Assistant Professor in ME Position at the University of Idaho

The Department of Mechanical Engineering at The University of Idaho (UI) invites applications for a tenure-track faculty position at the rank of Assistant Professor with expertise in Fluid Dynamics and Experimental Methods beginning in the fall of 2022. Outstanding candidates who have demonstrated an excellent record of research, teaching and service may be considered at the associate professor level. The position will be within the Department of Mechanical Engineering and housed in the UI’s Center for Ecohydraulics Research (CER) located on the Boise campus, broadly focused on understanding and predicting the coupling between physical and ecological processes in freshwater systems. CER is a dynamic and vibrant research group that focuses on the relationships between physical (e.g., hydraulics) and biogeochemical (e.g., plants and nutrients) processes. The new position will have an interdisciplinary focus, complementing existing CER faculty expertise in hydraulics, ecohydraulics, nutrient dynamics, hyporheic exchange, sediment transport, geomorphology as well as ongoing research in the Department of Mechanical Engineering with faculty on the Moscow, Idaho campus, and research on building energy performance with architecture faculty located in Boise at the UI Integrated Design Laboratory. In addition to national and international project collaborations and a strong externally funded research program, CER offers M.S. and Ph.D. degrees in Mechanical Engineering, Civil and Environmental Engineering, Water Resources, and Environmental Science. CER supports two laboratory flumes with state-of-the-art equipment to quantify fluid dynamics, sediment transport, and biogeochemical processes.

Applicants must have a Ph.D. in mechanical engineering or a closely related engineering discipline, and a record of accomplishment that demonstrates outstanding abilities and potential for growth in the following skills: oral and written communication, teaching and course development, experimental laboratory development, research and grantsmanship, scholarly publication in peer-reviewed journals, academic and professional advising, and work-place cooperation. Duties include developing a strong externally funded research program, teaching undergraduate and graduate courses, advising graduate students, leading laboratory development efforts, and providing service to the university and engineering profession. We anticipate teaching of mechanical engineering courses at upper undergraduate and graduate levels in areas including fluid dynamics, thermodynamics, heat transfer, and experimental methods with some of these being offered as distance education courses. Successful candidates will demonstrate the ability to develop and conduct independent research that augments and complements research strengths of current faculty in the Department of Mechanical Engineering and the CER. CER strives to advance diversity, equity, and inclusion and encourages applications from candidates from all backgrounds.

Preference will be given to candidates in experimental fluid dynamics with research experience using advanced and emerging measurement techniques (based on optical, acoustic, thermal, molecular and electrical principles) in applications including but not limited to the mechanics of fluid flow in river, wetland, and lake/reservoir systems, coupling between local fluid dynamics and aquatic organism behavior and habitat preferences, or development of methods to better quantify fluid dynamics through laboratory and/or field experimentation. Research interests across many spatial scales ranging from micro- (e.g., molecular surface interactions, porous media flow) to macro-scales (e.g., reservoir circulation, watershed processes) are encouraged.
CER is located in downtown Boise, the capital city of Idaho. Boise is a vibrant city with an active downtown, cultural activities, and a myriad of outdoor recreational opportunities in the nearby mountains and desert. Boise is ranked by US News as the 4th safest city and 11th best metropolitan area to live in the United States. Additionally, the state of Idaho has a growing economy with many exciting opportunities to collaborate with regional industry and government agencies (including Idaho National Laboratory and Pacific Northwest National Laboratory) working on fluid dynamics problems related to river restoration, reservoir management, water quality, and flow hydraulics.

Minimum Qualifications

- Ph.D. in mechanical engineering or closely related field.
- Strong oral and written communication skills.
- Ability to develop and teach upper level undergraduate and graduate courses.
- Ability to publish research in peer-reviewed journals.
- Expertise in experimental fluid dynamics with research experience using advanced experimental measurement techniques (such as PIV and others).
- Ability to develop an externally funded research program.
- Workplace cooperation skills and experience with collaborative research efforts.
- Registered professional engineer (PE) or become a registered PE within five years.

Preferred Qualifications

- Experience and ability to lead laboratory development efforts.
- Ability to collaborate with regional and national industry and government agencies on fluid dynamics problems related to (but not limited to) river restoration and reservoir management, and water quality, organisms and fluid interactions (e.g. biofilms, fish, vegetation, biomimetic systems).
- Strong record of scholarly achievement.
- Commitment to advancing diversity, equity, and inclusion in engineering.
- Evidence of ability to teach online and distance education courses.

Application packages should include a cover letter addressing the above skills, a detailed current curriculum vita, diversity, equity, and inclusion statement (limited to 2 pages), statement of research plans (limited to 2 pages), statement of teaching interests and philosophy (limited to 2 pages), and names and contact information for at least three professional references. All application materials must be submitted electronically to UI at https://uidaho.peopleadmin.com/postings/34675. Applications for this position will be considered until the position is filled, with priority given to those submitted by April 1, 2022. Further information about the university, college, department, and CER, college, may be accessed at https://www.uidaho.edu, https://www.uidaho.edu/engr, https://www.uidaho.edu/engr/departments/me, and https://www.uidaho.edu/engr/research/cer.