NC STATE UNIVERSITY



2026 PLANT BREEDING RETREAT

MAJOR GOODMAN: A LIFETIME OF MAIZE DIVERSITY AND BREEDING

For Details & Registration

Friday, September 25, 2026
1:00 pm – 4:15 PM

Ocracoke Ballroom,
Talley Student Center
NC State University

HIGHLIGHTED GUEST SPEAKERS:



Dave Bubeck
Retired as Global Breeding Alliances Lead,
Corteva Agriscience



Paul Nelson
Head of Pipeline Data Science,
Bayer Crop Science



Mike Jines
Breeding Technology Lead,
Corteva Agriscience

2026 Plant Breeding Retreat

"Major Goodman: A Lifetime of Maize Diversity and Breeding"

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Talley Student Union
NC State University

We invite you to join us either in person or virtually via our online stream.

NC STATE Plant Breeding Consortium

Welcome

We invite you to the NC State 2026 Plant Breeding Retreat, a special symposium dedicated to honoring Dr. Major Goodman and his monumental, lifelong contributions to maize diversity and plant breeding. As we gather, we celebrate not only the scientific advancements he has championed but also the lasting impact he has made on generations of researchers and the broader agricultural community. We will be joined by distinguished colleagues and former students who will share insights from their own work, reflecting on the enduring legacy of Dr. Goodman's career and the future of crop science he helped shape.

Schedule

Time	Speakers	Title
1:00	Jim Holland	Major Goodman's career contributions to crop diversity and plant breeding
1:20	David Bubeck	Major Goodman's influence on commercial sector breeding
1:40	Paul Nelson	Lessons from Major: Shaping Science and Careers in Breeding Industry
2:00	Mike Jines	Corn breeding advances at Corteva
2:20	Matt Krakowsky	Germplasm Enhancement of Maize
2:35	Joe Gage	GxE for gene expression
2:50	Coffee Break	
3:10	Peter Balint-Kurti	Major Goodman - His Small Part in my Brilliant Career
3:25	Ruben Rellán-Álvarez	Adaptive teosinte and landrace introgressions
3:40	David Ngure	Wide-scale evaluation of breeding lines developed at NC State
3:50	Destiny Tyson	Rapid photoperiod conversion of commercial tropical lines
4:00	Jordan Cummings	Evaluation of the US open-pollinated seed bank collection
4:15	Reception	Raleigh Brewing Company, 3709 Neil St., Raleigh, NC 27607

Speakers

Jim Holland



Research Geneticist, USDA-ARS

Jim Holland discusses Major Goodman's extensive career and his monumental contributions to the fields of crop diversity and plant breeding.

Jim Holland earned a B.A. in Biology from Johns Hopkins University, an M.S. in Plant Breeding and Genetics from the University of Wisconsin–Madison, and a Ph.D. in Crop Science from NC State, where he trained under Major Goodman. Holland's research centers on the genetic architecture and natural diversity of maize, specializing in Fusarium ear rot resistance and the integration of tropical germplasm into temperate crop lines.

David Bubeck



Former Research Director, Global Breeding Alliances Lead, Corteva Agriscience

David Bubeck explores the significant influence Major Goodman has had on breeding strategies within the commercial sector.

David Bubeck recently retired and was a Research Director and Seed Product Development (SPD) Global Breeding Alliances Lead for Corteva Agriscience. In his recent role, Bubeck served the Corteva plant breeding organization through the efforts of their Seed Product Commercialization team, driving global germplasm intellectual property protection, and provided a connection point for SPD with regulatory, compliance, stewardship, and advocating for the progress that plant breeders deliver. Bubeck is a past member of the Executive Committee of the National Association for Plant Breeding, serves as current President of the Seed Science Foundation, and is on the Board of Directors for the Living History Farms.

Bubeck joined Pioneer Hi-Bred, now Corteva Agriscience, in February 1998 as a Research Coordinator in Corn Breeding and became a Research Director in 2000. He conducted a corn breeding program and subsequently led various parts of the North America and Southern Europe corn breeding programs through 2013. Since then, he has had several responsibilities, including Corn Platform Product Program Director, Global Trait Integration, Global Plant Pathology, Germplasm Security and Global Parent Characterization. Bubeck started in the seed industry as a corn breeder in Northrup King Co. (Sandoz, Novartis, Syngenta) from 1991 to 1998. Bubeck has been an advocate of plant breeding and related plant science technologies. He has made numerous visits to the U.S. Capital to advocate and educate on the importance of plant breeding, biotechnology, germplasm preservation and utilization, improved and reduced regulations for products of biotechnology.

