NAPB-APBA International Borlaug Scholarship

NAPB Mentors

Rex Bernardo

Dr. Rex Bernardo is Distinguished University Teaching Professor, endowed chair in maize breeding and genetics, and director of the Plant Breeding Center at the University of Minnesota. Born and raised in the Philippines, he obtained his undergraduate degree in agriculture in 1984 and earned his PhD in plant breeding at the University of Illinois in 1988. He was a research scientist with Limagrain (Illinois) from 1988 to 1997 and a professor at Purdue University from 1997 to 2000. Most of his work has focused on marker-assisted breeding. He was the first to use best linear unbiased prediction (BLUP) in plants, and in 1994 developed a procedure now known as genomic BLUP (GBLUP), widely used in animal breeding and major crop species. He has received the Young Crop Scientist Award (CSSA, 1999), Plant Breeding Impact Award (NAPB, 2015), and Crop Science Research Award (CSSA, 2019), and was elected Fellow of CSSA and the American Society of Agronomy (2005). In 2024, he was inducted into the Academy of Distinguished Teachers (University of Minnesota) and received the Lifetime Achievement Award (NAPB). At Minnesota, he teaches graduate courses in plant breeding and professional skills for scientists, as well as an undergraduate course on coffee. He has written two textbooks, *Breeding for Quantitative Traits in Plants* and *Essentials of Plant Breeding*.

Donn Cummings

Dr. Donn Cummings is formerly Global Breeder Sourcing Lead at Monsanto; Dekalb/Monsanto maize breeder (Indiana); Regional Research Director for Pfizer-Genetics; and a site lead and people manager. He was a Monsanto Scientific Fellow (2002–2015), connected over 100 scientists to scientific roles at Monsanto, and served 37 years in the seed industry before retiring in 2015. He has held significant leadership roles in the National Association for Plant Breeding (NAPB) since 2007, including Strategic Planning, Education, and Awards, and was founding chairman of the Membership and NAPB Borlaug Scholarship Committees. He is a member of the Commercial Breeders Committee and is currently co-leading the establishment of the NAPB–APBA International Borlaug Scholars program for Africa. He has been a member of the African Plant Breeders Association (APBA) since 2019. A member of CSSA for over 50 years, he served on the Agronomic Science Foundation Board for six years. Recognitions include ASA Agronomic Service Award (2015), Outstanding Career Award (2015; NCCPB & ASTA), NAPB Friends of Plant Breeding Award (2020), Distinguished Alumni Award—Industry (University of Minnesota, 2023), Chairman's Distinguished Service Award (ASTA, 2023), Extraordinary Service to Plant Breeding Community (Iowa State University, 2024), and Certificate of Distinction (Purdue Alumni Foundation, 2025). He earned his PhD (1977) from the University of Minnesota in Plant Breeding and Genetics.

Gebisa Ejeta

Dr. Gebisa Ejeta is Distinguished Professor of Plant Breeding & Genetics and International Agriculture, Executive Director of the Center for Global Food Security, and Presidential Fellow for Food Security and Sustainable Global Development at Purdue University. His career has been devoted to education, research, and international development, with contributions in human and institutional capacity building, technology development and transfer, and policy advocacy for science, technology, and innovations that change livelihoods. He has been highly honored for his contributions in science and development, including the World Food Prize (2009) and the U.S. National Medal of Science (2023).

Klaus Koehler

Dr. Klaus Koehler is a leader in corn breeding and agricultural technology, recognized for innovations across the seed industry. Early in his career at KWS, he introduced pneumatic planters to improve trial data and pioneered single-seed descent nurseries to accelerate breeding cycles. He adapted European breeding methods for North America, emphasizing hybrid combining ability, and developed inbred corn lines supporting a combined ~800,000 hybrid sales annually across various brands in the late 1990s. At Great Lakes Hybrids, he shifted the company toward proprietary hybrid development. At Aventis/Bayer, he led global corn breeding programs and established facilities for transgenic event selection and regulatory compliance. At Dow, he scaled doubled haploid (DH) line production to ~150,000 lines annually while reducing costs, initiated genomic studies to improve DH efficiency, and, as Global Corn Breeding Lead, introduced team-based decision-making, advanced data analytics, and Dow's genomic selection path. He has served in leadership roles with NAPB and ASTA, and as adjunct faculty at Iowa State, advising doctoral students and contributing to international projects. Recognized as a Dow R&D Fellow and Corteva Distinguished Laureate, he leads mentoring and professional development initiatives supporting diversity and technical excellence.

