



FAMU-FSU
College of Engineering



Workshop Series
Topic #1



ORNL Neutron Nexus Workshop Series

TUESDAY
MAY 6, 2025, 9AM-5PM
MRB ROOM 114

I. Topic: Neutron scattering for soft matter

A series of **workshops on neutron scattering method**, under the **Oak Ridge National Laboratory (ORNL) Neutron Nexus** program, will be launched with the aim of making these powerful characterization tools more accessible to local graduate and undergraduate students, postdoctoral researchers, and faculties. This first workshop focuses on principles and practice of neutron scattering method applied to soft matter, including such systems as polymer solutions/melts, nanoparticle suspensions, hydrogels, biological vesicles, etc. **Key concepts in neutron scattering methodology will be introduced, and an array of instruments available at ORNL surveyed.** Emphasis is given to two techniques, small-angle neutron scattering (SANS) and neutron reflectometry (NF), which are indispensable tools for understanding nanoscale structures—a critical length scale in soft matter research—in bulk and at interface. In addition to technical lectures, ORNL scientists will also discuss how to secure neutron beamtime via careful instrument selection, efficient communication with facility contacts, and strong proposals.

No prerequisite on scattering background is needed; attendees with targeted on-going projects may benefit the most from the workshop. We will also introduce resources, including internship opportunities and technical consultantship, for the long-term support for local users' research. The Neutron Nexus workshops are not of conventional lectureship style, but create a friendly environment of user-facility support interaction, toward fostering a strong local user pool with persistent effort of employing neutron scattering/spectroscopy/imaging tools for research problem-solving.

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