UNIVERSITY OF HOUSTON

Position Title

Postdoctoral Researcher in Experimental Fluid Dynamics

for the Applied Turbulence and Land-Atmosphere Systems (ATLAS) group in Mechanical Engineering

The Research

Much of humanity lives and depends on ecosystem services that are immersed in a turbulent boundary layer close to the land surface. In this region of the atmosphere closest to the ground, turbulent fluctuations are at the core of many weather phenomena and biological interactions. Understanding these turbulent processes is necessary for modeling their behavior in air-quality control, wind energy optimization, or natural-disaster forecasting. Our goal is to enable the development of a spectrum of reduced-order models for turbulence representation optimally suited for the plethora of science and engineering problems facing society today and in the foreseeable future.

We work in the following general areas (and at their intersections):

- Development of high-resolution, low-cost, and compact nanoscale sensing platforms that quantify velocity, temperature, humidity, and their turbulent fluxes at unprecedented scales
- Near-surface turbulent measurements over various landforms, sites, and thermal stabilities to validate and improve model parametrizations
- Design and characterization of a new environmental flow facility that uses an active grid with individually controlled paddles to impart coherent structures in time and space that echo relevant field observations

As a postdoc in our new and growing group, you will have significant autonomy to shape your own research direction and a major impact in shaping the lab's culture. Professional development opportunities will also be available through the University of Houston Postdoctoral Fellows Association (UHPFA).

Your Profile

We are looking for an enthusiastic and self-motivated early-career researcher with good communication skills to join our group. The candidate should have a Ph.D. in mechanical engineering, civil and environmental engineering, or a related field, and experience in experimental fluid mechanics.

This position is full-time with an initial term appointment of one year, and renewable for a second year depending on satisfactory performance.

The start date is negotiable. The position is available starting Spring 2024 with a preference to fill the position by Fall 2024. All applications received before Nov 20th will receive full consideration; the position will remain open until filled.

Location

Located in a vibrant city that offers diverse culture, amazing food, and affordable cost of living, the University of Houston is the second most ethnically diverse major research university in the U.S., and serves a population of 46,000 students, including 45% first-generation college students and over 40% Pell Grant students.

Interested applicants should reach out to Kelly Huang at yhuang68@uh.edu.