

Postdoc Openings in Computational Mechanics

The “*Computational Mechanics & Scientific Learning*” [research group](#) in the Department of Civil and Environmental Engineering at the Hong Kong University of Science and Technology (HKUST) has several opening postdoc positions. ***The position will focus on developing machine-learning-informed computational methods to solve emerging engineering problems.*** The expected start date is flexible.

Topics of interest:

A. Methodology-driven: (1) AI + computational science (2) Differentiable programming; (3) Inverse problems; (4) Topology optimization.

B. Application-driven: (1) Metal additive manufacturing; (2) Mechanical metamaterials; (3) lithium-ion batteries.

Qualification required:

- Must (or will) hold a Ph.D. in solid mechanics, applied math, computational science, or a related field.
- Strong programming skills (preferably Python).
- Reasonable understanding of numerical methods such as the finite element method.
- Experience with machine learning methods is a plus, but not necessary.

About the PI and group:

Prof. Xue is an Assistant Professor in the Department of Civil and Environmental Engineering at HKUST. After obtaining his Ph.D. from Princeton University, he was at Northwestern University as a postdoc researcher for 1.5 years and then joined HKUST. The group focuses on developing computational methods for emerging engineering problems. The group also has a strong interest in developing high-performance open-source software. One representative work is the [JAX-FEM](#) library (recognized with >330 Github stars) that the PI has led in development, which offers a differentiable finite element solver.

About HKUST:

Established in 1991, the Hong Kong University of Science and Technology (HKUST) is a world-class international research university dedicated to cutting-edge education and research. Situated at the seafront, HKUST is also widely known as one of the most beautiful campuses in the world. HKUST is ranked #40 in QS World University Ranking and the Civil & Structural Engineering is named #20 among world's top universities.

Application Procedures

Interested candidates are encouraged to send your CV with subject “Postdoc application - HKUST” to Prof. Tianju Xue (cetxue@ust.hk).