MICHIGAN STATE UNIVERSITY

GRADUATE ASSISTANCE IN AREAS OF NATIONAL NEED (GAANN) FELLOWSHIP

Interdisciplinary Bioelectronics Training Program

Many of Nature's most fundamental and vital processes are based on molecular-scale charge transfer processes. The field of bioelectronics seeks to elucidate the scientific basis for these processes to develop groundbreaking new technologies that address national needs. Biomolecules (redox enzymes, cofactors, cytochromes, lipid bilayers, etc.) combined with synthetic, electroactive nanomaterials (carbon nanoplatelets, metal nanowires, colloidal gold particles, etc.) exhibit unprecedented performance in applications including electrochemical bioreactors that produce biobased products, biofuel cells that convert wastes into electricity, bioremediation processes that degrade toxic wastes, and engineered nanomaterials with attractive functional and biosafety profiles.

The GAANN Interdisciplinary Bioelectronics Training Program is available for graduate students who intend to pursue careers in the emerging field of bioelectronics. Fellowships include tuition, stipend, allowance for books, equipment and supplies, and travel support. Mentored teaching experiences leading to a teaching certificate in either Engineering or Natural Science are also provided.

Program Features:

Fellowship Stipend: Up to $30,000 annually, depending on financial need.

Tuition, Book, Equipment, Supply and Travel Allowance: Amount determined annually.

Mentored Teaching Experience: Participate in the Future Academic Scholars in Teaching (FAST) program leading to a university teaching certificate.

Academic and Research Support: ITPB faculty and graduate mentors provide academic support to new GAANN fellows. All GAANN fellows students participate in research activities within their first year of study. Topical workshops address key challenges (selecting a research topic, choosing an advisor, etc.). Informal social gatherings (biweekly lunches, holiday parties, and off-campus field trips) occur regularly.

Eligibility: the program is open to students who

1. Are enrolled or accepted in a full-time doctoral program in Chemical Engineering & Materials Science, Physics & Astronomy, Biochemistry & Molecular Biology, or Microbiology & Molecular Genetics;
2. Have an excellent academic record as exemplified by undergraduate transcript, GRE scores, and commitment to research;
3. Have demonstrable financial need, based on information supplied by each student on the Free Application for Federal Student Aid (FAFSA);
4. Are planning a career in teaching or research in bioelectronics;
5. Are not ineligible due to default on previous loans (see 34 CFR 75.60); and
6. Are United States citizens, nationals, permanent residents; citizens of any one of the Freely Associated States, or can provide evidence from the Immigration and Naturalization Service that they are in the United States with the intention of becoming permanent residents.

How to Apply:

Applications are currently being accepted for **Spring 2011**. Interested students are encouraged to submit a FAFSA form online right away, to facilitate assessment of financial need. For early screening, please send a resume/c.v., unofficial transcript, test scores, and a statement of research interest to one of the following GAANN faculty: **R. Mark Worden**, Chemical Engineering & Materials Science, worden@egr.msu.edu; **Scott Calabrese Barton**, Chemical Engineering & Materials Science, scb@egr.msu.edu; **Claire Vieille**, Biochemistry & Molecular Biology, vieille@msu.edu; **R. Michael Garavito**, Biochemistry & Molecular Biology, garavito@msu.edu; **Gemma Reguera**, Microbiology & Molecular Genetics, reguera@msu.edu; **Stuart Tessmer**, Physics & Astronomy, tessmer@msu.edu; **Philip Duxbury**, Physics & Astronomy, duxbury@msu.edu.