DEPARTMENT OF MECHANICAL ENGINEERING

Jessica K. Shang, PhD
Assistant Professor of Mechanical Engineering

HAJIM SCHOOL OF ENGINEERING & APPLIED SCIENCES
UNIVERSITY of ROCHESTER

PhD position in High Energy Density Flows

We are seeking a highly motivated PhD student to join the Hydrodynamics Lab (PI: Jessica Shang) and Turbulence and Complex Flow Group (PI: Hussein Aluie) at the Department of Mechanical Engineering, University of Rochester.

The project is a collaboration among Dr. Jessica Shang (UR-ME), Dr. Hussein Aluie (UR-ME), Dr. Ryan Rygg (UR-LLE, ME, Physics), and Dr. Riccardo Betti (UR-LLE, ME, Physics). The student will work closely with the collaborators and with the scientists at LLE, and potentially will have the opportunity to interact with DOE scientists and conduct experiments at DOE facilities (e.g., SLAC).

The position involves using advanced light sources to produce and characterize turbulent flows at extreme temperatures and pressures. Turbulence and mixing can be detrimental to system performance, such as in inertial confinement fusion (ICF). The aim of the project is to enable the measurement of fluid properties down to the smallest eddies using the high temporal and spatial resolution enabled by advanced light sources, and capture the multiscale interactions that are missing from existing hydrodynamic models. The successful candidate will have the opportunity to learn about the theory and fundamentals of complex flows and turbulence, work with codes used in the ICF community to design and fabricate targets, and execute the experiments at LLE and DOE labs.

We welcome applications from candidates with a background in engineering, physics, applied math, or related disciplines with a strong interest in fluid dynamics. Proficiency in programming is required. Previous experience with experimental fluid dynamics or HED physics is highly desirable.

** Application Deadline **

January 1, 2019.

Formal applications should be submitted through the ME department's website:

http://www.me.rochester.edu/graduate/admissions.html

Potential candidates are encouraged to contact Jessica Shang (j.k.shang[at]rochester.edu) and Hussein Aluie (hussein[at]rochester.edu) with inquiries and to express their interest in the position. Please attach a CV.

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