

Dr. Jeffery L. White

Department of Chemistry

Dr. Jeffery L. White joined Oklahoma State University in 2005 following a successful period as an assistant and associate professor of chemistry at North Carolina State University in Raleigh. Professor White has an extensive and varied background in scientific research, including appointments as a polymer research scientist with Exxon Chemical, a group leader in catalysis with ExxonMobil, and as a postdoctoral fellow with AT&T Bell Laboratories in Murray Hill, NJ. He was also named a 2010 Fulbright Research Fellow.

Professor White received his Ph.D. from Texas A&M University in 1992, and was awarded the Outstanding Doctoral Research Award for those efforts. Dr. White serves on the Editorial Advisory Board for the American Chemical Society journal *Macromolecules*, which is the premier macromolecular science journal worldwide. In addition to the Fulbright, Dr. White has been honored with a DuPont Science and Engineering Award in 2003, and was selected as a Park Faculty Scholar at NCSU in 2005.

The science of macromolecules, or very large molecules, encompasses many areas of modern scientific inquiry and technological development. Macromolecules play key roles in materials science and technology, spanning the full range of novelty from traditional polymers in consumer products like automobile manufacturing, to new membranes for energy fuel cells or synthetic biocompatible macromolecules for artificial bone and joint applications. Similarly, advances in the life and health sciences require ever more precise understanding of structure, function and dynamics in naturally occurring protein and enzyme macromolecules.

Professor White and his research group use a combination of advanced solid-state nuclear magnetic resonance spectroscopy, synthetic chemistry, and physical methods to investigate fundamental questions about (1) the transient structure of “unstructured” macromolecules, (2) why certain macromolecules mix with one another while most others phase separate, (3) how macromolecules can be used to enable the synthesis of new hybrid materials, and (4) how proteins and enzymes utilize their entire conformational space to carry out their specific functions.

The National Science Foundation and American Chemical Society fund Dr. White’s research, and his group is routinely involved in collaborative research with major private companies in both the materials and life science areas.



Room 330D, HBRC
Oklahoma State University
Stillwater, OK 74078
405.744.2109 (p)
jeff.white@okstate.edu