraduate and spent nine months learning about agriculture while travelling throughout Sudan. That was when I came to realize the important role that biological science can play in enhancing food production and improving the livelihoods of people.

What challenges did you encounter as an early-career scientist (ECS) and how did you manage them?

The biggest challenge came at the end of my post-doc with IITA (in Uganda), where I was told that to continue working, I would need to get a funded project. I was lucky that the topic I was working on at the time had quite a high profile (the CMD pandemic), so I got a funded project and made it to the next stage!

What are the most important things you have learnt in your journey so far? Any surprises?

Perhaps the most important lesson I have learnt is that it pays to persist. There is a saying, 'If at first you don't succeed, try, try again.' This is extremely important for all researchers to realize. If proposals are rejected, write another one; if a journal article is rejected by reviewers, improve it, add some more data, and resubmit it; if experiments don't work out as expected, check the methods and retry them. Nine times out of ten – repeated efforts will result in success. But remember that the motto is 'never give up!'

What are you curious about in research now?

More recently, I have become more focused on working out how we can manage diseases by getting as many high-quality seeds of disease-resistant varieties into as many farmers' fields as possible.

What are the highlights of your research trajectory?

It's naturally exciting to get recognition for research for development work. Consequently, two of the biggest highlights have been receiving the Promising Young Scientist Award of the CGIAR in

1999 and being recognized as the Outstanding Scientist at IITA in 2016.

What do you think sound and innovative science is? And how do we make remarkable strides for humanity through sound and innovative science?

Sound science is the science that is based on applying the classical scientific method – posing questions, designing experiments to answer those questions, analysing the results with robust statistical methods, and publishing the results following a thorough review by peers. Innovation is all about doing things in novel and unusual ways, which may not have been tried before. Innovation is as important for strong agricultural science as it is for information technology, astrophysics or immunology.

As young researchers, how can we add value to our certificate aside from publication and the knowledge we get through research?

Early career researchers should try to join up with established teams to increase their opportunities to contribute to large research efforts. The sooner young researchers can become active in Teams, the better.

How can an ECS establish a mentor-mentee relationship with a senior scientist?

Easy. Identify several senior scientist 'targets' doing research on a topic of interest for the ECS. Learn about their work, then write to them expressing an interest in the type of research they do. Ask them if they would be willing to be a mentor. Most senior scientists would strongly welcome the chance to support an early career scientist through mentoring.

What are your expectations of IARSAF as a body towards innovative research?

IARSAF is already doing an excellent job in encouraging students at IITA and giving them an opportunity to interact and share their research results. I expect that it would continue to do this. It would be good also for IARSAF to have more of a presence in the stations outside of Nigeria. Hopefully, the coordination team will be able to consider how IITA students based in countries outside of Nigeria can be more strongly

involved. I am also a strong believer in the value of science and research as drivers for development. With this in mind, I also hope that IARSAF will continue to maintain a strong focus on research.

Are you part of the school of thought: "publish or perish"?

Unfortunately, research which is not published is not readily available for others to read and learn from, which means that its value is greatly diminished. Publications are therefore an essential requirement for good science and effective scientists. Quality is also

extremely important, however, and I am therefore a strong advocate for the current policy of the CGIAR which gives special recognition to articles that are peer-reviewed and published in internationally-recognized journals, and which discourages publication in so-called predatory journals.

What would you advise your younger self as an ECS?

My advice to my younger self would be to not deviate from the path. Go straight ahead, work hard, stay focused, keep learning, and smile more!

Meet Our Alumnus

Prof. Olubukola Oluranti Babalola



Prof. Olubukola Oluranti Babalola

Prof. Olubukola Oluranti Babalola is the current Vice President of the Organization for Women in Science for the Developing World (OWSD) and an alumnus of IITA-IARSAF.

She was an MSc graduate research fellow at IITA with Dr Dong Jin Kim and a PhD. graduate research fellow with Dr Leena Tripathi. After her PhD, she became a visiting Research Fellow at IITA, Nigeria, and later became a research scholar at icipe/KARI/KESREF, Kenya.

