

**PRESS RELEASE 24 Aug 2021**

## **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 their 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 2021 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 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. Patricio R. Munoz, University of Florida

*Lifetime Achievement Award:* Dr. Don Blackburn, Corteva Agrisciences

*Public Sector Impact Award:* Dr. Gina Brown-Guedira, USDA-ARS Raleigh

*Private Sector Impact Award:* Dr. Mario Carlone, Corteva Agrisciences

*Friends of Plant Breeding Award:* Andy LaVigne, American Seed Trade Assoc.

Awards were announced at the NAPB annual conference, hosted by Cornell University, Ithaca NY 15-19 Aug. The virtual meeting attracted over 310 participants, including 140 students, and featured formal technical presentations, interactive workshops, 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 Iowa State University, Ames IA, 8-11 Aug 2022.

### **About the NAPB and PBCC**

Plant breeders develop new crop varieties that promote food security, quality of life, and 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 group that provides a forum to discuss and educate the public about Plant Breeding. [[https://www.nrsp10.org/index.php/PBCC\\_about\\_us](https://www.nrsp10.org/index.php/PBCC_about_us)].

*For more information:*

Jim McFerson  
Chair, NAPB Award Committee  
Wenatchee WA 98801  
[jim.mcferson@gmail.com](mailto:jim.mcferson@gmail.com)  
509-669-3900

Ksenija Gasic  
President, NAPB  
Clemson University  
[kgasic@clermson.edu](mailto:kgasic@clermson.edu)  
864-656-3664



**NAPB 2021 EARLY CAREER SCIENTIST  
AWARD**  
**Dr. Patricio R. Munoz, University of Florida**

The Early Career Scientist Award of the National Association of Plant Breeders (NAPB) recognizes a scientist in the early stages of their plant breeding career who exhibits the ability to establish strong research foundations, to interact with multi-disciplinary teams, and to participate in relevant professional societies. The 2021 awardee is Dr. Patricio Munoz, Associate Professor at the University of Florida Horticultural Science Department, who leads the blueberry breeding and genomics program with responsibilities in research and education.

Although early in his career, notes a colleague: “Dr. Munoz is an exceptional basic and applied scientist, whose research and academic leadership and accomplishment in his field of quantitative genetic and genomic approaches to cultivar improvement and applied plant breeding are world-class.” Another colleague comments: “Since joining Florida as a faculty member, Patricio has developed a very impressive research program that is making fundamental contributions to plant breeding process development.”

Munoz’s research consists in improvement of cultivars with a local focus but a global impact, and in developing and implementing genomic tools to accelerate the breeding process with focus in outcrossing polyploid species. Currently he is working to develop low chilling requirement blueberries with better flavor, sensorial, and nutraceutical traits to enhance the consumption of blueberries, while still working on traditional crop traits that help producers stay competitive.

Munoz has already made significant contributions to molecular breeding, comments one colleague: “Generating markers with sufficient read depth to accurately call allele dosage in autotetraploids is a major challenge. Patricio has conducted excellent research on using target capture technologies to develop the necessary markers for applications including biparental mapping, GWAS, and genomic selection.”

Munoz has also excelled in his educational activities. As one colleague highlights: “In addition to his research and breeding contributions, Patricio is an outstanding educator and dedicated mentor. He teaches critical graduate courses and contributes to the training of plant breeders inside and outside of the University of Florida.” Munoz has contributed to curriculum development and taught graduate level courses on plant breeding, genomics, and experimental design. He has trained four M.S., six Ph.D. students, and five post-doctoral associates and is currently training nine Ph.D. and two

M.S. students. His mentees have won 42 national, state, and local grants, or awards, and have presented their work 44 times at national and international conferences.

Munoz led the creation of a new Ph.D. degree in plant breeding at the University of Florida and is its first Program Director. This program is one of a few in the nation and the globe. He has released or collaborated in the release of 10 blueberry cultivars, four forage cultivars, and seven turfgrass cultivars. He also led the development of a phone app to help growers scout blueberry pest and diseases, as well as obtain specific information on blueberry cultivars (UF/IFAS Blueberry Growers App). He is currently the representative of the University of Florida on the PBCC and NAPB educational committees.

