Internship Opportunity for Undergraduates: Developing technology for detection of biological and chemical hazards using techniques in spectroscopy

Dr. Robinson's lab is developing portable technologies to evaluate environmental health and defense against biological and chemical terrorism.

We are looking for an experienced electrical engineering student intern to participate in technology development. The study regards working with a team of engineers and biologists to develop a bench-top and portable system for bioassay analysis using laser-induced breakdown spectroscopy. Biological and chemical terrorism or accidental release of hazardous material is a large concern for the Department of Defense and Department of Agriculture. Both agencies need easy-to-use technologies that can be easily carried into the field for analysis of food, water, air, soil, and human samples. The project is highly interdisciplinary and gives the student an opportunity to learn about a wide variety of different fields.

When: The internship position is currently open – student can begin the internship as soon as possible

The student will be responsible for the following aspects of the project:

- Building and programming circuitry to control the delay between high-powered lasers, electrical spark pulses and spectrometer data acquisition
- Assembling a graphic user interface to control the timing circuit and data acquisition
- Scaling down designs to fit a portable format

Benefits:

- Research credit
- Working in an interdisciplinary team
- Flexible work hours that fit around the student's schedule
- Graduate students and staff working closely with the student to develop writing and presentation skills
- Potential for paid work at the research park regarding electrotonic design

Requirements:

- Experience in circuit design, construction and programming

Contact information:

- Please send resume to Carmen Gondhalekar: cgondhal@purdue.edu
- For questions, contact Carmen Gondhalekar at e mail above, or at (501)416-8359
- Principal investigator: Dr. J. Paul Robinson

This is an unpaid student internship