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NATIONAL ASSOCIATION OF PLANT BREEDERS AWARDS

National Association of Plant Breeders Honors Five Outstanding Scientists

The National Association of Plant Breeders (NAPB) has announced its awardees for outstanding accomplishments in five categories: Early Career Scientist, Lifetime Achievement, Public Sector Plant Breeding Impact, Private Sector Plant Breeding Impact, and Friends of Plant Breeding.

The 2022 NAPB awardees exemplify the very best in plant breeding research, education, outreach, and leadership. They model persistent dedication and a passionate devotion to applying their plant breeding skills and technical excellence to promote food security, quality of life, and economic resiliency for a sustainable future. They are committed to supporting the next generation of the plant breeding discipline. These outstanding professionals inspire plant breeders and scientists everywhere. The awardees are as follows:

Early Career Scientist Award: Dr. Marcio Resende, University of Florida

Lifetime Achievement Award: Dr. Fernando Gonzalez, Corteva AgriScience

Public Sector Impact Award: Dr. James Anderson, University of Minnesota

Private Sector Impact Award: Dr. Edwin Grote, Corteva AgriScience

Friends of Plant Breeding Award: Dr. Peter Bretting, USDA-ARS

Awards were announced at the NAPB annual conference, hosted by Iowa State University, Ames, IA, 8-11 Aug 2022. The meeting attracted 375 participants, including 138 students, and featured formal technical and scientific presentations, interactive workshops, field trips, and networking opportunities. It also included the annual meeting of the Plant Breeding Coordinating Committee (PBCC). All five NAPB awardees are invited to present talks at the next annual meeting, hosted by Clemson University, 16-20 July 2023.

About the NAPB and PBCC

Plant breeders develop new crop varieties that promote food security, quality of life, and economic resiliency for a sustainable future. The NAPB [<http://www.plantbreeding.org>] is a unique organization in the U.S., bringing together public and private sector plant breeders to share technical information, improve the efficiency and effectiveness of their programs, develop the next generation of scientists, disseminate information about plant breeding, and advocate for a cohesive national plant breeding agenda. The PBCC is a national public sector group of scientists that provides a forum for discussion and outreach on plant breeding [https://www.nrsp10.org/index.php/PBCC_about_us].

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**National Association of Plant Breeders
EARLY CAREER SCIENTIST AWARD 2022**



MARCIO RESENDE
University of Florida
Gainesville FL

The 2022 recipient of the National Association of Plant Breeders Early Career Scientist Award is Dr. Marcio Resende, University of Florida (UF). This award recognizes a scientist in the early stages of their plant breeding career who exhibits the ability to establish strong research foundations, interact with multi-disciplinary teams, and participate in relevant professional societies.

Since joining the UF Horticultural Sciences Department in 2017, Dr. Resende has led a research program combining theoretical and applied genomic research to breed and develop elite sweet corn and potato germplasm adapted to Florida and the southeastern US.

As one colleague comments: “Dr. Resende has continued his path of excellence in research, but now expanding it to teaching and extension. Evidence of his leadership are numerous. In 2021 he led a multi-institutional team of researchers that published the first sweet corn genome. He is the project director of SweetCAP – a very large USDA-SCRI research grant (\$7.2M) that established and strengthened a nation-wide network of scientists. In the meantime, he has advised a large number of graduate students while being increasingly successful in obtaining research funds from public and private organizations, and publishing in top-tier journals.”

Dr. Resende received an MS in Plant Breeding from Federal University of Vicosa, Brazil, and a PhD in Genetics and Genomics from the University of Florida, Gainesville, Florida. During his PhD program, he co-founded an ag-biotech startup company (Rapid Genomics), where he later served as the Chief Executive Officer from 2014-2017. The company has grown to over 30 employees and supports the genotyping and molecular breeding needs of several hundred clients in industry and academia from around the world.

Dr. Resende has collaborated in projects to evaluate the use of genomic selection in multiple species of fruits, vegetables, and row crops. He has published 59 journal articles, 4 book chapters, and 4 patents. Dr. Resende has also advised, or is in the process of advising, 7 PhD, 3 MS and over 25 undergraduate students. Finally, he co-led

the preparation of a proposal which led to the establishment of a PhD program in Plant Breeding at the University of Florida and is now initiating its second cohort. He is currently a member of the executive committee of the UF Plant Breeders Working Group, and is active in many professional organizations.

