

# Fall 2007 SEMINAR SERIES

## F21C Bioprocessing & Biosensing Center

• DIVISION OF FOOD SYSTEMS & BIOENGINEERING •

PRESENTER:           **Dr. Gary Zhang, Principal Scientist**  
Biosurgicals Research and Development  
Ethicon, a Johnson and Johnson Company  
Somerville, NJ 08876

TITLE:                 **Biomaterials in Surgical Applications**

### ABSTRACT:

Medical devices play a major role in improving people's lives. The medical device market is a multi-billion dollar industry, and has been growing rapidly in the past decade. Biomaterials, especially polymers, are used extensively for fabrication of final products used in surgical applications. This talk will be a general review of available polymeric biomaterials, and mainly concentrate on their use in wound closure devices and hemostats, since Johnson & Johnson is a dominant player in these areas. The chemistry of biodegradable polyesters, oxidized regenerated cellulose, and collagen will be discussed.

This talk will also describe some of the design considerations for biomedical devices, and a few safety and regulatory requirements by FDA. The author will also share some predications for the future product offerings.

### BIOGRAPHY:

Dr. Zhang has been with Johnson & Johnson for eight years. He has worked in areas of technology evaluation, licensing and acquisition, and new product development. Before joining J&J, he worked at United States Surgical Corporation on medical device research and innovation.

In 1985, Dr. Zhang obtained a Bachelor of Engineering degree in Polymer Chemical Engineering from Tianjin University, China. He received his PhD in Polymer Science and Engineering from University of Massachusetts at Amherst under the supervision of Professor David A Tirrell. He has several publications in organic and biologic synthesis of polymers, including a paper published in *NATURE*. He currently holds seven U.S. patents, and is an inventor of many other patent applications in medical device technology.

### DATE • TIME • LOCATION:

**Tuesday, October 9, 4:00 pm**  
**Ag Eng Bldg 105 • Refreshments**