



College of Engineering
Department of
Mechanical & Industrial Engineering

The Sidney E. Fuchs Seminar Series

3:30-4:20pm, Friday, March 21, 2014
Frank H. Walk Design Presentation Room



Great Engineering Opportunities in the Medical Device Industry

by **Walt Baxter***

Senior Principal Scientist,
Medtronic, Inc., Santa Ana, California, USA

While everyone understands how pacemakers, pain stimulators, artificial heart valves, and spinal cages alleviate pain, restore health, and extend life—the engineer’s role in bringing lifesaving technology to patients isn’t always clear. How exactly DOES an engineer contribute to medical device design, manufacturing, testing and validation, numerical simulation, or monitoring of product performance? The speaker will use a case study to illustrate the multiple roles of the engineer in making sure that medical devices safely and effectively improve people’s lives. The speaker will also briefly discuss strategies for starting your career in the medical device industry.

* Dr. Baxter serves as a Senior Principal Scientist within Medtronic’s Cardiac Rhythm Disease Management Division and works primarily within the Therapy Delivery business helping to develop novel pacing/defibrillator leads and catheters for positioning leads within the heart. Dr. Baxter has patented key ideas and published seminal works detailing the mechanical conditions implanted medical devices are exposed to during their implant lifetimes.

Prior to joining Medtronic, Dr. Baxter studied Mechanical Engineering at the Georgia Institute of Technology (B.S. '93) and later trained within the Cardiac Mechanics Research Group at the University of California, San Diego (M.S. '94; Ph.D. '99) where he developed, implemented, and validated novel algorithms for elucidating the mechanics of implanted medical devices. In addition to his work at Medtronic, Dr. Baxter serves on the industrial advisory boards at the Georgia Institute of Technology’s Department of Biomedical Engineering, UC Riverside’s Department of Bioengineering, UC Irvine’s Department of Bioengineering, San Diego State University’s Department of Mechanical Engineering, and UC San Diego’s Whitaker Institute of Biomedical Engineering where he continues to try to impact and foster meaningful academic-industrial collaboration.

Dr. Baxter guest lectures in Mechanical and Biomedical Engineering courses at the University of California (Irvine), the University of California (Los Angeles), the University of Southern California, and San Diego State University. Dr. Baxter also speaks to student groups on University campuses about careers in the medical device industry where he seeks to attract talented students to the industry. Dr. Baxter is an active member of both the American Society of Mechanical Engineers and the Biomedical Engineering Society as well as a Fellow of the American Institute for Medical and Biological Engineering where he Chairs the Industry Council to further awareness of how Medical and Biological Engineering impacts the lives of people around the world.