

Position Announcement: Bioinspired Sensors for Medical Applications

The MEDX Lab of Northwestern University, Evanston, IL is seeking qualified and highly motivated individuals to carry out research related to developing bioinspired touch sensors and advance applications of such sensors in medicine.

The MEDX Lab is interested in developing and applying microfabrication technologies to realize advanced sensors (e.g., flow and touch sensors), and apply such sensors for medical and health-care related applications. The lab pioneered research in bioinspired haircell sensors, polymer MEMS, and flexible touch sensors. The lab is aggressively pursuing research at the confluences of materials (nanocomposite elastomers), microfabrication (MEMS and polymer MEMS), and applications (medicine).

The MEDX Lab recently received funding from NSF for a project titled “Bio-Inspired Arrays of Haircell Sensors for Artificial Glabrous and Hairy Skin” (0938007). The director of the MEDX Lab, Dr. Chang Liu, will collaborate with Mitra Hartmann and Alan Kadish from Northwestern, and Douglas L. Jones from the University of Illinois at Urbana–Champaign. The project’s overarching objective is to develop a flexible, sensing skin to discern contact, temperature, and other aspects of their environment. The researchers will exploit biologically inspired principles to achieve high sensitivity, a wide dynamic range, and advanced, integrated, and highly-efficient processing of sensor data. They plan to test their tactile sensors and algorithms by creating smart, sensorized catheter tips for cardiac surgery procedures (such as tissue ablation, internal space mapping, and electrocardiogram recording), with the goal of increasing accuracy, reliability, and speed.

Interested applicants please send a resume to Dr. Chang Liu at changliu@northwestern.edu. We expect success applicants to have more than 3 published journal papers at the time of application.

Webpage of MEDX Lab:

<http://www.mech.northwestern.edu/medx/web/>

Website of NSF Emerging Frontier of Research and Innovation (EFRI) funding

http://www.nsf.gov/eng/efri/fy09awards_BSBA.jsp