



## Kirkhouse Trust Combined Meeting 2024 Arusha, Tanzania

### \*IMPORTANT Information regarding timing of talks\*

**Presenters – 15 minutes for presentation and 15 minutes for questions (30 minutes).**

To ensure that we adhere to the agenda provided, **please make sure that you keep to the time slots you have been allocated.** There will be plenty of time during lunch breaks for further discussion.

Sunday 16 <sup>th</sup> June: Welcome and introductions				
Start Time	Presentation Title	Presenter	Institute/Organisation	Country
17:00	<b>Welcome and Introductions</b>	Dr Claudia Canales Holzeis (KT CE)	KT	UK
		Professor Appolinaire Djikeng (KT CoT)	ILRI	Kenya
		Professor Mike Timko (KT Consultant)	UVa	USA
		Dr Robert Koebner (KT Consultant)	KT	UK
		Dr Travis Parker (KT Consultant)	UC Davis	USA
		Dr María Muñoz-Amatriaín (KT Consultant)	ULe	Spain
		<b>Opening of Annual Meeting</b>	Deputy Vice Chancellor for Research and Innovation	NM-AIST
<b>BUFFET DINNER- FOR EVERYONE</b>				



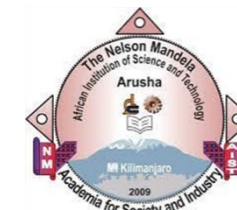
DAY 1 Monday 17 <sup>th</sup> June: African Bean Consortium (ABC)						
ITEM	Start Time	Duration of presentation	Presentation Titles	Presenter	Institute/Organisation	Country
<b>Chair - Dr Travis Parker</b>						
<b>Session I</b>						
	08:15	10 mins	<b>Introduction from ABC Coordinator</b>	Dr Travis Parker	UC Davis	USA
	08:30	15 mins	Unravelling the genetic architecture of pod and seed traits in common bean	Dr Travis Parker	UC Davis	USA
	09:00	15 mins	Marker-assisted genetic improvement of French bean and dry bean cultivars for resistance to multiple diseases in Kenya	Dr Esther Arunga	Embu	Kenya
	09:30	15 mins	Identification of common bean lines adapted to high temperatures in southern Mozambique	Dr Celestina Jochua	IIAM	Mozambique
	10:00	15 mins	Navigating the NaCRRRI ABC Project: Insights into Achievements and Research Implications	Dr Stanley Nkalubo	NaCRRRI	Uganda
<b>COFFEE</b>	10:30	30 mins	<b>Group Photo with all delegates - to be taken by hotel photographer</b>			
<b>Session II</b>						
	11:00	15 mins	Efficacy of bean stem maggot control methods in common bean-a meta-analysis	Ms Shylet Tsekenedza (PhD student)	CBI	Zimbabwe
	11:30	15 mins	Common bean breeding for Bean fly resistance in Malawi	Dr Wilson Nkhata	CIAT	Malawi
	12:00	15 mins	<i>TBC</i>	Dr Mashamba Philipo	NM-AIST	Tanzania
	12:30	15 mins	Accelerated Breeding of Common bean at the Alliance of Bioversity International and CIAT	Dr Clare Mukankusi	CIAT	Uganda
<b>LUNCH</b>	13:00 - 14:30		<b>LUNCH</b>			
<b>Session III</b>						
	14:30	15 mins	Improved tepary bean holds promise as a climate resilient pulse crop	Dr Tim Porch	USDA	USA
	15:00	15 mins	Marker-assisted pyramiding resistance genes against major bacterial and fungal disease into common bean ( <i>Phaseolus vulgaris</i> L) types with food and commercial values in Ethiopia	Dr Yayis Rezene	SIRARI	Ethiopia



	15:30	15 mins	Genetic analysis of halo blight ( <i>Pseudomonas syringae</i> pv. <i>Phaseolicola</i> (PspH)) resistance and yield components in common bean	Mr Muhammed Sitote (PhD student)	SIRARI	Ethiopia
	16:00	15 mins	TBC	Dr Teshale Assefa Mamo	CIAT	Tanzania
COFFEE	16:30	30 mins				
END	<b>BUFFET DINNER- FOR EVERYONE</b>					