She bagged a postdoctoral scientist position at the University of the Western Cape, SA, and Weizmann Institute of Science in Israel. She rose through the ranks and worked in various capacities, including the Director of FSSFA from 2015 till date, and Head of the Department of Biological Sciences of North-West University (NWU), SA.

Prof. Babalola's research interests include soil metagenomics, molecular plant-microbe interactions, biofertilizer, and rhizosphere microbiome. She has published several papers in high-impact journals.

She exhibits good quality leadership inspired by her philosophy of having a good conscience and being in control of her career. She is also an advocate of proper planning, which leads to great performance.

Having mentored and still mentoring many budding scientists, Prof. Babalola accredits her success to the support from her father, husband, and supervisors. She encourages early-career scientists to gain relevant skills in statistical analysis, communication and scientific writing, interdisciplinary team building in multicultural settings, bioinformatics, and current molecular biology techniques.

She also advises that, in all, a good balance of social, family, and spiritual life is beneficial for a successful career. Her final quotes were: "work to inspire not to acquire", "be good mentees", and "be in control of your career".

OneCGIAR News



Ms Sundy Akello

IITA is one of the institutions comprising One-CGIAR, a platform to unify all the CGIAR centers in addressing the food security crises across the globe. Through International Agricultural Research Scholars and Fellows (IARSAF), we present the current news within the One-CGIAR.

CGIAR Reports highlight concrete actions to mitigate the food crises due to the Russia-Ukraine conflict

About 2.5 billion people rely on wheat produced in a few countries as a key staple food crop globally. Due to the current Russia and Ukraine conflict, a notable supply and price shock have been revealed, therefore, threatening food security around the globe. However, the CGIAR research team has come up with solid actions that, when adopted, could mitigate the supply

and price crises being experienced globally. The recommended actions include waiving the biofuel subsidy, targeting social safety benefits to the most vulnerable groups, and increasing funding to humanitarian programs. Read more: <https://www.ifpri.org/blog/russia-ukraine-crisis-presents-threats-nigerias-food-security-potential-opportunities>

New CGIAR initiative on Sustainable Intensification of Mixed Farming Systems (SIMFS) Launched

As one of the 32 new research and development initiatives by CGIAR, the 3-year SI-MFS initiative aims to provide equitable and gender-transformative approaches to improve the livelihood of smallholder farmers who engage in mixed farming systems across six countries. Read about the Work Packages of SI-MFS here: <https://www.cgiar.org/initiative/19-sustainable-intensification-of-mixed-farming-systems/>

Open-source breeding informatics software "Enterprise Breeding System (EBS)" launched in April 2022

EBS, a new and powerful one-stop tool developed by the CGIAR Excellence in Breeding platform, is the leading software developed for crop breeding programs targeting resource-poor farmers in Africa, Asia, and Latin America. This easy-to-use, interoperable and field-ready software was launched on the 22nd of April 2022 and is helpful for day-to-day management of breeding data collection, data sharing and lots more. Read more: <https://ebs.excellenceinbreeding.org/>

Explore the CGIAR Plant Health Initiatives and get acquainted with the newly appointed team leads

Protecting food security and livelihoods in the era of climate change with mounting disease pressures on plants is at the forefront of the Plant Health Initiatives of the CGIAR. The introduction and proliferation of transboundary pests and diseases from increasing trade and travel and weak phytosanitary legislation have led to 10–40% food crop losses. Rapid responses are needed more than ever to monitor and combat emerging threats by leveraging modern molecular diagnostic tools, global-scale surveillance data, risk forecasting, and rapid response management systems. Read more: <https://www.cgiar.org/initiative/13-plant-health-and-rapid-response-to-protect-food-and-livelihood-security/>

Finally, the African Cassava genome has been successfully mapped

Cassava breeders now have a more efficient tool to advance the breeding of new cassava varieties as locating and curating the functions of useful genes is easier and faster, providing sufficient information for understanding and manipulating the African cassava's growth and development. As a gold standard genome for African cassava, this high-quality and accurate genome boasts finely resolved haplotypes of the heterozygous genome with high confidence. Read more: https://cassavamatters.org/scientists-map-african-cassava-genome/?ct=t%28Cassava+Matters+Newsletter+33rd+Edition_COPY_01%29&mc_cid=2fe0266e7f&mc_eid=UNIQID

