Graduate Research Assistant
Clemson University

Job Title	Graduate Research Assistant
Department	Mechanical Engineering
	https://www.clemson.edu/cic
Institution	Clemson University
	North Charleston, South Carolina
Date Posted	Sep. 5, 2024
Application Deadline	Open until filled
Position Start Date	Fall 2024/Spring 2025
Job Categories	Graduate Student
Academic Field(s)	Mechanical Engineering
	Engineering Mechanics
Apply By Email	

Job Description

Dr. Sez Russcher’s research group is recruiting Ph.D. students in the Mechanical Engineering program at Clemson University starting in Fall 2024 and Spring 2025. Our research group is dedicated to the development, application and dissemination of model validation and uncertainty quantification (MVUQ) techniques. Our main emphasis is in structural dynamics and solid mechanics applications with a focus on structural mechanics problems coupled with other domains. Funding for our research is provided by several federal agencies, including the National Science Foundation (NSF), the U.S. Department of Energy (DOE), and Los Alamos National Laboratory (LANL), as well as industry organizations and partners. Our focus directly relates to the goals of the Society of Experimental Mechanics (SEM) model validation and uncertainty quantification (MVUQ) technical division and ASME Verification, Validation and Uncertainty Quantification (VVUQ) technical community.

Students interested in applying for this graduate research assistantship are expected to enroll as full-time graduate students in the Mechanical Engineering program at Clemson University. The doctoral

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research dissertation will focus on one or more of the following research topics:

- Computationally efficient model calibration approaches leveraging advancements in machine learning (ML) algorithms.
- Advancements in model verification strategies (e.g., method of manufactured solutions).
- UQ of computational models for problems with extremely high dimensional input/output space.
- Test-analysis correlation for extremely large datasets.
- Development and selection of computationally efficient ML-based surrogate models approximating computationally demanding models.
- Bayesian statistical learning for UQ in exascale computing environments.
- Quasi-Monte Carlo approximations in high-dimensional spaces for forward and inverse propagation of uncertainties.

Students who are U.S. citizens are encouraged to apply for this research assistantship. The assistantship will cover the tuition fees, insurance subsidy, monthly stipend, and travel expenses. Graduate students recruited under this assistantship will have the opportunity to complete summer internships or extended visits at U.S. DOE national laboratories and collaborate with DOE scientists.

Interested candidates should submit a single PDF file containing their curriculum vitae (CV), personal statement, and unofficial transcripts (B.S. and M.S.) to malkayy@clemson.edu.

Students' eligibility for this assistantship depends on their acceptance and enrollment as a full-time graduate student (i.e., nine credits or more) in the Ph.D. program in Mechanical Engineering.

For further information or inquiries, please contact Dr. Malek Alkayyali (malkayy@clemson.edu).

Contact Information

Please reference Academickeys in your cover letter when applying for or inquiring about this job announcement.

Contact

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