DAY 2						
Tuesday 18 <sup>th</sup> June: African Bean Consortium (ABC) & African Bean Consortium (ACP)						
ITEM	Start Time	Duration of presentation	Presentation Titles	Presenter	Institute/Organisation	Country
<b>Chair – Dr Robert Koebner</b>						
<b>Session I</b>						
	08:30	15 mins	TBC	Dr Kelvin Kamfwa	UNZA	Zambia
	09:00	15 mins	Distribution of common bacterial blight disease of common bean in Northern Zambia	Mr Mwiinga Mulube (PhD student)	UNZA	Zambia
	09:30	15 mins	Developing Resources for Resistance Breeding: The Case of Southern blight of Common bean	Dr Pamela Paparu	NARO	Uganda
	10:00	15 mins	Mapping as you breed: discovering and using the genetic diversity within your breeding program	Professor Juan Osorno	NDSU	USA
<b>COFFEE</b>	10:30	30 mins				
<b>Session II</b>						
	11:00	15 mins	Genetic improvement of bean crop adaptation in Central America	Dr Juan Carlos Rosas	ZAM	Honduras
	11:30	15 mins	Current Status and Challenges of Common Bean Research in Angola	Mr António David	IIA	Angola
	12:00	15 mins	Overview of common bean breeding program of FOFIFA research institute (Madagascar)	Dr Santatra Ravelomanantsoa	FOFIFA	Madagascar
	12:30	15 mins	Introgression of bean rust resistance into released market class varieties in Malawi	Dr Saul Mwale	MZUNI	Malawi
<b>LUNCH</b>	13:00 – 14:30		<b>LUNCH</b>			
<b>Chair – Dr María Muñoz-Amatriaín</b>						
<b>Session III</b>						
	14:30	15 mins	Regional Trajectories for Improving Legume Systems: Potential Collaborations for Legume Systems Research Innovation Lab/Kirkhouse Trust Phase II	Dr Barry Pittendrigh and Dr John Medendorp	USAID	USA
	15:00	15 mins	<b>Introduction from ACP Coordinator</b>	Dr María Muñoz-Amatriaín	ULe	Spain



	15:15	15 mins	Identification of loci associated with rough seed coat texture in cowpea	Dr María Muñoz-Amatriain	ULe	Spain
	15:45	15 mins	Current status of marker development and capacity building at UVA	Professor Mike Timko	UVa	USA
	16:15	15 mins	Breeding for resilient cowpea varieties in the sudano sahelian zone of Cameroon	Dr Sobda Gonné	IRAD	Cameroon
	16:45	15 mins	Screening of cowpea genotypes for adaptability	Dr Motlalepula (Sethunya) Tait	BUAN	Botswana
<b>COFFEE</b>	17:15	30 mins				
<b>END</b>			<b>BUFFET DINNER - FOR EVERYONE</b>			



DAY 3 Wednesday 19 <sup>th</sup> June: African Cowpea Programme (ACP) & Bambara Breeding Initiative (BBI)						
ITEM	Start Time	Duration of presentation	Presentation Title	Presenter	Institute/Organisation	Country
<b>Chair - Dr María Muñoz-Amatriain</b>						
<b>Session I</b>						
	08:30	15 mins each	1. Enhancing Cowpea Resistance against <i>Alectra vogelii</i> through marker assisted Breeding 2. Developing high yielding stress tolerant market preferred cowpea varieties in Tanzania	1. Dr Beatrice Mwaipopo 2. Mr Meshack Makenge	SUA/TARI Ilonga	Tanzania
	09:15	15 mins	Identification of Cowpea Genotypes Resistant to Ascochyta Blight	Mr William Funsani	ZARI	Zambia
	09:45	15 mins	Genetic Improvement of Cowpea Plant Architecture for Superior Agronomic Performance	Mr Kuwabo Kuwabo (PhD student)	UNZA	Zambia
	10:15	15 mins	Genetic Analysis of Cooking Time in Cowpea ( <i>Vigna Unguiculata</i> L.)	Ms Swivia Hamabwe	UNZA	Zambia
<b>COFFEE</b>	10:45	30 mins				
<b>Chair - Professor Mike Timko</b>						
<b>Session II</b>						
	11:15	15 mins	The Role of Induced Mutagenesis as a Tool to Improve African Orphan Crops: Case Study Namibia	Dr Lydia Horn	UNAM	Namibia
	11:45	15 mins	<b>Introduction to BBI</b>	Professor Mike Timko	UVa	USA
	12:15	15 mins	Bambara groundnut research at UVA - an update	Professor Mike Timko	UVa	USA
	12:45	15 mins	Developing stress tolerant crops as an option for resilient agriculture.	Dr Sean Mayes	ICRISAT	India
<b>LUNCH</b>	13:15 - 14:30		<b>LUNCH</b>			



