

INSTITUTE FOR APPLIED NUCLEAR MAGNETIC RESONANCE (NMR INSTITUTE)

Schrenk Hall Klaus Woelk (Director)

The Institute for Applied Nuclear Magnetic Resonance was established by the Chemistry Department in 1990.

The purpose of this Institute is to provide researchers and scholars access to modern Nuclear Magnetic Resonance (NMR) technology and instrumentation. The Institute specifically assists in the development of modern NMR techniques and procedures that focus on problems relating to applied chemistry and materials science needs. Funding for the NMR Institute supports the operation and maintenance of the Missouri S&T NMR Instrumentation and Laboratories. The NMR instrumentation is multi-disciplinary and is used by many researchers on campus.

Members of the Institute include Dr. R. G. Brow, Dr. L. Chi (Staff), Dr. A. Choudhury, Dr. A. Convertine, Dr. R. Glaser, Dr. H. Ma, Dr. M. Nath, Dr. J. Park, Dr. P. Reddy, Dr. F. Rezaei, Dr. T. Schuman, Dr. C. Sotiriou-Leventis (Co-director), Dr. P. Stavropoulos, Dr. K. Woelk (Director), and Dr. H. Yang

The Institute promotes the study of materials and chemical solutions with the goal of solving practical problems in the areas of polymers, coatings, solvents, surfactants, thin films, and environmental science. Specific interests and current research projects are related to the properties and behaviors of polymers and biopolymers, coatings, composites, and conducting materials, as well as the discovery and development of new types of materials by use of chemical synthesis. Several researchers are studying the transport and mobility of molecules in porous, colloidal, and macromolecular systems. The structure and dynamics of surfactant-based systems, including micelles, microemulsions, liquid crystals, and colloidal dispersions are studied as well. The development of novel NMR data evaluation routines as well as the analysis of chemical processing methods and the development of nano-structured materials are also of interest.