

Master/Ph.D. student positions in Multidisciplinary Food Engineering, Fresh Produce Processing/Microbiology, and Plasma Physics/Chemistry

Job Title: Graduate Student Research Assistant

About the Location:

The students are expected to be trained and work mainly at Department of Animal and Food Sciences (ANFS), University of Delaware (UD), Newark, DE, USA. Depending on the projects, the students will also conduct research activities at the facilities/labs of the collaborators located in the states of New Jersey, Maryland, Virginia, and Pennsylvania.

The UD Newark campus is within short drive distance of multiple major cities including Philadelphia, Baltimore, DC, and New York. Diverse lifestyles are available during the process of pursuing academic degrees and job opportunities from relevant industries (e.g., food, agriculture, manufacturing, pharmaceutical), federal/state agencies, and Universities are available near the region.

Duties:

1. Up to 2 Master and(or) Ph.D. level graduate research assistantship positions are available in Spring 2026 and Fall 2026 working on multidisciplinary research projects with focuses on pre- and post-harvest fresh produce processing, plasma physics/chemistry, AI, and developing scalable processing and electronic devices
2. Conducting research activities at processing pilot plants, mechanic shops, and greenhouses is expected. The students are expected to work with multiple collaborators to leverage the equipment, facilities, and supplies to ensure the successful completion of the projects.
3. Industry projects are also expected to be assigned to the students and completed under the guidance of the PI and Postdoc.
4. Present research outcomes at domestic and international conferences.
5. Write research manuscripts, and protocols, and possibly assist the PI to complete grant proposals.
6. Carrying out research activities in collaborators' facilities and labs distance from the main campus (up to 3 hour driving) occasionally.

The successful candidate will be expected to be trained and then conduct processing and analytical experiences, using AI/machine learning (ML) models, and, most importantly, working in/with multidisciplinary research.

Financial support:

1. Tuition waiver for 2 years for Master Students and 4 years for Ph.D. students.
2. Health insurance is covered by UD health care.

3. The monthly stipend is approximately \$3,000 before tax.
4. Full cover for at least one conference meeting per academic year if sufficient research outcomes are available.

Start Date:

Spring 2026 (for domestic students) and Fall 2026 (for both domestic and international applicants).

Qualifications

1. Bachelor's or Master's degree in Engineering, Food Science (with engineering focus or experiences), Chemical Engineering, or a closely related field.
2. Undergraduate GPA >3.5 or Graduate GPA > 3.5
3. For international applicants: TOEFL test score ≥ 95 or IELTS test score ≥ 6.5

Preferred experiences (you don't have to meet all of them)

1. Undergraduate GPA >3.7 or Graduate GPA > 3.8
2. Undergraduate or graduate research experience in Engineering, Plasma Physics/ Chemistry, Electrical Engineering, and Programming.
3. Strong written (e.g., first-authored manuscript) capabilities and oral communication skills (e.g., presentations and poster competitions)
4. Good GRE scores will be considered a plus.
5. Programming skills (e.g., Python, R, and MATLAB) and research experience with electronics and robotics are considered a big plus.
6. Experience and skills in conducting numerical simulations using platforms such as COMSOL and Ansys are considered a big plus.
7. Willingness to work and explore multidisciplinary research.

Application Process

Interested candidates should send their CV, the contact information of 3 references, and a cover letter describing their background and interest in the project to Dr. Juzhong Tan (jztan@udel.edu). Review of applications will continue until the position is filled. Dr. Tan will gather the applications bi-weekly and arrange interviews if qualified candidates are identified.

Candidates will also need to complete a formal application through the University of Delaware Graduate School. Further information can be found here: <https://grad.udel.edu/apply/>. More information about the department and the College can be found: <https://www.udel.edu/academics/colleges/canr/departments/animal-and-food-sciences/>.

About the PI (Dr. Juzhong Tan)

Dr. Tan's office institutional profile can be found through the following link: <https://www.udel.edu/academics/colleges/canr/departments/animal-and-food-sciences/faculty-staff/juzhong-tan/>. Dr. Tan is also leading the Food Sensory, Characterization, and Novel Processing Center (FSCNP), which is the annex between the Department to external stakeholders, offering various research-based services: <https://www.udel.edu/academics/colleges/canr/departments/animal-and-food-sciences/affiliated-centers/fscnp-center/>.

Dr. Juzhong Tan is an Assistant Professor of ANFS and he obtained his Ph.D. degree at University of Georgia with training in both Food Science and Electrical Engineering.

Before joining UD, Dr. Tan is a tenure-tracked Assistant Professor at Florida A&M University. Prior to that, he worked at Rutgers University and University of Idaho as Postdoctoral Associate. He has multidisciplinary research experience in food engineering/processing, electronics, plasma physics/chemistry, bioinformatics, numerical simulations, AI/ML, and robotics. He has recently received funding support from multiple funding agencies and the awarded projects will be conducted at UD. He is also exploring funding for new integrated projects based on his current research interests.

You will expect the following from Dr. Tan:

1. To be the first batch of graduate students mentored by Dr. Tan with his full attention and support in research.
2. A supportive working and study environment within the College and the group.
3. Facilities and labs with constant upgrading and expansion.
4. Opportunities for working with multiple collaborators and multidisciplinary projects.
5. Mentorships and support for careers in both industry and academia.

Dr. Tan will expect the following from you:

1. Self-motivated in research and academic success.
2. Good working attitude and professional work ethic.
3. The capability of exploring multidisciplinary research and jumping out of your research comfort zone.
4. Balanced work and personal life.
5. Resilience and patience in pursuing valid, repeatable, and ground-breaking (we will try), research outcomes.