As one colleague notes: “Dr. Resende has also had a strong impact through professional service here at UF. Perhaps the single greatest impact from his service is the recent establishment of the UF Plant Breeding Graduate Program. Previously plant breeding students were awarded degrees through their home department. This new interdepartmental Ph.D. program has unified the faculty across these departments, established a common curriculum and created many synergies. The program has now been operating successfully for two years, and as you would expect Marcio has been instrumental in its early success, helping write the by-laws, serving on the admissions committee, and teaching courses.”

In conclusion, another colleague says “Dr. Marcio Resende has been an incredibly productive faculty member at the University of Florida who not only succeeds personally, but elevates everyone around him.”



Dr. Marcio Resende, University of Florida, the 2022 recipient of the National Association of Plant Breeders Early Career Scientist award, with his selection of corn (left) and in his field plots (right).



**National Association of Plant Breeders
LIFETIME ACHIEVEMENT AWARD 2022**

FERNANDO GONZALEZ CENICEROS
Corteva AgriScience
Tlajomulco de Zuniga, Jalisco Mexico

The 2022 recipient of the National Association of Plant Breeders (NAPB) Lifetime Achievement Award is Dr. Fernando Gonzalez Cenicerros of Corteva AgriScience. This award is given for distinguished long-term service to the plant breeding discipline through research, teaching, outreach, and leadership.

During his career, Dr. Gonzalez has led efforts to improve crop performance, mostly within the Meso-Andean region but across the world, across several crops, and across a range of farming systems. As one colleague observed: “In twenty years with Corteva AgriScience Fernando has had a broad array of achievements. He has developed inbreds and hybrids with direct commercial impact. He contributed successes from his own program, as well as leading other breeders to success and driving a leading product line-up in the market. His influence on breeding management to apply practical breeding methods and technologies to tropical and sub-tropical maize germplasm has been enormous. Even though Fernando spent most of his career in Mexico, he had significant impact on global breeding and has left a lasting plant breeding influence on multiple continents.”

A native of Coahuila state in Northern Mexico, Dr. Gonzalez intended to become an agriculture extension specialist, but soon after taking his first courses in genetics and plant breeding changed his career path. In 1981 he began work as a barley technician at the international research center CIMMYT in Mexico. Through that experience and contact with wheat and barley breeders from US universities, he pursued an MS and PhD degrees in Plant Breeding at North Dakota State University. He returned to CIMMYT in 1990 as a Postdoc in the corn breeding program, focused on population improvement and inbred development for insect tolerance and drought stress.

In 1994 he was hired by Dekalb as a corn breeder in Sinaloa, Mexico, but rejoined CIMMYT in Bangkok, where he led a corn breeding effort based in Bangkok. Later, as coordinator in India and Nepal, he contributed to development, testing, and release of varieties, inbreds, and hybrids for areas in Latin America, Asia, and Africa. In 2003 Dr.

Gonzalez joined Pioneer (now Corteva) as a PCC manager in Mexico and quickly assumed leadership roles as Coordinator, Director, and Evaluation Zone lead.

“Dr. Gonzalez is an accomplished scientist, who has contributed to both the public and private sector during his 32-year post-graduate career,” observes another colleague. “He has had significant commercial impact on products developed in multiple geographic locations, from both public sector and private sector breeding programs. Additionally, he developed products directly from his breeding program, but also hired and managed others to conduct successful breeding programs across both corn and sorghum.”

Dr. Gonzalez expects to continue working and collaborating with public and private institutions to develop germplasm and products that expand hybrids and improved germplasm utilization in marginal areas while conserving natural resources and dealing with challenges of climate change. Dr. Gonzalez himself states, his most important legacy is “the hundreds of people I have trained, coached, and developed.”

As another colleague concludes: “A devout family man, Fernando is inspired to give back to the communities that have served him well over the years. With great admiration I've watched his outreach to the Latin American community, especially in the areas of agriculture and plant breeding. This is also very consistent with his reputation as an inspired mentor and developer of the people whom he proudly led.”



Dr. Fernando Gonzalez Cenicerros, the 2022 recipient of the National Association of Plant Breeders Lifetime Achievement Award in his field plots.