Session III						
	14:30	15 mins	Integrating Traits for Culinary Ease, Photoperiod Sensitivity, and Drought Resilience in BGN Breeding.	Professor Julia Sibiya	UKZN	South Africa
	15:00	15 mins	Sustainable solutions to improve Bambara groundnut yields: Adapted nodule symbionts as biofertilizer	Professor Barbara Reinhold-Hurek	UoB	Germany
	15:30	15 mins	Characterization of fungi isolated from diseased leaves, pods and seeds of field-grown Bambara groundnuts in South East of Nigeria	Professor Florence Akaneme	UNN	Nigeria
	16:00	15 mins	Genetic improvement of Bambara groundnut for increased productivity and nutrition in sub-Saharan Africa	Dr Presidor Kendabie	NDU	Nigeria
COFFEE	16:30	30 mins				
END			<b>BUFFET DINNER - FOR EVERYONE</b>			



<b>DAY 4 Thursday 20<sup>th</sup> June: Workshops &amp; Training - Separate agenda to follow</b>						
ITEM	Start Time	Duration	Description	Presenter	Institute/Organisation	Country
Workshop	08:30		TBC	TBC		
<b>LUNCH</b>						
Workshop	14:00		TBC	TBC		
<b>COFFEE</b>						
<b>END</b>						
<b>BUFFET DINNER- FOR EVERYONE</b>						





## Participating Institutions

BUAN - Botswana University of Agriculture and Natural Resources.  
CBI - Crop Breeder Institute, Zimbabwe.  
CIAT - Alliance of Bioversity International and CIAT, Malawi/Tanzania/Uganda.  
FOFIFA-CENRADERU - Department of Agricultural Research, Madagascar.  
ICRISAT - International Crops Research for the Semi-Arid Tropics.  
IIA - Instituto de Investigação Agronómica.  
IIAM - Instituto de Investigação Agrária de Moçambique, Moçambique.  
IRAD - Institut de Recherche Agricole pour le Développement, Cameroon.  
KT - Kirkhouse Trust SCIO, UK.  
MAWLR - Ministry of Agriculture, Water and Land Reform, Namibia.  
MZUNI - University of Mzuzu, Malawi.  
NaCRRI - National Crops Resources Research Institute, Uganda.  
NARO - National Agricultural Research Organization, Uganda.  
NDU - Niger Delta University, Nigeria.  
NDSU - North Dakota State University, USA.  
NM-AIST - Nelson Mandela African Institution of Science and Technology, Tanzania.  
SIRARI - Sidama Region Agricultural Research Institute, Ethiopia.  
SUA - Sokoine University of Agriculture  
TARI - Tanzania Agricultural Research Institute  
UoB - University of Bremen, Germany.  
UC Davis - University of California, Davis, USA.  
UKZN - University of KwaZulu-Natal, South Africa.  
ULe - Universidad de León, Spain.  
UNAM - University of Nabibia.  
UNN - University of Nigeria, Nsukka, Nigeria.  
UNZA - University of Zambia, Zambia.  
UoEm - University of Embu, Kenya.  
USAID - U.S. Agency for International Development.  
USDA - United States Department of Agriculture.  
UVA - University of Virginia, USA.  
ZAM - Zamorano Panamerican Agricultural University, Honduras.  
ZARI - Zambia Agriculture Research Institute, Zambia.



### Invited Speakers (in order of appearance)



**Dr Clare Mukankusi Mugisha**

Global Breeding Lead-Common Bean - Alliance of Bioversity International and CIAT

Dr Clare Mukankusi Mugisha (PhD Plant Breeding, University of KwaZulu Natal, Pietermaritzburg, Republic of South Africa), MSc Crop Science (Plant Pathology) and BSc Agriculture, Makerere University, Kampala, Uganda. Senior Scientist working as the Global Breeding Lead, Common Bean at the Alliance of Bioversity International and CIAT. She leads the implementation of systems, procedures and guidelines for effective product development for the global bean breeding program and supports breeding operations that range from trait discovery to population improvement focusing on prioritized market segments and target product profile.

