

Symposium Speakers – Advance in Healthcare and Biometrics



Dr. Jinming Gao

Professor

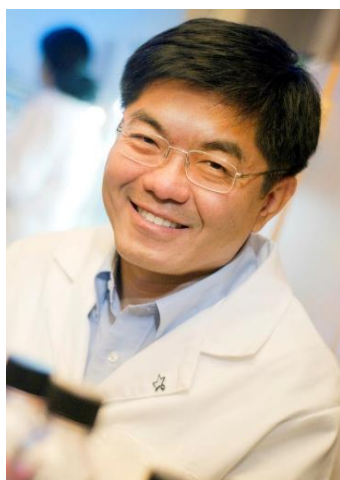
**UT Southwestern
Medical Center**

pH Transistor Nanomedicine for Cancer Surgery and Immunotherapy

Jinming Gao is a Professor of Oncology, Pharmacology and Otolaryngology in the Simmons Cancer Center at UT Southwestern Medical Center. He received his BS degree in chemistry from Beijing University, his PhD from George Whitesides at Harvard and postdoc training at MIT with Bob Langer. Dr. Gao has published over 120 peer-reviewed papers. He has received several awards including the Outstanding Scientist Award from the Society for Experimental Biology and Medicine. He was the Chair of Gene and Drug Delivery study section at the NIH. He co-founded OncoNano Medicine, a startup company focusing on the translation of tumor-activatable nanoprobes for image-guided cancer surgery.

Abstract:

Most biological signals are perpetually changing in space and time, which makes it challenging for disease diagnosis and therapy. This presentation will focus on a transistor-type of nanosensor capitalizing on the cooperative self-assembly of block copolymers. Additional examples in antigen delivery for T cell therapy of cancer will also be presented. The chemical transistor concept represents a new strategy for converting an analog biologic variable into a digital output, which provides a unique prism for disease diagnosis and therapy.



Dr. J.-C. Chiao

Professor

**University of Texas at
Arlington**

Mobile Healthcare

J.-C. Chiao is Greene Endowed Professor of Electrical Engineering at University of Texas – Arlington. He received his PhD at Caltech and was with Bellcore, University of Hawaii, and Chorum Technologies before he joined UT-Arlington. Dr. Chiao has published more than 200 papers and received 12 patents. He is the recipient of O'Donnell Award in Engineering presented by The Academy of Medicine, Engineering and Science of Texas. He is also recognized by numerous awards, including the Tech Titan Technology Innovator Award, Lockheed Martin Aeronautics Excellence in Engineering Teaching Award, Research in Medicine milestone award by Heroes of Healthcare, IEEE Distinguished Microwave Lecturer, and IEEE Region 5 Outstanding Engineering Educator and Excellence Performance awards.

Abstract:

The presentation focuses on the development of wireless micro devices and systems for medical applications. 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. Integrated wireless body network for chronic illness symptom management will be discussed. These demonstrations enable new medicines to improve human welfare and assist better living.

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Engineered Polymer Interfaces for Bioelectronics and 3D Printing



Dr. Walter Voit

Associate Professor

**The University of Texas
at Dallas**

Walter Voit is an Associate Professor at the University of Texas at Dallas where he explores the thermomechanics of shape memory polymers, flexible bioelectronics, next generation neural interfaces, 3D printing, degradable polymers, and the effects of ionizing radiation on polymers. Prof. Voit is a cofounder and Chief Technology Officer of startup company Syzygy Memory Plastics, which has licensed intellectual property from both Georgia Tech and UT Dallas in pursuit of next-generation acoustics, electronics, and 3D printed products based on shape memory polymers. Dr. Voit also co-founded Adaptive 3D Technologies and Ares Materials in 2014 and Pascalor, Qualia and Polycraft World in 2015.

Abstract:

Polymer engineering, specifically tuning monomer chemistries, polymerization kinetics, and thin film interfaces, seeks to address grand challenges in neuroscience, semiconductor processing, and additive manufacturing. This presentation will demonstrate how this cutting-edge technology is implemented and what challenges we are still facing nowadays. Dr. Voit will also discuss the causes of device failures and demonstrate the new materials and technologies that could solve these problems.