

Research Assistant Positions in Fluid Mechanics and Turbulence

Positions Description

The [Flow Dynamics and Turbulence Laboratory](#) (FDT Lab) at the [Department of Mechanical Engineering](#) of the [University of Texas at Dallas](#) (UT Dallas) invites highly motivated graduate students to join our research team starting in the Spring, Summer, and Fall of 2024. These positions are focused on studying turbulent air-sea interaction processes and flow physics above and below the ocean interface using **laboratory measurements** and **experimental fluid mechanics techniques**. The prospective students will perform fundamental research to (1) study the turbulence above/below surface waves, (2) examine the interactions between wind turbines and ocean waves, and (3) develop numerical parameterizations for air-sea fluxes in high wind conditions.

Required Qualifications

- Bachelor of Science in Mechanical Engineering, Civil Engineering, Ocean Engineering, or an equivalent terminal degree by the date of hire.
- Strong background in experimental fluid mechanics and/or flow visualization techniques.
- Proficiency in at least one programming language, such as MATLAB or Python.
- Research interests in fluid dynamics, turbulence, turbulent boundary layer flows, air-sea interactions, free surface processes, and surface gravity waves.
- Capability to work independently and as part of a team, with excellent interpersonal, written, and oral communication skills.

Preferred Qualifications

- Master of Science in Mechanical Engineering, Civil Engineering, Ocean Engineering, or an equivalent terminal degree by the date of hire.
- Prior experience with particle image velocimetry (PIV), shadowgraph, or schlieren techniques.
- Demonstrated experience working with LabVIEW and data acquisition (DAQ) systems.
- Research experience with a record of peer-reviewed publications in fluid dynamics, turbulence, turbulent boundary layer flows, air-sea interactions, free surface processes, or gravity waves.

Application Instructions

Interested applicants should meet the minimum admission requirements of the [Office of Admission and Enrollment](#) and the [Department of Mechanical Engineering](#). **Qualified candidates** are encouraged to contact Dr. [Kianoosh Yousefi](#) at kyousefi@utdallas.edu with their CV, unofficial transcripts, and 1-page research statement that briefly discusses their research interests, experience, and future work they intend to complete at FDT Lab. Before reaching out, you are also advised to read the [FDT Lab participation manual](#) and [recent publications](#) to ensure our mentoring and research philosophies are truly in line with your passions. Please note that **incomplete applications** will not be considered, and given the large volume of incoming applications, **only those selected for further consideration** will be **contacted back**.

About UT Dallas and Dallas–Fort Worth Area

Located in the heart of the 4th largest metropolitan area of the nation, UT Dallas enrolls over 30,000 students. UT Dallas is among the top universities in the country and highly ranked in value, ethnic diversity, and low student debt, based on the [US News & World Report](#). The Department of Mechanical Engineering at UT Dallas was founded in 2008, offers B.S., M.S., and Ph.D. degrees, and, according to US News & World Report, is ranked third in Texas. The department is home to more than 1,100 undergraduate students, 200 graduate students, and 34 faculty. It is also home to a unique [Boundary Layer and Subsonic Wind Tunnel](#) (BLAST) for renewable energy research and supports [UTD Wind](#) and [WindSTAR](#) research centers. The [Dallas–Fort Worth Metroplex](#) is one of the nation’s largest urban areas, with shopping, entertainment venues, museums, art galleries, and places for outdoor running, biking, hiking, and skating. Foreign Policy magazine named Dallas one of only five US cities in the top 25 in its projection of the most dynamic cities in the world in 2025.

Equal Employment Opportunity

The University of Texas at Dallas, the Department of Mechanical Engineering, and the FDT Lab are all committed to providing an educational and working environment that is welcoming, respectful, and inclusive of all members of the university community. The University prohibits unlawful discrimination against a person because of their race, color, religion, sex (including pregnancy), sexual orientation, gender identity, gender expression, national origin, age, disability, genetic information, or veteran status.