Beating the climate crisis; one wheat variety at a time

As concerns for the readiness of Africa's food system towards the climate crisis grow, CGIAR scientists at CIMMYT in Sonora have taken a pragmatic approach to developing drought-, heat- and flood-tolerant wheat varieties capable of thriving under extreme and unpredictable weather conditions currently being experienced by farmers worldwide. Learn more: <https://www.theguardian.com/environment/2022/jun/12/wheat-breeding-climate-crisis-drought-resistant>

IITA GoSeed thrives in Cassava EG Seeds amidst Covid-19 hiccups

Nigeria's first cassava early generation seed company, IITA GoSeed, reported significant progress in 2021 through the sales of improved cassava planting materials due to the increased demand for higher-yielding varieties by farmers

and processors. The company foresees even more growth and expansion in 2022 as it expands its production capacity across eight states in Nigeria. Read more: <https://cassavamatters.org/nigerias-first-cassava-early-generation-seed-company-sees-growth-amid-covid-19-hiccups/>



IITA GoSeed

IARSAF Inspiring Scholars

Sunday Akello



Academic Qualifications

Ph.D in Plant Biotechnology (in view)
M.Sc in Agricultural & Environmental Biotechnology
B.Sc in Biotechnology

University/Affiliation

Egerton University, Kenya
Stellenbosch University, South Africa

Brief Research Info

Her research focuses on the characterization of *Fusarium oxysporum* f. sp. *cubense* strains and *Fusarium* wilt resistant banana varieties in Kenya, using molecular methods to assist small-scale banana farmers and breeders in differentiating between resistant and susceptible varieties and guiding their decisions regarding which bananas to plant to enable effective management and control of the disease.

Skills

- Molecular Biology Techniques
- Bioinformatics & Genomics
- SPSS
- Database Creation & Web pages using Dreamweaver and other tools

Publications

Assessment of Fungal Contamination in Fish Feed from Lake Victoria Basin, Uganda
<https://doi.org/10.3390/toxins12040233>

Email: akellosandy@gmail.com

LinkedIn: Sundy Akello

Isaac Tize



Academic Qualifications

Ph.D (in view)
M.Sc in Animal Biology (Entomology/Crop protection)
B.Sc in Animal Biology Organisms

University/Affiliation

University of Ngaoundéré, Cameroon

Brief Research Info

His research focuses on cassava and maize value chains development with emphasis on clone introductions and screening against major pests and diseases.

Skills

- Microsoft Office
- Graphic design applications and analyses
- Paper writing
- SPSS and JPM (SAS)

Publication(s)

▪ New cassava germplasm for food and nutritional security in Central Africa
https://www.researchgate.net/publication/350564590_New_cassava_germplasm_for_food_and_nutritional_security_in_Central_Africa

Email: isaactize@yahoo.com

LinkedIn: Isaac Tize

Training

| Training | Date | Registration deadline | Venue | Charges | Links |
|---|--|-----------------------|--|----------------------------------|---|
| Molecular Biology Techniques | September, 14-18 November 2022 | - | Bioscience Centre IITA, Ibadan | \$225 | https://drive.google.com/file/d/19WppOSyjWHKot-dOgMGlP1C1xeH_a3WM1/view |
| PiLAF Skill Development in R | October 5 to December 21, 2022 (every Wednesday) | 23 September 2022 | Online | FREE | https://www.pilafui.org/training/r-training |
| Statistics and Statistical Computing Methods using SAS | 24-28 October 2022 | 9 October 2022 | IITA, Ibadan | \$500 | https://drive.google.com/file/d/1nh8thoYR_TXSkI3AF-MIoW2WTYt3a4zDp/view |
| 25th Annual Symposium of the International Association of Research Scholars and Fellows (IARSAF) | 25-28 October 2022 | 29 September 2022 | International Institute of Tropical Agriculture, Ibadan (and Online) | \$50 (Physical) \$10 (Online) | https://bit.ly/IARSAF-Symposium22 |