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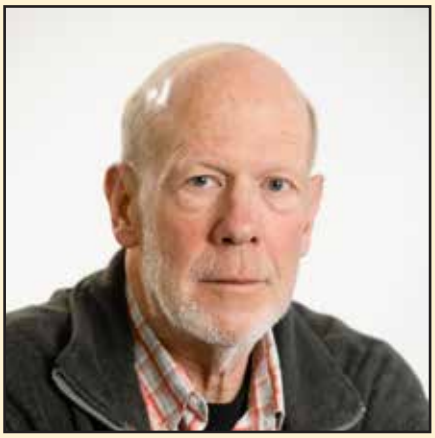

Stephen Kresovich

Dr. Stephen Kresovich has worked at Clemson University since 2013 as the Robert and Lois Coker Trustees Chair of Genetics (Department of Plant and Environmental Sciences) and serves as director of the Advanced Plant Technology Program and the South Carolina Crop Improvement Association, integrating advances in breeding, genetics, and genomics to solve problems in agriculture, the environment, and human health. In 2019 he re-established his connection with Cornell University as director of the Feed the Future Innovation Lab for Crop Improvement, developing and deploying tools and methods to deliver staple crops with improved yield stability under climate change, enhanced nutrition, and greater resistance to pests and diseases, with networks in Latin America, Africa, and Asia. He has held major leadership roles including Vice President for Research and Graduate Education at the University of South Carolina (2009–2011) and multiple Cornell leadership positions (Director, Institute for Genomic Diversity; Director, Institute for Biotechnology; Vice Provost for Life Sciences; Interim Vice Provost for Research). His research focuses on conservation genetics and improvement of crop plants including sorghum, maize, and sugar cane, with 200+ peer-reviewed publications and commercially released hybrids and germplasm. He is a Fellow of AAAS and CSSA, and serves in advisory roles including National Genetic Resources Advisory Council (appointed 2020), DivSeek (Board Chair, elected 2022), and the U.S. State Department “Vision for Adapted Crops and Soils” (VACS) breeding leadership and capacity development committees.

Rita Mumm

Rita Mumm is Director of Capacity Development and Mobilisation with the African Orphan Crops Consortium (AOCC), a 45-member organization aiming to alleviate malnutrition and end stunting in Africa. She directs the AOCC’s African Plant Breeding Academy, a continuing education program coordinated through the University of California, Davis, empowering African scientists to use genomic resources (e.g., DNA sequence data, molecular markers) and proven approaches to create high-yielding, climate-resilient cultivars of nutritious African crops. She is a veteran crop geneticist and plant breeder, recognized as an innovator in bringing improved cultivars to market using technological innovations and genomics-assisted approaches, and holds several U.S. and European patents. Her leadership spans seed industry, academia, and international development, with a current focus on preparing and strengthening the next generation of crop improvement scientists to meet global food and nutrition challenges.

Walter Trevisan

Walter L. Trevisan is a Brazilian/American citizen with a long career in sorghum and corn breeding across Latin America, the United States, Asia, and Africa. He began as a sorghum breeder at Instituto Agronômico de Campinas (1973), then joined EMBRAPA to start the Corn and Sorghum National Center and served as the first Sorghum Research National Lead (1974–1977). He was hired by Dekalb to start and lead corn breeding in Brazil (1977–1982), then moved to Cargill, leading Center of Brazil corn breeding and later serving as Worldwide Tropical and Subtropical Corn Breeding Lead in the USA (1982–1998). After Monsanto acquired Dekalb and Cargill (1998), he became Asia Research Lead, then returned to the USA in 2003 as a Commercial Corn Breeder and Waterman, IL Station Manager. In 2007, he led the 105RM Commercial Corn Breeding program across seven stations in Iowa, Illinois, and Indiana, and co-led the Monsanto Corn Germplasm Team (2003–2010). In 2010, he moved to South Africa to lead the WEMA/Monsanto corn breeding project, remaining active in WEMA breeding through 2018, including after retiring from Monsanto in 2014. He participated in the GEM Technical Steering Group for 16 years, including 10 years as Chair (2013–2022), and continues work as a corn breeding consultant in Asia and Latin America.

