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ST. LOUIS, MO, UNITED STATES, April 2, 2025 /EINPresswire.com/ -- The Genome Partnership Announces Next Gen Leadership Awardees for 2025 AGBT Agricultural Meeting

Innovative early-career researchers driving breakthroughs in climate resilience, AI-driven genomics, and sustainable breeding to address global food security challenges

The Genome Partnership has announced the recipients of the 2025 Next Gen Leadership Awards for the

upcoming AGBT Agricultural Meeting, taking place March 31-April 2 in Orlando. As climate challenges and food security concerns intensify globally, these early-career scientists are developing cutting-edge genomic solutions that promise to transform agricultural productivity and sustainability.

The Next Gen Leadership Awards spotlight researchers whose innovations in AI-driven genetic analysis, microbiome science, climate adaptation, and computational biology are creating new pathways to improve crop resilience and breeding efficiency.

“Recognizing these talented early-career scientists is critical to advancing innovation in agricultural genomics,” said Daniela Lourenco, associate professor at the University of Georgia and co-chair of the AGBT Agricultural Meeting Scientific Organizing Committee. “Their work represents the next wave of discovery that will improve food security, sustainability, and breeding strategies worldwide during this critical period of climate uncertainty.”



The recipients of the 2025 Next Gen Leadership Awards for the AGBT Agricultural Meeting are early-career researchers driving breakthroughs in climate resilience, AI-driven genomics, and sustainable breeding to address global food security challenges.



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*Daniela Lourenco, Co-Chair
of the AGBT Agricultural
Meeting*

Matias Bermann, assistant research scientist, University of Georgia (Athens, Georgia)

Research focus: Heritability estimation and hypothesis testing for complex models and very large datasets.

Impact: His computational approach reduces genomic data analysis time from 19 days to just one hour, making likelihood inferences possible for previously unmanageable datasets.

Leonidas D'Agostino, graduate research assistant, Texas

Tech University (Lubbock, Texas)

Research focus: Unraveling Molecular and Cellular Insights in Soybean-AMF Symbiosis.

Impact: His single nucleus sequencing research identifies novel symbiosis-induced genes significant for establishing and maintaining cooperative relationships between soybean and arbuscular mycorrhizal fungi.

Talissa Floriani, graduate research assistant, University of Illinois Urbana-Champaign (Urbana, Illinois)

Research focus: Cracking the Genetic Code: Unveiling Rare Variants and Transforming Genotype-Phenotype associations with Machine Learning.

Impact: Her Mixed Random Forest model identifies rare genetic variants in sorghum that traditional GWAS methods consistently miss.

Lauren C. Johnson, doctoral candidate, University of Kentucky (Lexington, Kentucky)

Research focus: Functional Impact of Putatively Identified Introgressed Alleles within the Horse Genome.

Impact: Her work with introgressed alleles provides a model for gene editing and reveals statistically significant relationships between effect type and allele in immune system loci.

Chloee M. McLaughlin, computational biologist/postdoctoral researcher, HudsonAlpha (Huntsville, Alabama)

Research focus: Maladaptation in cereal crop landraces following a soot-producing climate catastrophe.

Impact: Her research identifies specific crop varieties best suited to survive extreme climate events, predicting how landraces would be maladapted where soot-induced climate change is greatest.

Vanda Beata Marosi, doctoral candidate, Technical University of Munich (Freising, Germany)

Research focus: Barley pan-transcriptome comparative correlation network analysis reveals ortholog divergence.

Impact: Her work with barley pan-transcriptomes across 20 cultivars reveals how gene

expression networks differ among varieties, with 84% of orthologous groups showing substantial functional differentiation.

Pedro Henrique Massaro da Silveira, undergraduate researcher, “Luiz de Queiroz” College of Agriculture – University of São Paulo (Cornélio Procópio, Brazil)

Research focus: Development of a computational interface for the analysis of mixed models: exploring genotype-by-harvest interactions (GHI) in multi-harvest trials.

Impact: His DesignGen app makes advanced statistical analysis accessible to breeders without requiring programming expertise.

Raissa Na-Ah, postdoctoral research associate, Washington State University (Pullman, Washington)

Research focus: Integrative approaches to conservation and genomic insights of *Cylicomorpha solmsii* (Urb.) Urb: A step towards sustainable restoration planning.

Impact: Her work with the threatened *Cylicomorpha solmsii* tree species has uncovered its XY heterogametic sex determination system and provided critical insights for conservation of this potential bioenergy resource.

Pedro Nuñez, doctoral student, Universitat Politècnica de València (Valencia, Spain)

Research focus: Recursive modeling to evaluate host genetic and gut microbial influences on feed efficiency in Iberian pigs.

Impact: His research identified 14 microbial taxa that significantly affect feed conversion in pigs, creating targeted approaches for selective breeding and management interventions.

Raissa Souza Krupek, undergraduate researcher, Luiz de Queiroz College of Agriculture – University of São Paulo (Piracicaba, Brazil)

Research focus: Developing a software for statistical analysis of groups of experiments in randomized complete block designs with factorial arrangements, with applications in plant breeding.

Impact: Her software has been validated with 156 maize hybrids across multiple seasons and locations in Brazil, significantly advancing breeding program efficiency.

Bruce Walsh, professor of ecology and evolutionary biology at the University of Arizona and a member of the AGBT Agricultural Meeting Organizing Committee, added: “These outstanding researchers are developing cutting-edge solutions that will shape the future of agriculture, from improving plant resilience to using AI for genetic analysis.”

The Genome Partnership congratulates these scientists for their contributions and looks forward to their presentations on agricultural genomics innovations at the 2025 AGBT Agricultural Meeting.

For more information, visit agbt.org.

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