She has over 20 years of research experience in plant pathology, plant breeding, and legume seed systems. She leads the Uganda common bean breeding program of the Alliance of Bioversity and CIAT and leads the breeding theme of the Pan Africa bean Research Alliance (PABRA) a task that involves supporting National bean breeding programs under the PABRA umbrella and actively developing bean varieties for key demanded and prioritized traits in collaboration with the regional breeders. She also oversees the maintenance and distributions of regional breeding lines developed by NARS and the Alliance and other collaborators.

She has authored and co-authored over 70 publications and holds the Distinguished Achievement Award (2017) in recognition to her outstanding scientific accomplishments relating to bean improvement from the Bean Improvement Cooperative (BIC). She served as the Co-Lead of the Accelerated Breeding Initiative of the OneCGIAR and as an Executive member of the Pioneer African Plant Breeders Association (APBA) Committee. Her research interests is in improving resistance to key disease affecting beans with keen interest to adopting proven breeding approaches to improve market demanded traits for beans. Clare is keen to collaborate with anyone interested in addressing key constraints to bean productivity and consumption through breeding and has and is currently working with the NARS in Africa, ARI's in the USA, UK, Germany and Australia on specific projects that contribute to this goal.

Source: Alliance of Bioversity International and CIAT. (n.d). *Mukankusi Clare Tekla Mugisha*, Available at: <https://alliancebioversityciat.org/who-we-are/mukankusi-clare-tekla-mugisha> (Accessed: 11 June 2024)



**Dr Tim Porch**

**Research leader, Plant Research Geneticist at the ARS -Tropical Agriculture Research Station in Mayaguez, Puerto Rico**

Dr. Porch earned his B.S. and Ph.D. degrees in Plant Breeding and Genetics from Cornell University. His Ph.D. research focused on the effects of high ambient temperature stress on common bean, and this continues to be an important area of his research. He then completed a Postdoc on maize genetics at the University of Florida, Gainesville before he began working as a Plant Research Geneticist at the ARS-Tropical Agriculture Research Station in Mayaguez, Puerto Rico in 2003. His research at TARS has focused on the breeding, physiology and genetics of heat and drought tolerance in common bean, while pyramiding disease and insect resistance to common bacterial blight, rust, ashy stem blight, root rots, viruses, and the leafhopper pest. Given relatively low levels of abiotic stress tolerance, he has focused on introgression of these traits from exotic germplasm with the goal of increasing genetic diversity in the narrow U.S. common bean germplasm base. He has used cultivars, landraces, and wild accessions of common and/or tepary bean, an orphan sister species of common bean, to introduce novel sources of climate resilient traits, and disease and insect resistance, and has been developing tepary bean germplasm and cultivars for use of this promising climate resilient crop in hot and arid environments.



**Professor Juan M. Osorno**

Professor in the Department of Plant Sciences  
at North Dakota State University

Juan M. Osorno is a Professor in the Department of Plant Sciences at North Dakota State University where he works since 2007. His main responsibility is being the dry bean breeder/geneticist. During his career, Juan had developed and released more than 20 cultivars and improved germplasm lines. Juan is also responsible for teaching general Genetics to approximately 250 undergraduate students every other year, as well as graduate seminar. He has been invited to more than 45 domestic and 25 international presentations at scientific meetings across 5 continents. Juan has contributed to more than 60 refereed publications mostly focused on plant breeding and the development and the use/application of molecular markers in breeding programs.

Besides his main breeding program at NDSU, Juan also has served as technical/scientific advisor to breeding programs in Guatemala, China, Zambia, and Colombia, among others. Thanks to all his work, Dr. Osorno has obtained multiple awards/distinctions including the “Distinguished Achievement Award” from the Bean Improvement Cooperative (BIC), the “Early Career Legume Scientist Award” from USAID/Legume Innovation Lab. for his achievements in grain legume research and commitment to improving the livelihoods of smallholder farmers in developing countries, the “NDSU Larson/Yaggie Excellence in Research” award, and the “2020 Editor’s Choice” award from the Genetics journal, among few others. Just last year, he and his team at Zambia, Malawi, and Mozambique was given the “best project” award among all the projects supported by the Legume Systems Innovation Lab, and he was also recognized by his scientific contributions in Guatemala by the Institute of Agricultural Science and Technology (ICTA). On his free time, Juan enjoys doing activities with his family, doing almost any outdoor activity, riding his motorcycle or bicycle, or travelling to a new place in search of his next great adventure.





