Joint Department of

BIOMEDICAL ENGINEERING

UNC CHAPEL HILL | NC STATE UNIVERSITY

Coulter Seminar Series Presents

"Advances in engineering particles for immuno-therapy of autoimmune disease"

Jamal S Lewis, PhD
Assistant Professor
Biomedical Engineering
University of California, Davis

Jamal Lewis is an Assistant Professor in Biomedical Engineering at the University of California, Davis. Prior to his professorship, Dr. Lewis was Senior Scientist at OneVax, LLC and a Post Doctoral Associate in the J. Crayton Pruitt Family Department of Biomedical Engineering at the University of Florida, where he also received a Ph.D. in Biomedical Engineering in 2012. Dr. Lewis completed his B.S. in Chemical Engineering from Florida A&M University in 2004, and M.S. in Biomedical Engineering in 2007 from North Carolina State University. His research, educational and entrepreneurial efforts have been supported by the NIH. His honors and awards include the prestigious NIH Early Stage Investigator MIRA, Regenerative Medicine Workshop Young Faculty Award, Cellular and Molecular Bioengineering Young Innovators, and the Shu Chien Early Career Lecturer Award.

ABSTRACT

Current paradigms for the treatment of autoimmune diseases (e.g. rheumatoid arthritis [RA]) are woefully inadequate, often missing the mark on desired physiological responses and not targeting the root cause of the disease. Predictably, novel approaches to re-establish immune homeostasis in patients afflicted by autoimmune conditions are now under intense investigation. Notably, we are developing an array of multifunctional, biomaterial-based 'regulatory vaccines' that can be easily administered to remediate some of the prevalent autoimmune diseases. In this talk, I will focus on two particulate systems currently under development in my lab, which attempt to control critical cellular and humoral mediators that engender conditions such as RA and autoimmune autism. Additionally, the Lewis lab is currently investigating the interaction of innate immune cells and degradable polymers (e.g. PLGA). More specifically, we are interested in deciphering the mechanisms that govern the effects of these materials on innate immune cells.

Friday, April 9th
12:00 Noon

Seminar will be presented virtually via Zoom:
https://go.unc.edu/j5W3E