CNL’s Model Development Laboratory (MDL) is located at its Chalk River Laboratories (CRL). The role of the MDL is to assist the R&D community in the design and fabrication of specialized experimental apparatus. The specific strength of the MDL is the design and fabrication of apparatus with mechanically-operated, remote handling capabilities and a high tolerance to radiation environments, as well as machining of mechanical test specimens from irradiated components.

The MDL works with all types of metals and plastics to design and build equipment and it generally designs and fabricates one-off, bench-top sized equipment. The MDL has a complete suite of design and fabrication capabilities including computer-aided design, both CNC and conventional mills and lathes, grinding and cutting tools, sheet metal fabrication, TIG welding, and silver soldering. The MDL also includes the capability of machining low-level radioactive and contaminated equipment.

The staff in the MDL are members of the Materials and Mechanics Branch at CRL. All MDL staff have extensive experience in working with the R&D community in the design and fabrication of R&D experimental apparatus as well as retaining certification as machinists/tool and die.

CNL offers complementary expertise to further any proposed partnership, including Shielded Facilities, radiation protection, and mechanical property testing. The MDL is also interested in working with groups looking to exploit the unique combination of skills available for the development of new technologies.

The Model Development Laboratory welcomes research partners with a need for development of specialized experimental equipment requiring remote handling capability.