Postdoctoral Scholar in Fluid Mechanics, Materials Science, Ocean Engineering or Systems and Controls

College of Engineering and Physical Sciences
Department: Mechanical Engineering

Description: The Department of Mechanical Engineering is interested in a creative Postdoctoral Scholar from an underrepresented group (e.g., ethnic or gender minority), who can make fundamental contributions to one or more of the following broad research areas: Fluid Mechanics, Materials Science, Ocean Engineering or Systems and Controls. The Postdoctoral Scholar will conduct their own research and work closely with a senior faculty mentor to develop an independent research program. The Scholar will build on current strengths in the Department in these areas, have access to state-of-the-art laboratory facilities, and opportunities to engage in interdisciplinary collaborations across campus.

Additional professional development support will be provided in the form of participation in faculty development academies with early career tenure track faculty, coaching by senior faculty colleagues, workshops on teaching and learning, graduate student advising, involvement in department activities, and support funds. The Scholar will also attend workshops on grant writing and the development of a long-range research plan that is funded by the NSF, DoD, DOE, NOAA, or other organizations. Responsibilities will include teaching one course annually.

We encourage a breadth of applications across the broad research areas of Fluid Mechanics, Materials Science, Ocean Engineering or Systems and Controls. The specific focus areas may include:

1. Fluid Dynamics: high-fidelity scientific computing in one or more of the following focus areas: high-dimensional dynamical systems; turbulence; environmental, biological and complex flows; and thermal and energy science.
2. Material Science: advanced materials characterization (e.g., SEM/FIB/EBSD, micro-CT, TEM, XRD, and AFM) and/or modeling with respect to biomaterials, additive manufacturing, or high-performance materials for extreme environments.
3. Ocean Engineering: marine robotics, ocean simulations, marine structures, coastal processes, ocean sensing, marine geotechnics, ocean renewable energy, ocean acoustics.