**National Association of Plant Breeders
PUBLIC SECTOR PLANT BREEDING IMPACT
AWARD 2022**

JAMES A. ANDERSON
University of Minnesota
St Paul MN

Dr. James A. Anderson is the 2022 recipient of the National Association of Plant Breeders Public Sector Plant Breeding Impact Award. Since earning his PhD from Cornell University in 1992, Dr. Anderson has led research on cultivar development and investigation of breeding/genetic principles related to crop improvement in wheat and intermediate wheatgrass. Using classical field breeding, augmented with marker-assisted selection, genomic prediction and modern field design and statistical analysis, he applies the results of his research to develop superior germplasm.

Dr. Anderson's research is documented in more than 180 peer-reviewed publications, the release of 19 wheat cultivars as the primary developer, and release of the world's first Kernza cultivar, 'MN-Clearwater'. He provides guidance to new breeding programs on intermediate wheatgrass (Kernza®) and the winter cover oilseed crops field pennycress and camelina. He is a fellow of the Agronomy Society of America and the Crop Science Society of America (CSSA) and the recipient in 2022 of the CSSA Crop Science Research Award.

Collaborating with agronomists, plant pathologists, and end-use quality specialists, Dr. Anderson's two most successful wheat cultivars in terms of acreage grown were 'RB07', released in 2007, grown on more than 1 million acres in North and South Dakota and Minnesota in 2011; and 'Linkert', the most popular wheat cultivar in Minnesota from 2016-2020. Due to their disease resistance, end-use quality, and lodging resistance, Dr. Anderson's cultivars and germplasm are frequently used as crossing parents by other wheat breeders.

Throughout his career, Dr. Anderson has been at the forefront of gene/QTL mapping in wheat and applying this knowledge to advance breeding progress. His lab mapped the first QTL/genes for aluminum tolerance in any crop, along with tan spot, pre-harvest sprouting resistance, herbicide resistance, Fusarium Head Blight (FHB) resistance, and many leaf and stem rust resistance genes in wheat. Internationally, Dr. Anderson is best known for his genetic dissection of FHB resistance, the subject of intense national and international research since the 1990s. His research demonstrated that a few genes with large effects controlled this complexly inherited disease. His lab was the first to identify

the most effective resistance gene, *Fhb1*. DNA markers for this gene are being used in all U.S. wheat breeding programs where the disease is important and many others worldwide.

As one colleague noted: “Jim is a great researcher himself, but also fosters and supports great research. His efforts as an associate editor and technical editor manifest his commitment to the foundation of science. That he received the Council of Graduate Students Outstanding Advisor Award and the Exemplary Faculty Award from his University similarly is impressive. He also has supported junior scientists and graduate students as they navigate their careers. In crop research, Jim understands the importance of planting and nurturing the seed for a brighter future.”

Dr. Anderson has also been a dedicated contributor to both graduate and undergraduate education during his career. He currently teaches two courses at the University of Minnesota, including Agronomy 5021, Plant Breeding Principles for graduate and advanced undergraduates. His plant breeding courses have enrolled more than 260 students, most of them graduate students who have continued on to careers in academia and plant breeding industry. Dr. Anderson has served as advisor to 12 MS students, and 15 PhD candidates, and 15 postdocs or visiting scientists.

In conclusion, a colleague observes: “We as plant breeders are blessed to be in a profession that has a direct impact on people’s lives, from students to colleagues to collaborators to producers to processors to consumers. Jim’s contributions have had a wide and sustained impact on a “value chain” of people as well on a “value chain” of fields allied to plant breeding.”



Dr. James Anderson, the 2022 recipient of the National Association of Plant Breeders Public Sector Impact Award, in his breeding plots at Fergus Falls, MN.



**National Association of Plant Breeders
PRIVATE SECTOR PLANT BREEDING IMPACT
AWARD 2022**

EDWIN GROTE
Corteva AgriScience
Janesville WI

Dr. Edwin Grote is the 2022 recipient of the National Association of Plant Breeders Private Sector Plant Breeding Impact Award. During his career in corn breeding, Dr. Grote has worked on maturities ranging from 95 to 115 days with testing from central Missouri to central Minnesota and from Indiana to Colorado. Most of his time has been focused on the 100 to 105 maturities and his current breeding program is targeted at the 100

and 103 maturity zones. He is also providing leadership for the corn silage, white, and end use segments.

As one colleague states: “I have been impressed by his ability to constantly innovate, consistently deliver new inbreds that bring cutting edge yield and agronomics to the farming community, and to still take time to mentor young new breeders.”

