

Page Morton Hunter Distinguished Seminar Series

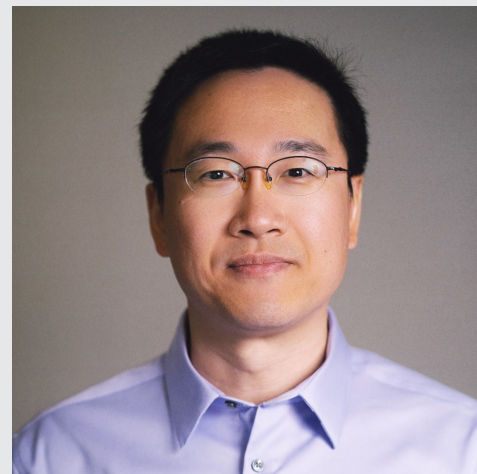


Clemson
Greenville
Charleston

“Ultra-long circulating nanomedicines and therapeutic proteins”

Dr. Hao Cheng, Ph.D.

Dr. Hao Cheng is an Associate Professor in the Department of Materials Science & Engineering at Drexel University. He received his B.E. and M.S. degrees in Chemical Engineering from Tsinghua University and his Ph.D. in Materials Science & Engineering from Northwestern University. Prior to joining Drexel University, he was a postdoctoral associate at Northwestern University and MIT. His laboratory focuses on cell membrane-derived hydrogels, long circulating nanoparticles, and biomaterials for inducing antigen-specific immune tolerance. As a corresponding author, Dr. Cheng has published in journals such as ACS Nano, Advanced Materials, Nano Letters, and Nature Communications. He is a recipient of the inaugural Nano Research Young Innovators Award in Nanobiotechnology and an Editorial board member of the journal, Bioactive Materials.



The integration of artificial intelligence with biomechanical analysis has opened new frontiers in athletic performance assessment. At the Joe Gibbs Human Performance Institute, we have developed a revolutionary approach to capturing and analyzing human movement in authentic sporting environments. Our state-of-the-art facility enables the simultaneous capture of force dynamics, markerless motion tracking, and physiological metrics while athletes engage in natural, sport-specific movements.

Through automated data collection and analysis pipelines, we seamlessly integrate these diverse data streams to model the relationship between movement patterns and performance outcomes. This approach represents a significant advancement over traditional laboratory-based assessments, providing unprecedented insights into the complexities of athletic performance in real-world conditions.

The talk will showcase how our automated systems leverage artificial intelligence to process and analyze large-scale movement data, enabling rapid feedback and performance insights. We will present case studies demonstrating how this technology has been applied across various sports, highlighting our success in identifying performance optimization opportunities and reducing injury risks. By combining cutting-edge AI technologies with comprehensive biomechanical analysis in authentic sporting environments, we are pioneering new approaches to understanding and enhancing human athletic performance.

DATE: January 23, 2025 at 3:30 p.m.

LOCATION: 111 Rhodes Annex, Clemson University
(Zoom link available for all locations.)



Department of
BIOENGINEERING
Clemson University