

1 PhD position in Multiscale Modeling of Materials at San Diego State University, California, USA

1 PhD position with starting date in mid August 2018 is available in the Multiscale Modeling of Materials (M³) group at the department of Mechanical Engineering (ME) at San Diego State University (SDSU), California, USA, under the supervision of Dr. Wenwu Xu (<https://www.m3sdsu.com/>) and a co-advisor at University of California, San Diego. This position covers tuition fee and provides \$21,500/yr of stipend for the first 2 years. Continuation financial support depends on the availability of funding.

Special emphasis is placed on recruiting talented, self-motivated candidates with a solid background in physics, condensed matter, materials science, or mechanical engineering. Experience in using Linux/Unix environment and knowledge of one or more simulation techniques (such as Quantum Mechanics, Molecular Dynamics, Finite Element Method, Monte Carlo, Mesoscale Modeling, and so on) is desired.

The goal of this project is to develop computational methods to model the mechanical properties and apply them to understand the mechanisms of deformation behavior in nanostructured materials. This will involve state-of-the-art atomistic modeling method (molecular dynamics) to describe dislocation interactions with grain boundaries and interfaces at the atomic and nanoscale. Moreover, multiscale modeling with the coupling of atomistic description and continuum finite elements (finite element method) will be developed to understand dislocation motion at the microscale. Finally, the multiscale mechanisms of dislocation activities on the mechanical properties will be systematically investigated and quantified. This project will also involve extensive collaborations with experimental groups within the ME department at SDSU.

For consideration, applicants should possess the following qualifications or attributes:

- B.S. or M.S. degree from a reputable university in a related area and an interest in pursuing a research career.
- A strong interest in programming and computational approaches.
- A fundamental understanding of material science and solid mechanics.
- English: **GRE (Quantitative 159; Verbal 153; Analytical Writing: 3.5)**, and fulfill either TOEFL 80 or IELTS 6.5 for Non-English native speaker.

If you meet the above requirements and are interested in this position, please provide by email (wenwu.xu@sdsu.edu) a detailed resume, a short personal statement explaining your scientific and research interests (less than one page), and contact information for two referees in support of your application (all in one PDF document). The review process will start right away until October 15 2017. You will be contacted for Phone/Skype/In-person discussions if passed the screen processing.