### Shannon Cao

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* Innovative research professional with a career in implementing directives and SOPs to develop improved plant varieties within domestic and international, collegiate research labs; committed to develop new plant varieties by deploying various modern molecular breeding approaches.
* Communicative multitasker skilled at coordinating the composition and implementation of molecular markers and disease tests; collate data from plant breeding trials that are significant for selection, providing breeders with relevant information needed to select best varieties.

***Areas of Expertise***

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| --- | --- | --- |
| * Plant Breeding and Genetics * Plant Cultivation * Hybridization * Complex-Problem Solving | * DNA-Based Tools/Methods * Asexual Propagation * Molecular Research * R, TASSEL, JMP, GenAIEx | * Disease Screening * Greenhouse/Field-Based Phenotyping * Scientific Research and Writing * Bilingual (Mandarin and English) |

# Publications

Shanshan Cao, Stephen Stringer, Patrick J. Conner. Genetic diversity and pedigree analysis of muscadine grape (*Vitis* *rotundifolia*) using SSR markers. In preparation to publish on Genetic Resources and Crop Evoluation.

Cain C.Hickey, Erick D. Smith, Shanshan Cao, Patrick Conner. Muscadine (*Vitis rotundifolia* Michx., syn. Muscandinia rotundifolia (Michx.) Small): The Resilient, Native Grape of the Southeastern U.S. Agriculture. Agriculture 9.6 (2019):131.

# Professional Experience

**University of Georgia – Fruit Breeding Lab** • Tifton, GA • 6/2017 – Present

**Graduate Research Assistant**

Evaluate the resistance inheritance of pecan scab resistance—associated the resistance with molecular markers. Create a unique database for muscadine grapes.

* Established a DNA fingerprinting database for muscadine grapes using molecular markers; identified previously unknown vines; verified reported pedigrees for cultivars; and conducted analysis of genetic diversity of the germplasm.
* Decoded the inheritance of pecan scab disease resistance, resulting in increased knowledge of the plant- pathogen interaction, disease phenotyping, and trait-marker linkage association.

**Bayer Crop Science** • San Juan Bautista, CA • 5/2019 – 8/2019

**Vegetable Genetics Discovery Intern**

Focused on the acceleration of spinach breeding programs through the completion of three research projects.

* Gathered valuable data/findings/tool for spinach breeders, which served as the catalyst for follow-up studies. Presented results to site leaders and colleagues.
* Developed compliance for company standard operating procedures (SOPs) and safety policies.

**Huazhong Agricultural University – Plant Molecular & Genetics Lab** • Wuhan, China • 7/2016 – 6/2017

**Junior Molecular Researcher**

Teamed with PhD students to conduct validation and discovery experiments. Worked alongside lab colleagues to design and conduct experiments, which yielded high-quality research data.

**University of Florida – Ornamental Plant Breeding Lab** • Gainesville, FL • 12/2015 – 5/2016

**Undergraduate Research Assistant**

Worked within the Plant Breeding Lab to complete the undergraduate thesis project, “Breeding for Downy Mildew Resistance in Sweet Basil”.

**Huazhong Agricultural University – Corn Pathogen Disease Research Lab** • Wuhan, China • 8/2018 – 8/2015

**Undergraduate Research Assistant**

Gained in-depth knowledge of the effect of extraneous ABA (Arabic acid) on the expression of genes in response to corn pathogen disease. Worked diligently to successfully obtain National Undergraduate Innovative Test Programing (ITP) funding.

# Education

**Master of Science, Plant Breeding and Genetics** (December 2019), University of Georgia, Athens, GA

**Bachelor of Science, Biotechnology** (2016), Huazhong Agricultural University, Wuhan, China

**Undergraduate Exchange Student, Plant Sciences** (2016), University of Florida, Gainesville, FL

# Appointment and leadership

* **Co-Founder,** UGA Tifton Campus Graduate Student Leadership
* **Graduate Student Representative,** UGA – Experience Professional Development (xPD)
* **Graduate Student Representative,** International Student Advisory Board
* **­Vice-president,** Graduate Research Assistants Diversifying STEM (GRADS)
* **­President,** Undergraduate Student Association of Science and Technology

# Scholarly Activities

* **Oral Presentation**, South Regional Fruit and Vegetable Conference, Savannah, GA, 2019
* **Poster Presentation**, American Society for Horticultural Sciences, Las Vegas, NV, 2019
* **Oral Presentation**, American Society for Horticultural Sciences, Washington, D.C., 2018
* **Oral Presentation**, CAES Annual Interdisciplinary Graduate Plant and Soil Symposium, Athens, GA, 2018
* **Poster Presentation**, Institute of Plant Breeding Genetics: Genomics Annual Retreat, Pine Mountain, GA, 2018
* **Poster Presentation**, 8th Annual Integrative Research & Ideas Symposium, Athens, GA, 2018