FACULTY POSITIONS in Computing for Health of the Planet
in Mechanical Engineering and Schwarzman College of Computing
Massachusetts Institute of Technology
Cambridge, MA

The Massachusetts Institute of Technology (MIT) Department of Mechanical Engineering together with the Schwarzman College of Computing (SCC) seeks candidates for tenure-track faculty positions in Computing for Health of the Planet to start July 1, 2021 or on a mutually agreed date thereafter. The search is for candidates to be hired at the assistant professor level; under special circumstances, however, an untenured associate or senior faculty appointment is possible, commensurate with experience.

The Health of the Planet is one of the most important challenges facing humankind today. The need for a sustainable planet demands integrated research efforts that develop novel fundamental modeling, computation, machine learning and AI methods with technological innovation. Ocean systems are particularly important and in need of both fundamental research and development of breakthrough solutions. A creative *mens et manus* approach is essential to ensure the health and security of our oceans and environment.

We seek candidates who have expertise in computing and data-driven science and engineering, and can apply it to:

- Develop integrated systems using smart sensors and physics-informed machine learning.
- Explore, utilize, and protect our environment and oceans.
- Conduct fundamental and applied research in sensing, acoustics, communications, signal processing, control, autonomy, sea-level and climate change mitigation, environmental hazards, environmental risk assessment, among others.
- Use data for estimation, prediction or control relevant to sustainable mobility, autonomous vehicles, sea transports, and ocean environments and coastal structures.
- Provide usable water, resilient food, and sustainable energy (e.g., desalination, water management, sustainable aquaculture, food security, wind and ocean renewable energy, low emission propulsion) using data-driven models and AI-embedded engineering.

Candidates should contribute to interdisciplinary research in environmental and ocean science and engineering such as marine robotics, sensing, structures, physics, acoustics, ecosystems, food, desalination, and renewable energy with fundamental expertise in one or more of these areas: learning for dynamics, nonlinear dynamical systems, computational modeling, physics-informed

machine learning, high dimensional statistics, science of autonomy, intelligent systems, smart sensing, computing devices, decision theory, risk analysis, and data-driven science and engineering.

The Department of Mechanical Engineering and the Schwarzman College of Computing are committed to fostering interdisciplinary research that can address grand challenges facing our society. We seek candidates who will provide inspiration and leadership in research, contribute proactively to both undergraduate and graduate level teaching in the Mechanical Engineering department and SCC and add to the diversity of the academic community. The successful candidate would have a shared appointment in both the Department of Mechanical Engineering and also the Schwarzman College of Computing, in either the Department of Electrical Engineering and Computer Science (EECS), or in the Institute for Data, Systems, and Society (IDSS).

Faculty duties include teaching at the undergraduate and graduate levels, advising students, conducting original scholarly research and developing course materials at the undergraduate and graduate levels. Prior to the start of the appointment, candidates must hold a Ph.D. in a field related to Engineering, Physics, Data Science, Computer Science, or Applied Mathematics or a similar discipline by the beginning of employment.

In addition to this search, the Mechanical Engineering department has positions available broadly in mechanical engineering: http://meche.mit.edu/faculty-positions.

Applications must include a cover letter, curriculum vitae, 2–3 page statement of research and teaching interests and goals. In addition, candidates should provide a statement regarding their views on diversity, inclusion, and belonging, including past and current contributions as well as their vision and plans for the future in these areas. They should also provide copies of no more than three publications. They should also arrange for four individuals to submit letters of recommendation on their behalf. This information must be entered electronically at the following site: https://school-of-engineering-faculty-search.mit.edu/meche-scc by December 1, 2020 when review of applications will begin.

MIT is an equal-opportunity/affirmative action employer. Women and underrepresented minorities are especially encouraged to apply.