

Two Genes Memorial Lecture

Eugene W. Skinner and Eugene P. Lautenschlager Memorial Lecture

Biomimetic Strategies to Control and Manipulate Cells with Materials**Jennifer L. West**

Duke University
 Fitzpatrick Family University Professor of Engineering
 Departments of Biomedical Engineering, Mechanical
 Engineering and Materials Science, Chemistry, and Cell
 Biology

Jennifer West recently joined the faculty at Duke, after having been the department chair and Cameron Professor of Bioengineering Rice University. Professor West was one of the founding members of Rice's Department of Bioengineering, building it to a top ten program over the prior sixteen years.

Professor West's research focuses on the development of novel biofunctional materials. Part of her program has developed nanoparticle-based approaches to biophotonics therapeutics and diagnostics. An example of this work is the application of near-infrared absorbing nanoparticles for photothermal tumor ablation. In animal studies, this therapeutic strategy has demonstrated very high efficacy with minimal side effects or damage to surrounding normal tissues. In 2000, Professor West founded Nanospectra Biosciences, Inc. to commercialize the nanoparticle-assisted photothermal ablation technology, now called AuroLase. Nanospectra Biosciences, Inc., located in Houston, TX, is the recipient of a NIST ATP Award and a grant from the Texas Emerging Technology Fund. Professor West is a director of the company. The company has built manufacturing facilities, and AuroLase cancer therapy is now in human clinical trials.

Professor West has received numerous accolades for her work. In 2010 she was named Texas Inventor of the Year and also Admiral of the Texas Navy (highest honor the governor of Texas can bestow on a civilian). In 2008, The Academy of Medicine, Engineering and Science of Texas honored her with the O'Donnell Prize in Engineering as the top engineer in the state. In 2006, she was named one of 20 Howard Hughes Medical Institute Professors, recognizing integration of world class research and teaching. She has been listed by MIT Technology Review as one of the 100 most innovative young scientists and engineers world wide. Other recognitions include the Christopher Columbus Foundation Frank Annunzio Award for scientific innovation, Nanotechnology Now's Best Discovery of 2003, Small Times Magazine's Researchers of the Year in 2004, and the Society for Biomaterials Outstanding Young Investigator Award.

Professor West has served as a member of the Bioengineering, Technology, and Surgical Sciences study section at NIH, and has served on numerous other review boards for NIH and NSF. She has also been a member of the Defense Sciences Study Group, a member of the NRC panel on management of university intellectual property, and a member of the AAMC panel on research. She is currently treasurer of the Biomedical Engineering Society and Chair-Elect of the College of Fellows of the American Institute for Medical and Biological Engineering. Her laboratory receives funding from NIH, NSF, Howard Hughes Medical Institute, and DOD.

This research has been supported by the NIGMS, NSF, ARO, ONR and DOE. This lecture is sponsored by the **McCormick School of Engineering**, the Departments of **Biomedical Engineering, Chemical and Biological Engineering, Materials Science and Engineering**, and the **Institute for Bionanotechnology in Medicine (IBNAM)** and a training grant from the **National Institute of Health**.



**Tuesday, February 25th at 4:00 p.m., Tech Institute M345 –
 Reception to Follow – Tech Institute, Willens' Wing, Second Floor**