

## Industrial Technologies Program partners with CANMET-MTL on advanced materials for clean energy

The Oak Ridge National Laboratory (ORNL) Industrial Technologies Program hosted Anil Arora, Assistant Deputy Minister for Minerals and Metals of Natural Resources Canada, and Jennifer Jackman, Director General of the Canada Centre for Mineral and Energy Technology Materials Technology Laboratory (CANMET-MTL), on June 30 for the execution of a Memorandum of Understanding (MOU) agreement. The MOU is an umbrella agreement for cooperative projects between ORNL and CANMET-MTL in support of new science and technologies deemed appropriate under the United States of America and Canada Clean Energy Dialogue (<http://www.nrcan.gc.ca/media/newcom/2010/201045-eng.php>).

This collaborative research agreement will enable joint efforts on a demonstration project for developing advanced materials and energy efficient manufacturing technologies that will focus on designing, building, and studying a vehicle that is 50 percent lighter than the standard vehicle. The partnership will take advantage of unique research and development capabilities located at CANMET and ORNL, including a one-of-a-kind rolling mill co-designed by ORNL, Magnesium Elektron North America, CANMET, and FATA Hunter. The initial project will focus on the development and scale up of an innovative shear rolling technology which will enable increased formability of magnesium sheet allowing for further introduction of light weight materials into the transportation sector. The mill and the project are sponsored by the Industrial Technologies Program American Recovery and Reinvestment Act investment in an effort to increase U.S. competitiveness and jobs. The technology will be transferred to the industrial partner and sole magnesium sheet producer in North America, Magnesium Elektron North America.

Additional areas of interest include reductions in the life cycle energy associated with manufacturing and use of manufactured products (including vehicles) or their sub-components; enhanced crashworthiness, improved affordability and increased use of recyclable materials as a means to improve the consumer acceptance and reduce the cost of advanced, energy-efficient vehicles; and science and technologies associated with Generation IV Nuclear Reactors, particularly activities under the GenIV International Forum.

CANMET-MTL is Canada's foremost research centre, devoted to value-added structural metals, supporting the competitiveness of Canadian industry through R&D activities involving: metals and alloys; metal composites; and metal powders as well as enabling technologies such as: fabrication; coating; joining and welding, required for manufacturing. Such activities support the energy, transportation and metal-manufacturing sectors.

The goal of the partnerships is to identify technology areas of mutual interest, identify academic and industrial partners, provide access to unique research equipment and capabilities, and to develop and pursue collaborative activities in the areas of advanced materials for energy applications and appropriate, energy-efficient processing technologies.



*L-R: Thom Mason (ORNL Director), Anil Arora (Asst. Deputy Minister, NRC), Jenny Jackman (Director General, CANMET), Craig Blue (ORNL Energy Materials Director), Steve Brereton (Canadian Consul General), Ginny Flood (NRC), Bill Peter (ORNL), Dana Christensen (ORNL Asst Lab Director, Energy & Engineering) and Ron Poirier (Consulate General of Canada, Atlanta)*