By Jennifer Coombes

Carleton University Professor Junjie Gu, P.Eng., has won the 2006 Petro-Canada Young Innovator Award for his work in heat-driven refrigeration systems.

**Junjie Gu, P.Eng.,** an assistant professor of mechanical and aerospace engineering at Carleton University in Ottawa, has won the **2006 Petro-Canada Young Innovator Award**. The award, worth $10,000, recognizes outstanding young faculty researchers whose work is particularly innovative, enhances the learning environment in their department of study, and has a potential impact on society.

Gu received this award for his research on low-grade, heat-driven refrigeration systems that operate on low-temperature waste heat sources. These new systems are designed to replace mechanical vapour compression refrigeration systems that consume electricity and use pollution-causing refrigerants. This new technology is expected to have tremendous implications for the oil and gas industry because it has the potential to save electricity, reduce flare emissions, and recover waste products of heat and liquid petroleum.

The award will be used to support one of Gu's graduate students in his work conducting a technical and economic analysis of the application of the technology in an oil refinery.

Gu holds a PhD in mechanical/chemical engineering from the University of Kaiserslautern in Germany, and was a post-doctoral NSERC research fellow from 2000 to 2002 at the University of Toronto. He joined the department of mechanical and aerospace engineering at Carleton University in July 2002. Gu adds the Petro-Canada award to two other awards he has received: the 2006 Research Achievement Award from Carleton, and a 2005 Recognition Award from the Society of Automotive Engineers.

Although the **2006 Canadian Consulting Engineering Awards'** top honour–the Schreyer Award–was won by Edmonton's Associated Engineering for their Gold Bar Wastewater Treatment Plant's Industrial Water Reuse Facility project, Ontario consulting engineering firms took three of the 10 **Awards of Excellence**, which were chosen from a pool of 50 entries.

**Adjeleian Allen Rubeli Ltd.** of Ottawa won an Award of Excellence in the building category for the structural engineering of the Canadian War Museum. **Marshall Macklin Monaghan Limited** of Toronto won in the project management category for managing a program to have high-security anti-terrorism equipment installed in airports Canada-wide. **McCormick Rankin Corporation** of Mississauga, along with Buckland and Taylor Limited of Vancouver, won in the transportation category for the Queenston-Lewiston International Bridge Fifth Lane project, a rehabilitation of the Canada-US border crossing at Niagara Falls.

## Call for entries

The ET Foundation, the education and research arm of the Aluminum Extruders Council, is calling for entries for the **2007 International Aluminum Extrusion Design Competition**. Open to students studying design and engineering around the world, the competition is designed to promote the versatility of extruded aluminum and to highlight innovations and recognize excellence in aluminum extrusion design.

The designs may cover a number of categories, including transportation, industrial, consumer, commercial, and structural. Winning entries will demonstrate the benefits of aluminum extrusions, whether by inventing a new product or improving an existing one.

A total of $8,000 US in prize money is available for the top three finishers. The Hydro Sustainable Design Award will also be presented to the entry that not only meets the ET Foundation's criteria, but also addresses societal and/or environmental concerns.

The deadline for entries is February 12. More details and an official entry form may be found at www.etfoundation.org.

An aerial view, and inset of the lane control gantry, of the Queenston-Lewiston bridge following the award-winning rehabilitation work by McCormick Rankin Corporation.