

# UMBC

AN HONORS UNIVERSITY IN MARYLAND  
Department of Mechanical Engineering  
Spring 2006 Seminar Series

**Friday- April 21th**  
*ITE Building Room 229 at 2:30pm*

## **Semahat Demir, Ph.D.**

*Program Director*

*Biomedical Engineering & Research to Aid Persons with Disabilities (BME/RAPD)*

*Division of Bioengineering and Environmental Systems*

*National Science Foundation*

*Faculty of Biomedical Engineering*

*Joint Biomedical Engineering Program Univ. of Memphis & Univ. of Tennessee Health Science Center*

*Memphis, TN, USA*

### **ABSTRACTS:**

## **National Science Foundation and Bioengineering Funding Opportunities**

Dr. Demir will present (1) the vision, mission, strategic goals and core strategies of NSF, (2) NSF's current priority areas, (3) a summary of different NSF Funding Opportunities for engineering and bioengineering, (4) Program of Biomedical Engineering & Research to Aid Persons with Disabilities (BME/RAPD) and (5) NSF Merit Review Criteria.

## **Computational Modeling in Cells: Integration of Research and Education**

Dr. Demir will start her talk by introducing mathematics and engineering used to develop computational models of cellular bioelectric activity. She will present her computational modeling projects in rat ventricular myocytes. Towards the end of her presentation, Dr. Demir will give a demonstration of iCell, the interactive cell modeling resource that she has developed as a simulation-based teaching and learning tool for electrophysiology by integrating research and education. Her interactive cell modeling web site can be accessed freely over the internet at <http://ssd1.bme.memphis.edu/icell/>. This JAVA-based platform-independent software, iCell, provides an interactive and user-friendly teaching and learning resource, and also a collaboration environment for electrophysiology to be shared and disseminated over the Internet.

*Refreshments will be served*

Host: Prof. Arola