**Professor Juan Carlos Rosas**

Emeritus professor and plant breeder at the Zamorano University in Honduras

Dr. Juan Carlos Rosas is an emeritus professor and plant breeder at the Zamorano University in Honduras and has a long record of achievements that have contributed to agricultural development throughout Latin America. He worked as Research Assistant at the Agricultural Research Institute in Peru (1970-74) and the Bean Program at The International Center CIAT (1975-78). He obtained his MSc and PhD degrees in Plant Breeding and Plant Genetics at the University of Wisconsin- Madison. Dr. Rosas has been a leader in bean research in Central America and the Caribbean (CA/C) and coordinated the evaluation of small red and black bean breeding lines regional trials. More than 100,000 small-scale bean producers in CA/C currently plant bean cultivars developed by Dr. Rosas and regional bean breeding programs collaborators.

As a professor at Zamorano, Dr. Rosas has served as academic mentor for more than 100 students and many of them have obtained graduate degrees and have distinguished themselves as professionals. He is the author and co-author of more than 140 refereed and non-refereed publications. He has been recognized with the Bean/Cowpea and Dry Grain Pulses Award for meritorious achievements (2012), the Gamma Sigma Delta Distinguished Achievement in Agriculture Award (2014), the Distinguished Achievement Award (2001) and the Frazier-Zaumeyer distinguished lectureship award in recognition of outstanding scientific accomplishments(2019) by The Bean Improvement Cooperative, and the Board for International Food and Agricultural Development (BIFAD) Scientific Award for Excellence in a Feed the Future Innovation Lab (2017).



**Dr Barry Pittendrigh**

**Lab Director, Adjunct Professor, Feed the Future Innovation Lab for Legume Systems Research**

Dr. Pittendrigh's program spans the areas of structural and functional genomics of insect toxicology, population genetics of pest populations, international development, integrated pest management, and high throughput delivery systems for outreach/extension. He works on a diversity of insect systems including *Drosophila*, human lice (he directed the body louse genome sequencing/annotation project), and pest species of cowpea. Prior to becoming an MSU Foundation Professor (2016-present), he held the C.W. Kerns, C.L. Metcalf and W.P. Flint Endowed Chair in Insect Toxicology position (2008-2016) at the University of Illinois at Urbana Champaign). He is also the co-founder and co-director of Scientific Animations Without Borders (SAWBO). The online SAWBO platform can be found at <https://sawbo-animations.org/home/> and video library can be found at <https://sawbo-animations.org>. Dr. Pittendrigh is currently the John V. Osmun Endowed Chair Professor in the Department of Entomology at Purdue University.

Source: Michigan State University. (n.d) *Barry Pittendrigh*, Available at: [https://www.canr.msu.edu/people/barry\\_pittendrigh](https://www.canr.msu.edu/people/barry_pittendrigh) (Accessed: 10<sup>th</sup> June 2024)



**Dr John Medendorp**

**Deputy Director, Feed the Future Innovation Lab for Legume Systems Research**

Dr John Medendorp is Deputy Director of the Feed the Future Innovation Lab for Legume Systems Research led by MSU. He has extensive experience managing publicly funded international development programs. His research focuses on agricultural education and training system development in Agricultural Innovation Systems (AIS) with a special interest in developing integrated learning systems on local, national, regional, and global levels.



**Dr Sean Mayes**

**Global Research Program Director - Accelerated Crop Improvement**

Sean is the Global Research Program Director for Accelerated Crop Improvement at ICRISAT. His expertise lies in genetic diversity and germplasm characterization of various crop plants, focusing on marker-assisted selection for genetic enhancement. He has been actively involved in projects on wheat, oil palm, African rice, Bambara groundnut, winged bean, foxtail and proso millets, moth bean, amaranths, quinoa, and other minor crops, with a focus on molecular markers and marker assisted breeding methods.