Allen Van Deynze

Dr. Allen Van Deynze is Director of the Seed Biotechnology Center and Associate Director of the Plant Breeding Center at the University of California, Davis. He holds a PhD in plant breeding from the University of Guelph (Canada). As part of the Seed Biotechnology Center’s mission to serve as a liaison between public institutions and the seed industry, he develops, coordinates, and conducts research and disseminates scientific and informational content for the Seed Biotechnology Center and Plant Breeding Center education and outreach programs. His research focuses on developing and integrating genomics into plant breeding of California and African crops, including breeding for disease resistance, abiotic stress, and quality in pepper, carrot, and spinach, and the development and application of genomics in crops. With Dr. Kent Bradford, he co-developed and organizes the Plant Breeding Academy, and he is past chair of the U.S. Plant Breeding Coordinating Committee. He has been involved in international and national policy, including U.S. regulations for biotechnology. He is an instructor for the Plant Breeding Academy(s) and Scientific Director for the African Orphan Crops Consortium.

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Casper Nyaradzai Kamutando

Dr C.N. Kamutando has more than 10 years' experience in research and teaching, with a strong focus on enhancing production, productivity, and utilization of plant genetic resources for improved food and nutrition security in sub-Saharan Africa (SSA). He is fluent in English and Shona. He holds a PhD in Genetics (Center for Microbial Ecology and Genomics, University of Pretoria, South Africa), an MSc in Crop Science (Plant Breeding; University of Zimbabwe), and a BSc in Agriculture (Crop Sciences; University of Zimbabwe). He is currently Head of the Department of Plant Production Sciences and Technologies at the University of Zimbabwe, mandated to spearhead research and development of technologies for sustainable production and utilization of plant species in Zimbabwe. He has served as a Senior Lecturer since 2018, supervising >40 bachelor's and >30 master's research projects across crop protection, agronomy, and crop improvement. He has also supervised 3 PhD projects (with the University of the Free State and University of KwaZulu-Natal) focused on building resilience in maize to climate-change induced abiotic (e.g., heat and drought) and biotic (e.g., fall armyworm) stresses in SSA. His work has contributed to >35 journal articles and 3 book chapters. He has provided teaching services at Midlands State University and Chinhoyi University of Technology, and delivered trainings on experimental design and data analysis for CCARDESA, APPSA-Angola, CIMMYT-Zimbabwe, UFS, and Jadins Da Yoba (Angola). He currently advises PhD projects funded by the European Union, IDRC, APPSA, and VACs, focused on sustainable seed systems for indigenous African crops (e.g., sorghum, sesame, Bambara groundnut, and groundnut). He is part of Zimbabwe's national Product Development team for Bambara groundnut breeding (USAID/VACs). He holds leadership roles in ZPBA (Current President), APBA (Executive Committee Member), and ISME (EC Ambassador for Zimbabwe).

Cathrine Ziyomo

Dr. Cathrine Ziyomo is the founder and CEO of Hekhani Seeds and Services, a seed company specializing in the development of high-quality seeds for small grains, legumes, and underutilized crops in partnership with smallholder farmers. She has been involved in the development and application of high-end genomic resources to enhance productivity and resistance performance of food crops under drought conditions. She has led and co-led national and international projects that delivered technologies and products contributing to strengthening seed sectors in multiple countries. She has developed valuable crop genetic stocks and pre-breeding lines to support genetic enhancement and crop breeding programs. Through Biosciences for east and central Africa (BecA) at the ILRI campus, she has supported more than 100 plant breeding programs across the continent and supervised master's and PhD students from national research organizations in Africa.

Charles Mutimaamba

Dr. Charles Mutimaamba is a plant breeder and research lead at Zadzamatura, a medium-sized seed company based in Harare. The company specializes in the production and marketing of maize, wheat, sorghum, pearl millet, soybean, sugar bean, and cowpea varieties, including Katambora Rhodes grass. Dr. Mutimaamba holds an MSc in Plant Breeding & Seed Systems (University of Zambia) and a PhD in Plant Breeding (University of the Free State, South Africa). He leads the Zadzamatura research team in the development and testing of crop varieties for commercialization in Zimbabwe and other Southern African markets. His research interests include breeding nutrient-dense varieties with tolerance to biotic and abiotic stresses. He collaborates with CGIAR Centers (CIMMYT, ICRISAT, CIAT, Bioversity, IITA) and partners including the University of Illinois, the University of Barcelona, and United Seeds (South Africa). He also has expertise in nutrition for health (HarvestPlus, USA) and regenerative agriculture (Carboneg, Czech Republic). He is exploring approaches such as tricot methodology in farmer participatory variety selection to enhance adoption among smallholder farmers.