Munoz obtained his B.S. in forestry in Temuco, Chile and then worked as a breeder assistant in a company before receiving his M.S. in quantitative genetics and Ph.D. in plant molecular breeding at the University of Florida. He led a forage breeding and genomic program at the University of Florida Agronomy Department before moving to his current position.

Regarding Munoz’s qualifications for this award, one colleague summarizes: “In addition to his remarkable contributions to the field of statistical genomics and quantitative genetics applied to plant breeding, Patricio manages a remarkably prosperous applied plant breeding program that has systematically released improved cultivars to meet market needs and production modalities.”



*Dr. Patricio R. Munoz, University of Florida, evaluating blueberry selections.*



**National Association of Plant Breeders  
2021 LIFETIME ACHIEVEMENT AWARD  
Dr. Don Blackburn, Corteva Agrisciences  
(ret.)**

The 2021 recipient of the National Association of Plant Breeders (NAPB) Lifetime Achievement Award is Dr. Don Blackburn, Corteva Agrisciences. This award is given for distinguished long-term service to the plant breeding discipline through research, teaching, outreach, and leadership. Dr. Blackburn retired from Corteva Agrisciences in February 2020 after more than 30 years at Dow AgroSciences (DAS) and Corteva Agrisciences (Corteva). During his career, notes one colleague:

“Don’s contributions across the seed industry have resulted in improved products, improved systems, improved teams, and the development of our plant breeding community.”

Blackburn began his career at DAS as a successful corn breeder and station manager in Arlington WI, relocating in 2001 to DAS headquarters in Indianapolis, where he held numerous scientific and management leadership roles: Germplasm IP & Elite Genetics Licensing Leader, North America Breeding Leader, Seed Technology Center Director, and Global Breeding Leader of field and labs for all crops and geographies. Don was actively involved in merger-related activities between DAS and DuPont Pioneer, particularly Corteva’s new Plant Breeding subfunction.

As one Corteva associate observes: “First and foremost, Don is a plant breeder, but his engagement and influence go beyond. He directly influenced successful trait introgression and technology development and application for new crop integration, seed quality and more. This work, combined with his engaging and sincere personality, have enabled him to be successful in leading, staffing, and influencing across a broad range of venues.”

Beyond his plant breeding achievements, improving germplasm and developing elite genetics, Blackburn has been actively engaged and held leadership positions in scientific and industry organizations associated with agriculture, plant breeding, and the seed trade, including: NAPB, Plant Breeding Coordinating Committee, American Society of Agronomy, Crop Science Society of America, American Seed Trade Association (ASTA), National Council of Commercial Plant Breeders, American Seed Research Foundation (ASRF), and Seed Science Foundation. In fact, as a former NAPB President states: “In my mind, it is clear that Don Blackburn is one of the reasons the NAPB exists today.”

His passion for plant breeding, student development, and the grand challenge to feed a growing world led Blackburn to other external activities. He was a regular participant in ASTA's "Storm the Hill" events to advocate for critical seed and agricultural research legislation. His interest in connecting to students was consistent through his career and involved student mentorships, attending and speaking at student networking events, and helping select students for Operation Student Connection program at ASRF and ASTA, in which students learned about the seed industry.

While at DAS, Don was involved in multiple cross-company collaborations and played a key role in the launch of new crop technologies such as Enlist Cotton, Enlist Corn, SmartStax Corn, Herculex Corn, among others. He directed the largest expansion of North American field breeding in the company's history and brought data-driven research discipline to seed production and processing. Don championed intensive career development across DAS and promoted related activities at universities.