Bubeck earned his Bachelor of Science degree in agronomy and his Master of Science degree in plant breeding and cytogenetics from Iowa State University. He received his Ph.D. in plant breeding and crop science at North Carolina State University.

Paul Nelson

Corn Breeding Lead, Bayer Crop Science



Paul Nelson will reflect on what he learned as a graduate student of Major M. Goodman at NC State and how those lessons have shaped his career at Bayer Crop Science and his contributions to the broader seed industry.

Paul Nelson is a Pipeline Strategy Scientist at Bayer Crop Science, supporting corn breeding strategy in North America and globally. During his 18-year career with Monsanto and Bayer, he has worked as a corn breeder in northwest Iowa and has held various leadership roles in breeding and data science. His work focuses on applying advances in modeling, genomics, engineering, digital technology, and artificial intelligence within large-scale crop development pipelines. Nelson is active in public and private collaboration across the seed industry. He is active within the American Seed Trade Association, served several terms on the advisory board of the U.S. Plant Variety Protection Office, and served on the Germplasm Enhancement of Maize (GEM) Technical Steering Group. His collaborative research has included genomic selection in GEM germplasm and the application of molecular technologies in plant variety protection.

Nelson earned his bachelor's degree from Brigham Young University and completed his M.S. and Ph.D. in the NCSU maize breeding program from 2004 to 2009. His education and mentorship from Major Goodman continue to influence his approach to data, science, and leadership. Originally from Manhattan, Kansas, he now lives in St. Louis with his wife, Lisa, and their four children.

Mike Jines

Breeding Technology Lead, Corteva Agriscience



Mike Jines provides insights into the innovative corn breeding progress and research breakthroughs at Corteva.

For 20 years Mike Jines worked to change how we breed better crops — 16 of them as a corn breeder and leader of corn breeding teams, and today as Breeding Technologies Lead. Throughout, his focus has stayed the same: integrating new technologies into applied breeding programs to deliver better products to farmers.

Along the way, he has partnered with exceptionally talented teams and scientists to transform breeding systems with technology and decision science that has translated into superior on-farm product performance.

Now Jines leads teams working across AI and machine learning, quantitative genetics, digital twins, gene editing, engineering and automation, and precision phenotyping, and collectively building the breeding systems of the future.

His mission is straightforward: advance breeding through science and technology to drive genetic gain and deliver more productive, resilient products for growers everywhere.

Jines earned his Ph.D. (2007) and M.S. (2005) in Plant Breeding from NC State University under the guidance of Dr. Major M. Goodman, and a B.S. (2002) from Purdue University.

Matt Krakowsky

Research Geneticist, USDA-ARS



Matt Krakowksy focuses on the methods and impacts of the public-private collaborative Germplasm Enhancement of Maize project

Matt Krakowsky is a Research Geneticist with the USDA Agricultural Research Service and an Adjunct Associate Professor in the Department of Crop and Soil Sciences at North Carolina State University. He coordinates the southeastern regional component of the Germplasm Enhancement of Maize (GEM) project, a public-private collaborative effort dedicated to expanding the genetic diversity of commercial U.S. corn. Krakowsky's research centers on germplasm enhancement methods and impacts, specifically introgressing traits from exotic accessions into temperate maize populations to build disease resistance, including against Southern leaf blight, Gray leaf spot, and aflatoxin contamination, and broaden the genetic foundation of modern crops.

Peter Balint-Kurti

Research Geneticist, USDA-ARS



Peter Balint-Kurti examines the complex genetic mechanisms that underpin disease resistance in maize crops.

Peter Balint-Kurti is a USDA-ARS Research Geneticist and Adjunct Professor in the Departments of Entomology and Plant Pathology and Plant and Microbial Biology at North Carolina State University. He earned his B.A. in Plant Molecular Biology from Cambridge University (1990) and his Ph.D. from the John Innes Institute (1994). Dr. Balint-Kurti's research centers on dissecting the genetic, molecular, and mechanistic bases of quantitative disease resistance (QDR) and defense responses in maize. His lab investigates resistance mechanisms against major fungal pathogens—including Southern corn leaf blight, Northern corn leaf blight, Gray leaf spot, and ear rots—while exploring the hypersensitive defense response, effector-triggered immunity, and the maize microbiome to enhance long-term crop resilience and agricultural productivity.

Rubén Rellán-Álvarez

Associate Professor, NC State University



Rubén Rellán-Álvarez discusses the adaptive nature of teosinte and the role of landrace introgressions in maize evolution.

