



LEHIGH
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DOCTORAL RESEARCH POSITIONS

Predictive Modeling and Control of Nuclear-Fusion Plasmas

The Lehigh University Plasma Control Laboratory within the Department of Mechanical Engineering and Mechanics is seeking to fill several PhD positions, which are fully funded (tuition + stipend) by the Office of Fusion Science at the US Department of Energy. These positions lie at the boundary of Nuclear Fusion Engineering, Plasma Physics, Computational Methods, Applied Mathematics, Control Systems, and Machine Learning. The PhD candidates should have background in one or more of these research areas and should ideally have an undergraduate or preferably a Masters degree in engineering, physics or applied math. Solid analytical skills, as well as programming/coding abilities, are also required for these positions.

Besides providing an education across the areas mentioned above and unique research opportunities, these positions also provide the possibility of carrying out experimental work at large fusion facilities in the US (DIII-D tokamak in San Diego, California; NSTX-U tokamak in Princeton, New Jersey) and abroad (EAST tokamak in Hefei, China; KSTAR tokamak in Daejeon, South Korea; ITER tokamak in Saint-Paul-lès-Durance, France). Both short-term and long-term stays at these facilities are usually part of the PhD program.

Due to the interdisciplinary nature of these positions, former members of the Plasma Control Laboratory continue their careers in a variety of disciplines, including nuclear fusion (General Atomics, Princeton Plasma Physics Laboratory), nuclear fission (Shanghai Institute of Applied Physics), controls (General Electric, Corning Inc., Ingersoll Rand, Agilent Technologies, Lockheed Martin), robotics (Zhejiang University, Shenzhen Institute of Advanced Technology, General Dynamics Robotic Systems, U.S. Army), and high-performance computing (Oak Ridge National Laboratory).

These PhD positions are available immediately. Admission as early as the Spring 2023 is possible. It is expected that these positions will be filled by the Summer/Fall 2023. Candidates interested in being part of this educational and research opportunity are encouraged to send by e-mail their Curriculum Vitae to Prof. Eugenio Schuster at schuster@lehigh.edu.

Lehigh University, founded in 1865, is located in Bethlehem, Pennsylvania, 50 miles north of Philadelphia and 75 miles southwest of New York City. It offers an inspiring academic environment, excellent education, state-of-the-art research and computer facilities, very competitive economic conditions (tuitions, stipend, housing, health insurance) for graduate students, and great career opportunities after graduation. More information can be found at <https://www1.lehigh.edu/academics/graduate-studies>.