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Advanced Instrumentation at the Canadian Neutron Beam Centre

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Because of the unique way that neutrons interact with matter, neutron scattering methods provide knowledge about materials that often complements the insights provided by other instruments or techniques and that sometimes reveals information that is very difficult or impossible to obtain otherwise. Located at the NRU research reactor, within the Chalk River site of Canadian Nuclear Laboratories, the Canadian Neutron Beam Centre (CNBC) provides access, for researchers from academia, industry and government labs, to a suite of neutron-beam instruments and methods for probing structures and dynamics of materials over a wide range of scales. This presentation will introduce recent advancements of instrumentation at the CNBC, enabling condensed-matter scientists to explore how materials respond to applied fields, loads, temperatures and other conditions that are relevant to fundamental understanding and applications to technology. Examples will illustrate new capabilities to support research in magnetism, biophysics and materials science.

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