Job/Study Opportunities

Job and Study opportunity

TTU IGCAS Computational PostDoc in Crop Genomics

A postdoctoral position in crop genomics is available in the Jiao lab at the Institute of Genomics for Crop Abiotic Stress Tolerance (IGCAST) at Texas Tech University. See the introduction of the Jiao lab from here: <https://www.depts.ttu.edu/igcast/Staff/Yinpingjiao.php>. The selected candidate is expected to perform specialized Post Doctoral work in planning, conducting, and/or supervising original research. A PhD in the areas of project specialization with knowledge of plant biology, genetics, or bioinformatics with an understanding of basic plant

biology and proficiency in the use of Linux/Unix and proven experience in the analysis of next-generation sequencing data is required.

Apply for the Future Rural Africa Female Researchers Grant 2022 (up to €5,000).

The grants aim to promote female researchers at all stages of their careers. Details: <https://bit.ly/3wCNjAD> Deadline: 31 July

Postdoctoral fellowship to work on medicinal plants and fight infections. Details: <https://lnk.tu-bs.de/rUWhut>

Three-year postdoc position in legume-rhizobia interactions. Training in quantitative fluorescence microscopy and genome editing is preferred. Training opps in grant

proposal writing, student advising, lab mgmt, and other skills. Email: Senthil.Subramanian@sdstate.edu

Fully funded PhD scholarship for an exciting project on plant circadian biology and genetic engineering at KU Leuven in Belgium!

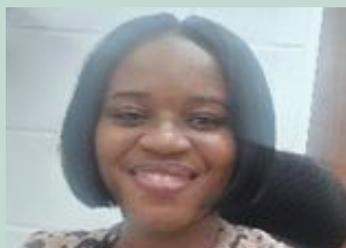
<https://www.kuleuven.be/personeel/jobsite/jobs/60120954?fbclid=IwAR2cttG26vaz2Ynj8SKySgDwWYs5xgyLnMWkP-5psag7AZYHQygNFKpVIJM>

Postdoc position @univbordeaux:

Theme: Understanding the relationships between the vascular system and bud dormancy in grafted grapevine. Duration: 24 months. Apply by 15 July 2022: <https://euraxess.ec.europa.eu/jobs/79196>

Editorial Team

Editor-in-Chief



Full Name: Mary Emeraghi
University: University of Abomey-Calavi, Benin
Name of IITA Hub: West Africa hub
Program of Study: Plant Genetic Resources and Crop Protection
Level of study: PhD

Member



Full Name: Akeem Oluwasegun Nofi
University: University of Ibadan
Name of IITA Hub: West Africa hub
Program of Study: Crop Physiological Genetics
Level of study: PhD

Member



Full Name: Akpojotor Ufuoma Lydia
University: Obafemi Awolowo University, Ile-Ife.
Name of IITA Hub: West Africa hub
Program of Study: Crop Biotechnology
Level of study: PhD

Member



Full Name: Juma Yabeja
University: University of Dar es salaam
Name of IITA Hub: Eastern Africa hub
Program of Study: Crop Science
Level of study: PhD

Member



Full Name: Priscilla Oluwakemi Aiyedun
University: University of Ibadan
Name of IITA Hub: West Africa Hub
Program of Study: Pharmacognosy
Level of study: PhD

Member



Full Name: Jesutofunmi Sharon Robinson
University: University of Ibadan
Name of IITA Hub: West Africa Hub
Program of Study: Plant Breeding
Level of study: MSc

Member



Full Name: Tize Isaac
University: University of Ngaoundere, Cameroon
Name of IITA Hub: Central Africa hub
Program of Study: IPM
Level of study: PhD

Member



Full Name: Angelyne Abuor
University: University of Nairobi, Kenya
Name of IITA Hub: Eastern Africa hub
Program of Study: Biotechnology
Level of study: MSc

Member



Full Name: Olaoye Oyindamola Adeniyi
University: Afe Babalola University, Ado-Ekiti (ABUAD)
Name of IITA Hub: West Africa Hub
Program of Study: Biochemistry (Molecular Biology & Biotechnology)
Level of study: PhD