Enoch G. Achigan Dako

Dr. Enoch Achigan Dako is a plant genetic resources specialist and lecturer in applied genetics, and Head of the Horticulture and Genetics Unit, Faculty of Agronomic Sciences, University of Abomey-Calavi (Republic of Benin). He graduated as an agronomist at the University of Abomey-Calavi, earned an MSc at the University of Cocody (Ivory Coast), and completed his PhD at Martin-Luther-University Halle-Wittenberg and the Leibniz Institute of Plant Genetics and Crop Plant Research (IPK), Gatersleben (Germany). Before joining the University of Abomey-Calavi, he worked at INRAB (Benin) in germplasm conservation, at Bioversity International (West and Central Africa office), and at Wageningen University as scientific editor and acting director of the Plant Resources of Tropical Africa (PROTA) programme in Kenya. He supervises BSc, MSc, and PhD research projects and focuses on the sustainable use of neglected and underutilized species (NUS) and crop wild relatives (CWR), particularly African horticultural species (fruits, vegetables, nuts, and medicinal plants), including use of wild relatives to improve neglected cultivars with high economic return. He won the 2008 Vavilov-Frankel Fellowship for work on Citrullus lanatus (Cucurbitaceae) and has published (English and French) more than 35 peer-reviewed scientific papers.

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Joe DeVries

Dr. Joseph DeVries is a plant breeder and seed-systems specialist focused on expanding smallholder access to improved crop varieties across sub-Saharan Africa. He received a PhD in plant breeding and genetics from Cornell University and has spent more than three decades working at the intersection of crop improvement, seed delivery, and agricultural development. DeVries held senior roles at the Rockefeller Foundation, leading initiatives to strengthen African seed systems and improve food security through locally adapted maize and other staple crops. He later co-founded the Alliance for a Green Revolution in Africa (AGRA) in 2006 and served for many years as vice president for program development, supporting national breeding programs, training plant breeders, and strengthening emerging seed companies across the continent. In 2019 he founded the Seed Systems Group, an Africa-based nonprofit dedicated to strengthening seed sectors and ensuring improved varieties reach smallholder farmers in underserved regions. His work centers on linking breeding innovation to functional seed markets and sustainable agricultural growth.

John Hickey

Dr. John Hickey trained as a quantitative geneticist with specialization in animal breeding in Edinburgh and Wageningen. He undertook postdoctoral research in Australia and Mexico in the application of genomic selection to crops and livestock. He then held a faculty position at the University of Edinburgh for 8 years. In October 2020 he joined Bayer Crop Science as Head of Corn Product Design.

Ronald Dorcinvil

Dr. Ronald Dorcinvil is a Discovery Breeder for Africa at Corteva Agriscience (Delmas, Republic of South Africa). He holds a BS in Agronomy (Universidad ISA, Dominican Republic), an MSc in Soil Sciences and Genetics (University of Puerto Rico), and a PhD in Genetics and Plant Breeding (North Dakota State University). He began his career as an agronomist and extension agent with the Haitian Department of Agriculture in the early 2000s, then transitioned into breeding during graduate training. During his MSc and PhD, he used molecular markers to characterize dry bean, corn, and oat populations. In January 2014 he joined Pioneer (now Corteva) as a discovery breeder for Africa. In this role, he implements new approaches across Corteva corn breeding programs in Africa, including integrating Pannar germplasm into Pioneer germplasm groups following the Pannar acquisition, improving stage 1 testing efficiency with updated breeding methodology, and developing marker-assisted selection strategies for key diseases (maize streak virus, northern corn leaf blight, common rust, and grey leaf spot). He also refines genomic prediction strategies (estimation set strategy and validation approaches for African conditions) and develops Shiny applications to support breeding data collection and analysis. He is affiliated with the South African Plant Breeding Association, SACNASP, and SOPCA.

Shimelis Hussein

Dr. Professor Shimelis Hussein is a plant breeder and Director of the African Center for Crop Improvement (ACCI) at the University of KwaZulu-Natal (UKZN), South Africa. He has over 30 years of teaching and research experience in Africa. He has developed several crop varieties and trained more than 100 African agricultural scientists (63 PhDs and 38 MScs). He is a top researcher at UKZN, and his work spans 20 African countries and has earned him recognition as one of Africa's 20 most influential plant breeders (2020). He is a fellow of the African Academy of Sciences and the Academy of Science of South Africa, an Associate Fellow of the Ethiopian Academy of Sciences, and a leading voice in demand-led breeding across the continent.