After receiving his PhD from Purdue University in 1995, Dr. Grote started with Pioneer at the Marion IA research center, where he ran a corn breeding program and led the research staff. He soon was transferred to Algona IA, where he worked as a corn breeder exploring germplasm backgrounds and acting as herbicide trait champion. In 2004 Dr. Grote accepted a senior scientist position, moving to Janesville WI to run a corn breeding program and lead a group of other breeders. He was named an evaluation zone lead in 2009 and later as a breeding zone lead. In 2015, Dr. Grote was made a DuPont Research Fellow (now Distinguished Laureate).

“Ed has been an ongoing plant breeding role model to all Corteva plant breeders, leading with the positive influence of accomplished and sustained breeding successes across many years and multiple breeding programs conducted at three different research centers in Iowa and Wisconsin,” comments another colleague. “Ed has been a mentor to more than 35 plant breeding scientists and many graduate students in plant breeding at the University of Wisconsin in Madison. He is an amazingly accomplished and notably humble corn breeder by all that know him. Ed has a contagious passion and intensity for the art and science of corn breeding.”

Dr. Grote grew up on the family farm outside of the western Iowa town of Dunlap, where his passion for corn breeding was developed. When Ed was four years old, his dad presented him with a red ear of corn, sparking a fascination with that crop and providing the source for his first corn “nursery” the following year.

As an undergraduate Agronomy major at Iowa State University, Ed worked part time on the sorghum breeding project and in the summer of 1988 did an internship at Asgrow in Ames, Iowa working alongside Arnold Rosielle and subsequently with Marc Albertsen at Pioneer in Johnston, Iowa. He entered graduate school in 1990 at Purdue University where he studied under the guidance of Gebisa Ejeta to investigate the genetic control of drought tolerance in sorghum. Ed performed QTL mapping, evaluated physiological regulators for drought tolerance as well as compared several drought indices and selection schemes.

“In summary, Ed is a remarkable scientist and a tireless and effective leader and mentor. His impact is obvious not only in terms of his contributions to the field of plant breeding but also on his ability to lead successful teams and mentor outstanding scientists who will continue to contribute into the future.”



Dr. Edwin Grote, the 2022 recipient of the National Association of Plant Breeders Private Sector Plant Breeding Impact Award.



**National Association of Plant Breeders
FRIENDS OF PLANT BREEDING AWARD
2022**

PETER K. BRETTING
USDA Agricultural Research Service
Beltsville MD

Dr. Peter K. Bretting is the recipient of the 2022 National Association of Plant Breeders Friends of Plant Breeding Award. Since 1998 Dr. Bretting has served as USDA-ARS National Program Leader, Plant Germplasm and Genomes. In 2004 he became a Senior National Program Leader, providing co-

leadership, coordination, and direction for a national program of crop genetic research conducted at more than 50 locations nationally, with an annual budget of approximately \$220 million.

Dr. Bretting has also served as a USDA representative on US government delegations for the negotiations of the UN-FAO International Treaty for Plant Genetic Resources on Food and Agriculture, and the UN-UNEP Convention on Biological Diversity's Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of the Benefits Arising from their Utilization.

Previously Dr. Bretting served as Research Leader/Coordinator, USDA-ARS, North Central Regional Plant Introduction Station, and USDA-ARS Collaborator-Associate Professor of Agronomy and Botany, Iowa State University. Prior to joining USDA-ARS, he served as Research Director, Indiana Crop Improvement Association. His PhD is from Indiana University and his post-doctoral research was conducted at North Carolina State University. As a pre-doctoral fellow, Dr. Bretting studied at the Colegio de Postgraduados en Ciencias Agrícolas in Montecillos, Mexico after receiving a BS (summa cum laude) in Biology and Anthropology from Tulane University.

Dr. Bretting's areas of research specialization and professional interest include: 1) Administration and management of scientific research, development, and service organizations; 2) Plant genetic resource management, emphasizing statistical genetic and molecular marker approaches to managing germplasm, and developing management systems for information associated with germplasm; 3) Crop genetics, genomics, systematics, and economic botany, with particular emphasis on maize, sunflowers, and new crops.

He is the co-editor of one book and a collection of papers, and the author or coauthor of numerous scientific publications. Dr. Bretting's research has been supported by grants from government, international foundations, and industry. He has served as Associate Editor of two international journals, and on the editorial boards of two others. While at Iowa State University, he taught "Plant Genetic Resource Management," a graduate level course.