Seeds and plant breeding have literally been Blackburn's life's work, beginning with employment during high school at a seed company where his father was a long-term employee. It was one weekend at this seed company where he volunteered to assist a mentor in a corn breeding nursery and made a choice that day to pursue a degree in plant breeding. With this goal, Blackburn went on to receive his B.S in Crops & Soils Sciences from University of Wisconsin-Platteville and his M.S. and Ph.D. in Plant Breeding and Cytogenetics from Iowa State University.

In summary, as a former associate states: "I have observed Don in numerous leadership roles – recruiting future plant breeders; developing, sourcing, applying and refining technology; collaborating with academicians and industry peers; contributing to STEM initiatives; and engaging in multiple scientific organizations. Across the ag industry, Don emerges as a leader in his field and an ideal candidate for this award."



*Dr. Don Blackburn with Gergely Gulyas at a sunflower field trial in Hungary.*



*Dr. Don Blackburn in his retirement, exploring Florida waterways for tarpon germplasm*





## **2021 PUBLIC SECTOR PLANT BREEDING IMPACT AWARD**

**Dr. Gina Brown-Guedira, USDA-ARS  
Raleigh**

The National Association of Plant Breeders (NAPB) Public Sector Plant Breeding Impact Award recognizes an individual whose accomplishments as a scientist in the public sector have had extraordinary impact in the field of plant breeding in areas such as research, technological innovation, germplasm development, cultivar release, education, and leadership. The 2021 recipient is Dr. Gina

Brown-Guedira, Research Geneticist with the USDA-Agricultural Research Service and USDA professor at North Carolina State University.

For the past 17 years Brown-Guedira has provided leadership to the Eastern Regional Small Grains Genotyping Lab at Raleigh, NC, where she collaborates with teams of breeders and geneticists to implement genomics-assisted improvement of cereal crops. In this role, Brown-Guedira has worked to facilitate use of new DNA technologies by the small grains breeding community. As one colleague notes: “Gina has taken on the responsibility of bringing small grains breeders into the 21st century, first, with respect to use of molecular markers and more recently, with respect to genomic selection.”

Brown-Guedira’s lab has developed suites of molecular markers for genes affecting wheat growth and development, end-use quality, and pest resistance that can cost-effectively assay thousands of individuals in breeding programs. Her lab also routinely applies these markers to assess diverse germplasm for the presence of the associated genes and makes this valuable data available to wheat breeders and other collaborators. She has collaborated with the Durable Rust Resistance in Wheat project to provide programs in east Africa and Asia with marker information about genes conferring resistance to devastating new races of stem rust.

Brown-Guedira’s research has enabled public wheat breeding programs to utilize new genotyping technologies to identify marker-trait associations in biparental populations and association mapping panels. Recently, she has worked with colleagues to integrate genomic selection strategies into applied breeding. Her program continues to conduct research on trait mapping and development of cost-effective next-generation genotyping technologies for plant breeding.

One of those colleagues comments: “She is now one of the primary leaders in shifting the paradigm from SNP-based genotyping to haplotype-based imputation in

collaboration with the genomics group at Ithaca, NY and our group here in Manhattan, KS, as well as the groups in Pullman, WA and Fargo, ND. Gina was actually asked by us to be the leader because she has the intellect, vision, and the drive to deliver the results as well as the personality to help everyone work well as a team.”

Brown-Guedira has been major advisor for 15 Ph.D. students and three M.S. students and has served on the advisory committee for more than 25 graduate students at multiple institutions. She has co-released 28 wheat cultivars and pest resistant germplasm lines and co-authored more than 140 journal articles. She has worked with the National Wheat Improvement Committee, chairing the Crop Germplasm and Wheat Genomics sub-committees, and represents USDA to the International Wheat Initiative. She has twice received the USDA Secretary’s Honor Award and has served as C01 Division Chair of the Crop Science Society of America.

Brown-Guedira earned her B.S degree from the University of Kentucky, an M.S. degree from the University of California, Davis, and her Ph.D. from Kansas State University in plant breeding and genetics. She has 26 years of research experience with ARS, including 8 years working in wheat genetics and germplasm enhancement at Manhattan, KS.

