UNIVERSITY of SOUTH FLORIDA

Multiple fully-funded Ph.D. positions (starting Summer/Fall 2020) in Mechanical/Chemical/Biomedical/Electrical/Materials/Medical Engineering and Chemistry at the University of South Florida (USF)

Multiple fully-funded Ph.D. student positions in Mechanical, Chemical, Biomedical, Electrical, Materials, and Medical Engineering as well as Chemistry are available in the *Nanomechanics, Nanomaterials, and NanoManufacturing Laboratory* (NM3L, http://nano.university/), part of the University of South Florida (USF) Functional Materials and Manufacturing Institute cluster and housed within the USF Research Park.

The University of South Florida (USF), a Florida Preeminent State Research University, is an R1 Research University with 50,000+ students (ranked 10th largest public US university in 2018). USF is located in sunny Tampa Bay, Florida, a rapidly growing region with a population of 3.5+ million. Tampa Bay has the best beaches in the US and is just an hour away from world famous resort destinations including Disney World, SeaWorld, and Universal Studios. USF is also home to the H. Lee Moffitt Cancer Center & Research Institute, the 8th best cancer hospital in the US.

The *Nanomechanics, Nanomaterials, and NanoManufacturing Laboratory* (NM3L) is seeking multiple highly-motivated Ph.D. students to conduct multidisciplinary nanoscale research in the areas of:

1) Advanced nanomanufacturing of atomically-thin 2D nanopore-based biomolecule sensing and molecular sieving platforms for rapid amplification/label-free DNA/RNA/protein sequencing and membrane-based chemical separation, and
2) Nanoscale interactions between atomically-thin 2D materials and biological systems, including mechanisms of cytotoxicity/genotoxicity and applications for targeted therapeutics, and
3) Phenomena of phase transitions and defect formation in atomically-thin 2D materials for non-silicon-based logic/memory devices, quantum computing components, and solid-state cooling.

- Position Requirements: Master's/Bachelor's degree in majors/fields including but not limited to: Mechanical Engineering, Applied Physics, Biochemistry, Biophysics, Biomedical Engineering, Chemistry, Chemical Engineering, Electrical Engineering, Engineering Mechanics/Physics, Materials Science, Physics, etc.
- Preferred Experience: experimental research experience such as, but not limited to, micro/nano-fabrication, materials characterization, electrochemistry, metrology, microscopy, spectroscopy, surface science, circuit design, thermofluidic systems, vacuum/plasma instrumentation, molecular biology, DNA/RNA/protein sequencing, cell culture, bioanalytical techniques, etc.

These positions are fully funded for five years including tuition, stipend, eligible insurance/fees, and annual professional travel expenses, starting Summer/Fall 2020. Qualified, dedicated, and self-motivated candidates are encouraged to apply. All applicants must satisfy USF graduate program admission requirements: https://www.usf.edu/admissions/index.aspx. **Interested candidates are encouraged to send a letter of intent and CV to Michael Cai Wang (mcwang@usf.edu) with [NM3L PhD] in the email subject.** Visiting scholarships/fellowships and REUs are also welcomed.

Michael Cai Wang is currently an assistant professor of Mechanical Engineering at USF. He received his PhD from the University of Illinois at Urbana-Champaign (2018) and his B.A.Sc. from the University of Toronto (2012). Michael has published over 25+ articles in journals including Advanced Materials, ACS Nano, Langmuir, Nano Letters, Nanotechnology, 2D Materials, etc. Michael received his NSF CAREER award in 2020.