**Center Midwest - Coatings and Diamond Technologies Division**

**Fraunhofer USA**

International Internship – Electrochemical sensor development

Overview

Fraunhofer USA, Inc. Center Midwest is located on the campus of Michigan State University in East Lansing, Michigan. We are currently seeking highly motivated, reliable and technically competent individuals to join our electrochemistry team. Team members will conduct research both fabricating and utilizing carbon based materials for electrochemical measurement. Team members will also assist in instrumentation development through circuit design and software programming. As a team member, you will help design and conduct experiments, generate and present data in a meaningful report. We bridge the gap between academic research and industrial research. At times, you will also work with companies on current chemical measurement needs, and execute experiements based on a customers need.

Current areas of research include:

* Solution based heavy metal detaction such as Pb, Cd, As
* Fabrication of diamond macroelectrodes
* In vitro and in vivo sensor development for neurochemical measurement such as dopamine
* Electrochemical coatings to improve sensor sensitivity
* Antibody immobilized impedometric based sensors
* Low cost electrochemical instrumentation design and development

Responsibilities

* Electrochemical sensor fabrication, characterization and testing

Sensors include:

* Diamond based biochemical sensors with antibody immobilization
* Diamond-PEEK electrode
* Boron doped diamond microelectrodes
* Carbon fiber microelectrodes
* Gold based electrodes
* Data collection and reporting, processing collected data into meaniful reports
* Maintaining a detailed and accurate laboratory notebook

Requirements

* Within one year of ompleted a bachelors degree or Masters Student in a natural science such as chemistry, chemical engineering, biosystems engineering etc.
* Experience working in a chemistry, biochemistry, biology, or similar laboratory
* Experience in data processing and manipulation such as MS Excel, Python or Matlab
* Interest in electrochemistry and/or biosensors

Contact:

Please send cover letters and resume’s to ccdadministration@fraunhofer.org, note: masters thesis projects are avalible, positions avalibe June 2024