Summarizing Brown-Guedira’s impact, one colleague observes: “It is clear that Dr. Brown-Guedira has had outstanding impact on both the scientific and applied sides of the plant breeding discipline. She is a highly sought-after collaborator on molecular genetics of small grains. She is a wonderful mentor and has helped many students develop into strong professionals in the plant genetics/breeding world.”



Dr. Gina Brown-Guedira hosting a plant breeding class at the North Carolina State University Lake Wheeler Research Station, Raleigh, NC with graduate student Noah DeWitt.



## **2021 PRIVATE SECTOR PLANT BREEDING IMPACT AWARD**

**Dr. Mario Carlone, Corteva Agrisciences**

The National Association of Plant Breeders (NAPB) Private Sector Plant Breeding Award, first established in 2020, recognizes an individual whose accomplishments as a scientist in the private sector have had extraordinary impact in the field of plant breeding in areas such as germplasm development, cultivar release, technological innovation, and leadership. The 2021 recipient is Dr. Mario Carlone, Corteva Agrisciences. Carlone began his career at Garst/ICI Seeds in Slater, IA, learning the ropes on private sector corn breeding from 1987 to 1995. He was

committed from those early years to two fundamental principles: 1) comprehensive knowledge of the germplasm; and, 2) running exceptional quality yield trials and nursery plots. He has continued focusing on those principles throughout his highly productive career. As one colleague summarizes: "He knows the agronomic needs of customers and the germplasm patterns which best fit those needs."

In 1995, Carlone was selected to conduct a corn breeding role in Princeton IL for Pioneer Hi-Bred, where he ran an extremely productive program and had a tremendous influence on the other corn breeders and breeding leadership within the organization. In recognition of his exceptional corn breeding accomplishments, he was promoted to Pioneer Research Fellow in 2003. Today he continues as Distinguished Corteva Agriscience Laureate, Corteva's highest level science position. As one colleague explains this achievement: "Mario combines the qualities of interminably asking insightful and probing questions which he is then able to answer by putting into effect practical strategies to develop improved germplasm that positively change lives and society through agriculture."

Another significant professional accomplishment is Carlone's role as the "Global Breeding Zone Lead" for 105-115 CRM, in which he led a group of global corn breeders in all aspects to drive corn germplasm development and breeding strategy. Further highlighting his detailed and comprehensive knowledge of global corn germplasm, he was named "Global Corn Breeding Zone Lead" for all corn maturities globally in 2019.

As a measure of impact, one Corteva colleague points out: "Perhaps the easiest measure to quantify is Mario's contribution to our commercial lineup, a staggering accomplishment. Inbreds and hybrids he has developed have resulted in over 13 million



units of sales. To put that into context, in any one year of corn production in the U.S. , Mario would be responsible for hybrids on almost 40% of the 90 million acres in the U.S. alone.”

For over 25 years, Carlone has contributed significantly to the evaluation of numerous technology applications to breeding, including: implementation of molecular marker systems in breeding selection, application of whole genome selection, estimation sets to his breeding program, implementation of doubled haploid systems for inbred development, and evaluation of many transgenic corn events. He contributed to setting up an “era” study project collaboration between Pioneer and Chinese Institutes. This project delivered multiple journal articles and increased the understanding of improved genetics and agronomic practices in Chinese corn production. He also participated in the development of a key hybrid in China, G335, which was recognized as Corteva’s global hybrid of the year in 2008 and swept the commercial hybrid seed volume market in China.

Finally, as a Corteva associate concludes: “Perhaps Dr. Carlone’s biggest contribution to our organization has been the mentoring role he has played. I have watched in amazement at how Mario has taken young scientists under his wing, and then seen them flourish. A significant number of our plant breeding leaders all went through the Mario Carlone School of Breeding.”

Carlone received his Ph.D. and M.S. degrees from Iowa State University in 1987 and 1985 respectively. His B.S .was received in 1983 from the University of Connecticut.



