



## SEMINAR:

# Implantable Wireless Medical Devices and Systems

Dr. J.-C. Chiao

University of Texas at Arlington

Thursday, December 4, 2014, 12:15PM

1-218 Center for Science and Technology, Syracuse University

The presentation focuses on the development of wireless micro devices and systems for medical applications at UT-Arlington. They are based on technology platforms such as wireless energy transfer for batteryless implants, miniature electrochemical sensors, nanoparticle modified surfaces, MEMS devices and wireless communication. An integrated wireless body network for chronic pain management will be discussed. The system provides a wireless closed loop for neurorecorders to recognize pain signals and neurostimulators to inhibit pain. A batteryless endoluminal sensing telemeter architecture will also be discussed with an esophagus implant for remote diagnosis of gastroesophageal reflux disease (GERD), and an endoscopically-implantable wireless gastro-stimulator for gastroparesis management. These applications enable new medicines to improve human welfare and assist better living.



J.C. Chiao is the Greene endowed professor and Garrett endowed professor of Electrical Engineering at University of Texas – Arlington; and an Adjunct Associate Professor in the Internal Medicine Department at UT-Southwestern, Medical Center.

Dr. Chiao received the 2011 O'Donnell Award in Engineering presented by The Academy of Medicine, Engineering and Science of Texas. He also received the 2011 Tech Titan Technology Innovator Award; 2011 Lockheed Martin Excellence in Engineering Teaching award; 2012 Research in Medicine milestone award by Heroes of Healthcare; and 2012 IEEE Region 5 Outstanding Engineering Educator award. His webpage is at <http://www.uta.edu/faculty/jcchiao/>

- Free admission
- Refreshments will be served

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