

Postdoctoral Scholar Position in Field-effect Transistor-based Chemical and Biological Sensing

The Chemical and Biological Sensing Group at University of Chicago's Pritzker School of Molecular Engineering and Argonne National Laboratory's Chemical Sciences and Engineering Division (<https://www.junhongchengroup.pme.uchicago.edu/>) has two immediate openings for motivated postdoctoral research fellows in the area of field-effect transistor (FET)-based chemical and biological sensors. The large-scale projects are funded by the US National Science Foundation, and offer a unique opportunity to work in a highly dynamic, collaborative, interdisciplinary environment with a team of world-class experts in molecular engineering, materials science, chemistry, artificial intelligence, data science, plant biology, sustainability, immunology, and infectious diseases. One position will focus on discovery and molecular engineering of novel FET sensing platforms using two-dimensional nanomaterials as a channel material for detection of gases and aerosol pathogens. The other position will focus on printing FET sensors using nanomaterial inks for detection of various nutrients and metals in water. Both positions will have access to world-class facilities at University of Chicago and Argonne National Laboratory. The experimental candidates will have opportunities to collaborate with theoreticians and to mentor graduate students or undergraduate students. The candidates will also coordinate between project team members and communicate results via journal articles and presentations at national and international conferences. Successful candidates will be supervised by Dr. Junhong Chen, a leading nanomaterial sensor expert with rich experience in both fundamental and translational research (<https://scholar.google.com/citations?user=eEdKpQgAAAAJ&hl=en>).

Qualifications: A recent Ph.D. in chemical engineering, electrical engineering, physics, chemistry, material sciences, or a related field is required. Strong motivation and communication skills in English, self-initiative, willingness to learn across fields, a collaborative team-based outlook, and enthusiasm for real-time chemical and biological sensing are essential. The following skills are desirable but not required for the ideal candidates: 1) micro- and nano- fabrication of field-effect transistors; 2) knowledge and experience in 2D nanomaterials; 3) characterization techniques for 2D nanomaterials and nanodevices; and/or 4) additive manufacturing/printing of electronic devices.

Applicants must complete all degree requirements before starting their appointment. The starting date is Spring 2023, or as soon as a suitable candidate is identified. The initial appointment is for one year with the possibility of renewal for two more years contingent upon satisfactory performance and availability of funding. The salary is negotiable, commensurate with experience and qualifications. Interested candidates should submit a cover letter, a CV and a list of three references to Ms. Keturah Mitchell (kkd7587@uchicago.edu) in one single PDF document.

University of Chicago is an Equal Opportunity, Affirmative Action Employer of all protected classes, including veterans and individuals with disabilities. Women and underrepresented minorities are encouraged to apply.