

# SEMINAR NOTICE

*Department of Physics and Engineering Physics  
University of Saskatchewan*

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**SPEAKER:** Professor Marcella Berg, Fedoruk Chair in Neutron Imaging  
Dept of Physics, University of Regina

**TOPIC:** *Why Neutrons? Exploring Materials with Neutron Scattering.*

**DATE:** Tuesday March 17th, 2026

**TIME:** 3:30-4:30 p.m.

Neutron scattering is a versatile set of techniques for studying the structure and dynamics of materials over a wide range of length and time scales. It can probe everything from atomic arrangements and nanoscale structures to atomic vibrations and slower kinetic processes.

Unlike X-rays and electrons, which mainly interact with atomic electrons, neutrons scatter from atomic nuclei. This leads to several practical advantages, including sensitivity to light elements and isotopes, as well as the ability to distinguish between elements that appear similar using other probes. Neutrons also have high penetration depth, making them well-suited for studying bulk materials and complex sample environments in a non-destructive way.

Because of these properties, neutron scattering is widely used in both fundamental and applied research, with applications in materials science, energy, soft matter, engineering, and industrial studies.

In this talk, I will provide an overview of Canada's efforts to strengthen national neutron scattering capabilities and discuss the current status of these initiatives. I will briefly introduce the main neutron scattering techniques and highlight selected examples illustrating how these methods are applied to address contemporary challenges in materials research.