Position: USDA National Needs Fellowship
Fellows will earn a PhD degree in Plant and Environmental Sciences, fulfill a residency requirement in one the Clemson University Research and Education Centers (RECs), complete an Extension leadership training, and gain experience in the University’s Plant and Pest Diagnostic Clinic. The program includes a core curriculum in plant pathology with focus on translational research and opportunities for teaching. Four students will receive fellowships to form a cohesive cohort with extensive interaction throughout the program. The fellowship award includes tuition, health insurance, an annual stipend of $24,500 for three years and a $2,000 yearly allowance.

Start Date: August 2022 (Fall semester)

Location: The students will reside in Clemson, SC for the first semester of the graduate program to fulfill course requirements. Dissertation research will take place at one of the Clemson Research and Education Centers (listed in the advisor descriptions below). Optional graduate student housing may be offered on-site at the REC station dependent upon availability and approval.

Qualifications: A MS degree in plant pathology, breeding, genetics, genomics, bioinformatics, or related field. Applicants must be US citizens from under-represented minority groups to qualify for the fellowship program. The candidate should be passionate about research in plant pathology, detail-oriented, and a team player with strong organization and communication skills.

How to apply: Send a single pdf of your CV, unofficial transcripts and a one page letter of interest to Dr. Paula Agudelo at pagudel@clemson.edu. Applications must be received by December 31, 2021 for full consideration. In-person interviews will include a tour of the RECs with all fellowship finalists and advisors in early 2022. Final offers will be made by April 15, 2022.
Fellowship Advisors:

**Dr. Sandra Branham**, Assistant Professor of Vegetable Breeding and Genetics [https://www.clemson.edu/cafls/faculty_staff/profiles/sebranh](https://www.clemson.edu/cafls/faculty_staff/profiles/sebranh); Instagram: branham_breeding; Twitter: @branhambreeding  
Coastal Research and Education Center, Charleston, SC [https://www.clemson.edu/cafls/research/coastal/index.html](https://www.clemson.edu/cafls/research/coastal/index.html)  
The primary goal of Dr. Branham’s research program is the improvement of vegetable crops for production in the Southeastern US. Her focus is on genomics-assisted breeding of vegetable crops through 1) development of genomic resources, 2) exploring the genetic and phenotypic diversity of the USDA germplasm repositories, 3) identifying QTL associated with resistance to heat and disease, 4) developing and testing molecular markers associated with phenotypes of interest, and 5) population development for marker validation, trait introgression and gene pyramiding. The fellowship project will use molecular breeding approaches to develop vegetable varieties with improved resistance to fungal pathogens.

**Dr. Hehe Wang** is an Assistant Professor of Plant Bacteriology [https://www.clemson.edu/cafls/faculty_staff/profiles/hehew](https://www.clemson.edu/cafls/faculty_staff/profiles/hehew), located at Edisto Research and Education Center, Blackville, SC [https://www.clemson.edu/cafls/research/edisto/](https://www.clemson.edu/cafls/research/edisto/). Dr. Wang’s lab conducts both basic and applied research to study the epidemiology, ecology, and/or genetics of bacterial pathogens in different crop production systems (e.g. peach, brassica greens, tomato) and develop sustainable and information-driven strategies for disease management. She also studies interactions between different plant pathogens, explore beneficial bacteria for plant health management, and conduct molecular diagnosis for pathogens and pests. The fellowship project will study the population dynamics of plant bacterial pathogens and develop improved disease management strategies.

**Dr. Joseph Roberts** is an Assistant Professor of Turfgrass Pathology and Nematology [https://www.clemson.edu/cafls/faculty_staff/profiles/jar7](https://www.clemson.edu/cafls/faculty_staff/profiles/jar7) located at the Pee Dee Research and Education Center in Florence, SC [https://www.clemson.edu/cafls/research/peedee/](https://www.clemson.edu/cafls/research/peedee/). Dr. Roberts’ lab works at the interface of fundamental and applied research to better understand pathogenic nematodes, fungi, and bacteria that infect turfgrasses. Current projects are aimed at identifying relationships within the plant, environment and microbiome that translate into sustainable management tools that enhance turfgrass survival. The fellowship project
will study nematode diversity and population development in grasses managed in the southeastern U.S.

**Dr. Elizabeth Cieniewicz** is an Assistant Professor of Plant Virology (https://www.clemson.edu/cafls/faculty_staff/profiles/ecienie), located at the main campus in Clemson, SC and working at the Piedmont REC, particularly at the Musser Fruit Research Center (https://www.clemson.edu/extension/peach/). Dr. Cieniewicz’s research program is focused on understanding virus disease ecology in several systems including peach, grapevine, and berries. Current projects include pathogen-pathogen interactions and coinfection synergism, virus diversity and ecology at the agro-ecological interface, and understanding the molecular and ecological mechanisms underlying transmission of viruses through pollen. This fellowship project would be focusing on coinfection synergism (virus-virus and/or virus-bacterial interactions) or investigating the risk of transmission from wild alternative hosts of peach viruses.Lab Website: https://cieniewiczviruslab.weebly.com
Twitter: @ejcieniewicz