

Postdoctoral Fellowships in the Center for Genomic Diagnostics at the Carl R. Woese Institute for Genomic Biology, University of Illinois

The Carl R. Woese Institute for Genomic Biology at the University of Illinois at Urbana-Champaign offers fellowships for truly exceptional young scholars who have completed their PhD within the last several years, and who are looking for a stimulating^[1] and supportive interdisciplinary environment to carry out independent and collaborative research in the fields of cancer diagnostics, infectious disease diagnostics, and serology testing in the contexts that include neuroscience, nutrition, and maternal health. IGB Fellows will typically spend two or more years conducting research in one of the IGB themes. A personalized mentoring plan will be developed for each Fellow. Annual salary is \$54,000, in addition to a \$7,500 allowance for research expenses.

The Center for Genomic Diagnostics (CGD) Theme's mission is to identify and exploit novel nucleic acid and protein biomarkers of cancer, infectious disease, and health/wellness that can be noninvasively and rapidly measured from minimally invasive test samples (such as a blood fingerstick) using new technology platforms. In projects related to cancer liquid biopsies, our goal is to measure diagnostic biomarkers (such as miRNA, ctDNA, and lncRNA) in cancer patients to identify cancer sub-classes, to monitor recurrence, and to track therapy. In projects related to infectious disease, we develop rapid, quantitative, and ultrasensitive technologies for viral detection and serology with simple workflows for point of care scenarios. Working jointly with the IGB and the Holonyak Micro and Nanotechnology Laboratory (HMNTL), we seek individuals who will serve in a research and leadership role to facilitate collaboration between interdisciplinary teams at the intersection of computational genomics, engineering, molecular biology, and clinical practice.

The Fellow will develop ultra-sensitive technologies that incorporate nanostructured optical biosensors, high contrast nanoparticle tags (quantum dots and plasmonic nanoparticles), and microscopy-based detection instrumentation. The candidate will support and lead projects with clinical collaborators from Mayo Clinic, Stanford University, Huntsman Cancer Institute, and Mt. Sinai Hospital.

Candidates with a PhD in Bioengineering, Chemistry, Biochemistry, Molecular Biology or related discipline are preferred. Experience in the development and characterization of biosensors with an emphasis on optics-based approaches such as fluorescence, nanoparticle tags, or label-free detection are desired. Preference will be given to candidates familiar with novel diagnostic assay development utilizing CRISPR/Cas, engineered nucleic acid probes (such as toehold probes and DNA origami), RNA-seq, and digital droplet PCR. A track record of high impact peer-reviewed journal publications and excellent communication skills are required.

TO APPLY: Applicants should submit a CV, a research summary, and the names of three recommenders who can write letters on their behalf. This information should be sent to Professor Brian T. Cunningham (Theme Leader), bcunning@illinois.edu, in

advance of the April 15, 2021 closing date. The University of Illinois is an Equal Opportunity, Affirmative Action employer that recruits and hires qualified candidates without regard to race, color, religion, sex, sexual orientation, gender identity, age, national origin, disability or veteran status. Visit www.igb.illinois.edu for additional information.