Dr. Mario Carlone (center), evaluating a field trial of the hybrid G335 with colleagues Bill Wilson (l.) and Dave Whitaker (r.) in China.



## **2021 FRIENDS OF PLANT BREEDING AWARD**

### **Andrew (Andy) LaVigne, American Seed Trade Association**

The National Association of Plant Breeders (NAPB) Friends of Plant Breeding Award honors individuals whose career may or may not have been involved in plant breeding, but who, through their professional activities and passion, have contributed significantly to the advancement of the plant breeding discipline. The 2021 recipient is Andrew (Andy) LaVigne, CEO, American Seed Trade Association (ASTA).

LaVigne has been directly and energetically involved as an advocate for plant breeding and agriculture throughout his career, first as a legislative assistant in Florida, and subsequently as a special assistant to the chief of staff for the U.S. Office of Secretary of Agriculture, CEO of the Florida Fertilizer and Agrichemical Association, and CEO at Florida Citrus Mutual. Since 2006 he has led ASTA, one of the oldest trade organizations in the United States, with a membership consisting of over 650 companies involved in seed production and distribution, plant breeding, and related industries in North America. As an authority on plant germplasm and breeding, ASTA advocates for science and policy issues of industry-wide importance.

Kent Bradford, Director of the Seed Biotechnology Center and Distinguished Professor at UC Davis, notes that Andy quickly and effectively engaged stakeholders in the seed and plant breeding industry by co-sponsoring a Seed Summit to develop strategic goals for the seed industry in 2008. Rick Falconer, Manager at Rijk Zwaan America, commends Andy's mastery at bringing people, associations and plant breeding/seed industry stakeholders across crops and agricultural and food sectors to reach actionable strategies for advancement of the industry.

Andy has encouraged ASTA collaboration with NAPB in many ways. He regularly attends NAPB meetings and is actively engaged with the NAPB Executive Committee to expand the organization's footprint, especially with respect to regulatory issues, policy, and agricultural trade. Andy has pushed NAPB to be involved at the regional, national, and international level with various government and stakeholder groups. He has provided critical guidance on events with NAPB in Washington, DC, such as the 2019 Advanced Plant Breeding Symposiums with key agencies (USDA/EPA/FDA/US Trade) and a related series of workshops scheduled for September, 2021.

Andy is a consistent and far-sighted leader on current and emerging issues like workplace diversity and social equity, exemplified by his recent address and panel at the June 2021 ASTA meeting on Diversity, Inclusion and Equity. He is an untiring advocate on the importance of developing and delivering plant breeding solutions to address climate change and sustainability. Andy is an active sponsor of the NAPB Borlaug Scholars Program and led the ASTA team in partnership with NAPB, UC Davis Seed Central, and the Alliance of Crop, Soil, and Environmental Science Societies (ACSESS) to offer programs to recruit and educate students at ASTA meetings.

Clearly, Andy LaVigne's professional activities and passion have contributed significantly to the advancement of the plant breeding discipline. Donn Cummings, (retired corn breeder from Monsanto and 2020 Friends of Plant Breeding Award winner) observes: "Andy is an amazing global leader and advocate in many areas of policy affecting freedom to operate for plant breeders in areas such as phytosanitary regulations; intellectual property protection; education; seed trade issues; research trends; economics of plant breeding; distribution of plant breeding products; genomics, phenomics, and gene editing; and scientific tool deployment for advancements in plant breeding."

Finally, as Dave Bubeck, Corteva Research Director and 2020-21 President of NAPB, observes: "This is a timely moment to recognize Andy for his persistent and relentless commitments to the success of plant breeding. He fully recognizes and enables great partnerships between public and private sectors of plant breeding. As the NAPB Executive Committee reviews and identifies recipients of the Friends of Plant Breeding award, there is no more deserving individual to receive the 2021 Friends of Plant Breeding award than Andy LaVigne."