



University of Pittsburgh

Swanson School of Engineering
Department of Civil & Environmental Engineering

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Postdoctoral Research Fellow Position

A postdoctoral research fellow position is currently open in the Computational Nanomechanics group at the University of Pittsburgh for the following research projects in the multidisciplinary areas of computational nanomechanics, nanotechnology, renewable energy, and nanomedicine:

1. Hydrogen and bio-sensing nanowire fabrication
2. Carbon-based nanomaterial characterization and their applications in NEMS, renewable energy, and nanomedicine
3. Atomistic-to-continuum themomechanical theory in solids
4. Energy conversion efficiency prediction in thermoelectric materials
5. Ion bombardment of nanomaterials

Applicants should possess a PhD degree in civil engineering, mechanical engineering, computational mechanics, materials science, physics or a closely related field at the time of appointment. Applicants should have a strong background in computational mechanics and/or material modeling at the nanoscale. Past experience in first-principles calculations, Monte Carlo (MC) simulations, and/or molecular dynamics (MD) simulations is necessary. In particular, for the nanowire fabrication project and the carbon-based nanomaterial project, experience in Monte Carlo methods is desirable. For the atomistic-to-continuum and the thermoelectric materials projects, knowledge and experience in digital signal processing, wavelet theory, and multigrid finite element/meshfree methods are desirable. Part of the atomistic-to-continuum project involves code component coupling and massive parallelization, and hence applicants who have strong background and experience in these areas are encouraged to apply. This position requires a minimum of 2-year commitment.

Successful candidate will carry out challenging research project(s) in a highly intellectual and dynamic environment. They will gain access to the state-of-the-art computing facilities at the Pittsburgh Supercomputing Center (www.psc.edu). Further, they will have an opportunity to collaborate with other Pitt faculty members to perform validation experiments for their computer simulations. Interested applicants should email Professor Albert C. To (albertto@pitt.edu) their resume and research statement (half to one page) indicating proposed start date, which project(s) they are interested in, their past research works and future career goals. Questions regarding these positions are welcome and should be directed to Professor To.

Albert C. To, Assistant Professor
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Homepage: www.engr.pitt.edu/civil/facstaff/to_albert.html