Rubén Rellán-Álvarez is an Associate Professor in the Department of Molecular and Structural Biochemistry at North Carolina State University, where he leads the Genetics, Evolution and Metabolism of Maize Adaptation Lab (GEMMALAB). He earned a B.S. in Environmental Sciences and an M.S. in Plant Biotechnology from the Autonomous University of Madrid, a Ph.D. from the Aula Dei Experimental Station in Zaragoza, Spain, and completed postdoctoral training at the Carnegie Institution for Science at Stanford. Before joining NC State in 2019, he established his research group at the National Laboratory of Genomics for Biodiversity in Mexico. His research integrates quantitative and population genetics with high-precision metabolic phenotyping to uncover the genetic, physiological, and evolutionary mechanisms driving plant adaptation to abiotic stresses. Specifically, Rellán-Álvarez investigates maize adaptation to low temperatures, phosphorus deficiency, and glycerolipid remodeling, leveraging adaptive teosinte and native landrace introgressions to broaden the genetic base for crop stress resilience and sustainability.

Joe Gage

Assistant Professor, NC State University



Joe Gage's research highlights Genotype-by-Environment (GxE) interactions and their effects on gene expression.

Joe Gage is an Assistant Professor in the Department of Crop and Soil Sciences at North Carolina State University, affiliated with the N.C. Plant Sciences Initiative and the Genetics and Genomics Academy. He earned dual B.S. degrees in Communications and Plant Sciences from Cornell University, followed by an M.S. in Biometry and a Ph.D. in Plant Breeding and Plant Genetics from the University of Wisconsin–Madison, later completing postdoctoral research in crop genetics at Cornell. Dr. Gage's research bridges molecular genetics and quantitative plant breeding, focusing on linking crop genomics with high-throughput phenomics to accelerate the development of climate-resilient crops. His lab specifically investigates how sequence variation regulates gene expression, how Genotype-by-Environment (GxE) interactions impact plant phenology and adaptation, and how computer vision and machine learning can be applied to aerial imagery for predictive yield and trait modeling.

David Ngure

PhD Candidate, NC State University



David Ngure details the findings from a wide-scale evaluation of breeding lines developed at NC State.

David Ngure is a Ph.D. candidate and graduate researcher in Crop Science at North Carolina State University, co-advised by Joe Gage and USDA-ARS Research Geneticist Dr. Matthew Krakowsky. He has a strong background in applied plant breeding, having worked as a Research Associate with CIMMYT-Kenya for nearly 10 years. His research interests include applied plant breeding, G×E interactions, and the integration of phenotypic, genomic, and environmental data to improve crop productivity and resilience. He is nearing completion of his doctoral studies and is actively seeking career opportunities in Plant Breeding and Genetics

Destiny Tyson

PhD Candidate, NC State University

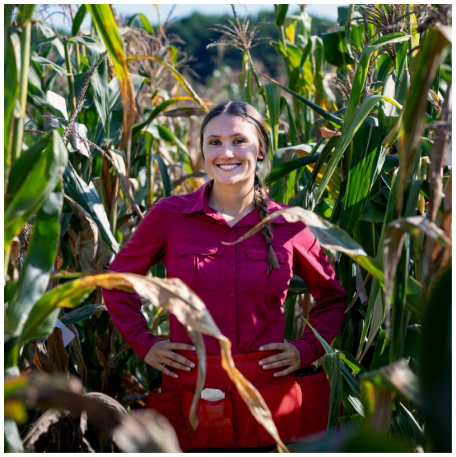


Destiny Tyson shares work on the rapid photoperiod conversion of commercial tropical maize lines for temperate utility.

Destiny Tyson is a Ph.D. candidate and graduate researcher at North Carolina State University, affiliated with the Genetics Program. Tyson is a Foundation for Food and Agricultural Research Fellow. Conducting research at Syngenta and in the laboratories of Drs. Jim Holland and Tim Kelliher, her work integrates molecular genetics with practical crop improvement. Her doctoral research focuses on the use of gene editing to rapidly convert commercial tropical maize lines to photoperiod-insensitivity, enabling diverse tropical germplasm to be adapted and effectively utilized within temperate breeding programs.

Jordan Cummings

Graduate Researcher, NC State University



Jordan Cummings presents an evaluation of the US open-pollinated seed bank collection and its value for future breeding.

Jordan Cummings is a Ph.D. student and graduate researcher in Crop Science at North Carolina State University, co-advised by Joe Gage and Jim Holland. She earned her B.S. in Agronomy and Genetics & Genomics from the University of Wisconsin–Madison before joining NC State as a Genetics & Genomics Scholar. Selected as a National Corn Growers Association Research Ambassador, Cummings focuses her doctoral research on evaluating and characterizing the U.S. open-pollinated heirloom maize seed bank collection. Her work seeks to catalog the phenotypic and genetic diversity preserved within historical corn populations, unlocking valuable traits for climate resilience, disease resistance, and long-term crop improvement across public and commercial breeding programs.