Polymer Program

INSTITUTE OF MATERIALS SCIENCE

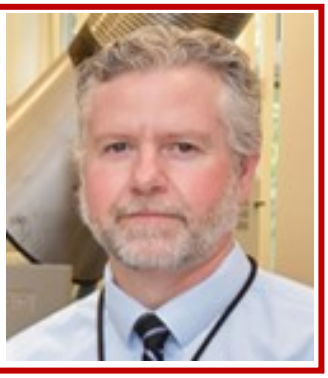
Seminar: 11:10 am Friday, April 26, 2024
Science 1: Room 2008

Host: Luyi Sun

Jason C. White

Director

The Connecticut Agricultural Experiment Station



Nano-enabled Agriculture: A Path to Global Food Security in a Changing Climate

Abstract:Low use and delivery efficiency of conventional agrichemicals is a significant impediment to maintaining global food security, particularly given that a 60-70% increase in food production is needed by 2050 to support the projected population. Further confounding these efforts is a changing climate, which will force increased cultivation of crops under more marginal and stress-inducing conditions. We are using nanotechnology as a novel and sustainable strategy to increase the delivery efficiency and efficacy of nutrients and pesticides, as well as to promote increased resilience to biotic and abiotic stresses. Driving this effort is a focus on harnessing our ability effectively tune nanoscale material structure and composition to maximize benefit, increase food security and reduce the impact of agriculture on the environment.

Dr. Jason C. White is the Director of the Connecticut Agricultural Experiment Station, the oldest Agricultural Experiment Station in the United States, and has a research program on sustainable nano-enabled agriculture. Dr. White is a member of the Connecticut Academy of Science and Engineering and the European Science Foundation College of Experts. He is a Commissioned Official of the US FDA and a Clarivate Web of Science Highly Cited Researcher (2020-2023). He is the Managing Editor for the *International Journal of Phytoremediation*, an Associate Editor for *NanoImpact*, on the editorial board of *Environmental Pollution, ACS Agricultural Science and Technology,* and *on the Editorial Advisory Boards of Environmental Science & Technology* and *Environmental Science & Technology Letters*. His Ph.D. is in Environmental Toxicology from Cornell University and has secondary appointments at Yale University and the University of Massachusetts. His h-index is 87 and has published 300 papers with 25,909 citations.