Before joining ICRISAT in September 2022, Sean held a position as an Associate Professor of Crop Genetics at the University of Nottingham, UK. From 2013-2019 he was also Theme Director for crop genetics at the Crops for the Future Research Centre, based in Malaysia – the first global research institute dedicated to improving the uptake of underutilised crops. He remains on the board of Crops for the Future (UK) CIC. He also served as the Principal Investigator at the Department of Genetics, University of Cambridge, UK, from 1999 to 2003. He pursued his post-doctoral research at the University of Cambridge between 1995 and 1999 and worked with Plant Breeding International, Cambridge, as a registered PhD student affiliated with the Open University from 1989 to 1995.

Sean's interest is in genetic diversity and the use of breeding approaches to improve the traits of resilience within food crops, particularly as part of developing minor crops as part of a effort for agricultural diversification and sustainability.



**Professor Barbara Reinhold-Hurek**

Full Professor (C4/W3) of General Microbiology, Faculty of Biology and Chemistry, University of Bremen, Germany

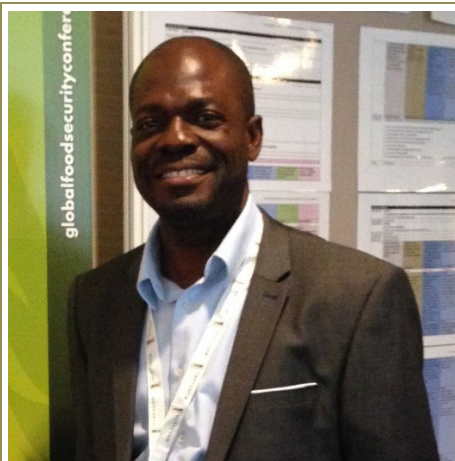
Adjunct Professor at NUST (Namibia University of Science and Technology), Windhoek, Namibia

Professor Barbara Reinhold Hurek is Professor of General Microbiology, Faculty of Biology and Chemistry, University of Bremen, Germany and Adjunct Professor at NUST (Namibia University of Science and Technology), Windhoek, Namibia. She was previously group leader of an independent research group ("Unabhängige Nachwuchsgruppe Symbiose"), at Max-Planck-Institute for Terrestrial Microbiology, Marburg, Germany.

She is the Principal Investigator for cooperative projects with Namibia and is currently to coordinator for the BMBF-funded SASSCAL Grand Challenge Project: "Sustainable Food Security and Woodland Utilization for Drought-Prone Communal Areas under Climate Change in SADC Countries" with Namibia, Botswana, Angola, South Africa.

Previous projects include the **German-Namibian cooperation project** funded by BMBF and DAAD: "**SusTec**: Sustainable solutions to elevate local protein-rich crops from subsistence to high-tech innovative products" and "TOPSOIL Towards Improving Food Security For Smallholders in dry Southern African Climates"





**Dr Presidor Kendabie**

Senior Lecturer in Genetics and Plant Biotechnology  
Biological Sciences, Niger Delta University, Nigeria

Prior to this appointment, Dr Kendabie worked as a Postdoctoral Research Fellow- Crop Genetics in the School of Biosciences at the University of Nottingham, UK. He was also a visiting research fellow for years with the International Institute of Tropical Agriculture (IITA), Ibadan, Nigeria and one-year Norman Borlaug Leadership Enhancement in Agriculture Programme (LEAP) Fellowship in the Plant Genome Mapping Laboratory of Prof. Andrew Patterson, University of Georgia, US.

His major research interests are in the genetic improvement of underutilized legume crops for food and nutritional security. His research in genetic improvement targets a diverse array of traits, and comparative trait analysis in Bambara groundnut and other related legume species. The scientific approaches integrate laboratory, controlled environment growth rooms, climate-controlled glasshouses and field research where agronomy, physiology, breeding, genomics, bioinformatics, quantitative genetics and the development of statistical methods that increase precision and accuracy of marker-assisted and genomic selection for complex traits. Specific example of his research includes understanding the genetics of photoperiod control of podset and podfilling in Bambara groundnut, and identifying the physiological and genetic traits that make Bambara groundnut resilient to low phosphorus availability and parasitic weeds infested soils.

He obtained his BSc in Crop Sciences from Rivers State University of Sciences & Technology (RSUST), Portharcourt, Nigeria and an MSc in Genetics & Plant Breeding from Zhejiang University, P.R. China. He holds a PhD in Biosciences from the University of Nottingham, UK. He is a member of the Royal Society of Biology, Nigerian Plant Breeders Association (NPBA), Genetics Society of Nigeria (GSN), and Society for Underutilized Legumes (SUL).