



Postdoctoral Fellow Position

Atmospheric Chemical Plasma Modeling and Simulation for hypersonics, power generation, and transportation applications

The Reactive Flow Modeling Laboratory headed by Prof. Fabrizio Bisetti is engaged in computational research on the use of atmospheric plasma discharges for the efficient and reliable ignition and combustion of hydrocarbon/air mixtures in hypersonics, power generation, and transportation applications.

A postdoctoral fellow position is available immediately. The appointment is yearly and renewable based on performance with up to 3 years of funding. The salary is between \$52,000 to \$60,000 per year, depending on qualifications. Benefits include health, dental, and vision insurance, and relocation allowance.

Funding for the position is provided through grants from the National Science Foundation and the Department of Energy (DOE). Collaborations with staff from Sandia National Laboratories (SNL), Argonne National Laboratory (ANL), Lawrence Berkeley National Laboratory (LBNL), and the National Renewable Energy Laboratory (NREL) are an integral part of the research effort.

The postdoctoral fellow will assemble a modeling framework for the simulation of chemical plasmas based on the multi-component plasma fluid model and suitable for high-fidelity simulations of plasma discharges in the presence of turbulence and mixture inhomogeneities. The framework will be implemented into a massively parallel computer code based on the AMReX software for block-structured adaptive mesh refinement developed at LBNL, NREL, and ANL as part of a DOE's Exascale Computing Project. The postdoctoral fellow will present at scientific conferences and disseminate research in the form of peer reviewed articles in fluid mechanics, combustion, and plasma high-impact journals.

Strong background and experience in one or more of plasma physics and modeling, fluid mechanics, applied mathematics, parallel software development, and large-scale simulations on high-performance computing platforms at leading computing centers are highly desirable.

Interested candidates should contact the PI directly at fbisetti@utexas.edu, submitting CV, two sample publications or manuscripts, and a brief cover letter with career and research highlights. Qualified candidates will be invited to Austin for a technical seminar and interview (expenses paid). More information on the research group is available at <https://sites.utexas.edu/flow>

Fabrizio Bisetti
Principal Investigator
Reactive Flow Modeling Laboratory