POSTDOCTORAL POSITIONS
IN CHEMICAL AND BIOCHEMICAL MICROSENSOR RESEARCH
AT THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY

Postdoctoral Associateships will be available in 2019 and 2020 to qualified persons interested in doing research as part of an interdisciplinary team at the National Institute of Standards and Technology (NIST), located in Gaithersburg, Maryland. These positions at NIST are awarded following competitive evaluations of applicants under a program administered by the National Research Council (NRC).

Research is done in an area of common interest to the candidate and NIST advisor, but the Associate is largely responsible for defining the specific problem to be studied. Activities within the Chemical and Biochemical Microsensor Program at NIST offer interested applicants a variety of advanced research opportunities relating to project areas that include, but are not limited to:

- Study of surface/interfacial chemical, electronic and optical effects, in gases and liquids, relevant to biochemical sensing—including functionalization, electrochemistry, plasmonics, …
- Nanoengineering of materials and interfaces (oxides, polymers, organics, nanotubes, nanowires) for optimized transduction in microanalytical chemical/biochemical systems
- Design/fabrication of MEMS/NEMS and microfluidic devices as microscale research tools and as microanalysis platforms, including concepts for high throughput approaches
- Application of microscale devices, including microhotplate arrays, to investigate materials processing/properties, transient phenomena and the kinetics of (bio)chemical processes
- Development of novel sensing schemes for biomolecular/cellular processes & medical diagnostics
- Study of new signal acquisition/signal processing protocols (including bio-inspired methods that relate artificial and biological systems) for challenging analytical problems

Available research capabilities permit multi-technique surface analytical characterization (XPS, UPS, AFM, etc.) as well as measurements of electrical transport, electrochemical and photonic properties for characterization, and as performance metrics using chemical/biochemical sensor testing facilities. Various deposition hardware is also housed within the Group, as are MEMS/NEMS design software, and advanced tools for realizing custom prototypes are available at the NIST Nanofabrication Facility. Experience in areas such as surface science, electrochemistry, photonics/plasmonics, materials science, biochemistry/biomolecular science, DNA/aptamer/protein binding studies, semiconductor electronics, micromachining, microfluidics, thin film science, or response modeling is particularly suited to our projects, but is not mandatory.

Positions are open only to U.S. citizens in the upcoming cycle. Applications include a brief research proposal. The programs provide successful applicants with a stimulating research opportunity at a major government laboratory located 30 miles from Washington, DC. In addition, the base salary (~ $72,000), travel stipends and benefits are quite generous.

For more information about our projects, equipment capabilities or application procedures, please contact:

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