

ENGINEERS HONOURED FOR EXCELLENCE

By Nicole Axworthy



New fellows of the Canadian Academy of Engineering are, front row, left to right: Phillip Simmons, P.Eng., Raafat Mansour, P.Eng., J. Douglas Boyd, P.Eng., Torstein Utigard, P.Eng., Gamal Refai-Ahmed, P.Eng., Vijay Sood, P.Eng., Jin Jiang, P.Eng., Dorina Petriu, P.Eng., Shiping Zhu, P.Eng., Alan Plumtree, P.Eng., Safwat Zaky, P.Eng., and F. Frantidak (former PEO member). Back row, left to right: Tarlochan Singh Sidhu, P.Eng., Andrew Hrymak, P.Eng., A.O. Abd El Halim, P.Eng., William Vangool, P.Eng., Stavros Argyropoulos, P.Eng., Farid Najm, P.Eng., Andrew Goldenberg, P.Eng., Jean Zu, P.Eng., David Wilkinson, P.Eng., Eugene Polistuk, P.Eng., Michael Worswick, P.Eng., and Tom Closson, P.Eng. Missing from photo is Partha Sampath, P.Eng., Peter Lewis Silveston, P.Eng., and David Zingg, P.Eng.



Edward Davison, PhD, P.Eng., has been elected a foreign associate of the National Academy of Engineering.

Edward Davison, PhD, P.Eng., University of Toronto professor emeritus, department of electrical and computer engineering, has been elected a foreign associate of the US-based National Academy of Engineering (NAE). Davison is a pioneer and world leader in the area of control systems design theory. The NAE, founded in 1964, provides engineering leadership in service to the United States and globally. Members and foreign associates of the NAE rank among the world's most accomplished engineers.

The University of Toronto's engineering program ranks eighth overall in the world and first in Canada, according to the *US News & World Report's* World's Best Universities ranking (published in February 2010) in the category of engineering and IT for 2009. Other Canadian universities on the list of 98 in the same category are University of British Columbia (#17), McGill University (#20), University of Waterloo (#27), University of Alberta

(#46), University of Calgary (#87) and McMaster University (#89).

Five outstanding Ontario P.Engs were honoured at the 2010 Engineers Canada awards gala in May. Constantin Christopoulos, P.Eng., civil engineering associate professor, University of Toronto, received the Young Engineer Achievement Award. Greg Evans, P.Eng., chemical engineering professor, University of Toronto, received the Medal for Distinction in Engineering Education. Cristina Amon, P.Eng., mechanical engineering professor and dean, faculty of applied science and engineering, University of Toronto, won the Award for the Support of Women in the Engineering Profession. Engineering interns Jane Chui and Mike Klassen each received the Gold Medal Student Award.

Twenty-eight Ontario P.Engs were recently inducted as new fellows of the Canadian Academy of Engineering (CAE). They are: A.O. Abd El Halim, P.Eng., Stavros Argyropoulos, P.Eng., J. Douglas Boyd, P.Eng., Tom Closson, P.Eng., Andrew Goldenberg, PhD, P.Eng., Andrew

Hrymak, P.Eng., Jin Jiang, P.Eng., Raafat Mansour, P.Eng., Farid Najm, P.Eng., Dorina Petriu, P.Eng., Alan Plumtree, P.Eng., Eugene Polistuk, P.Eng., Gamal Refai-Ahmed, P.Eng., Partha Sampath, P.Eng., Tarlochan Singh Sidhu, P.Eng., Peter Lewis Silveston, P.Eng., Phillip Simmons, P.Eng., Vijay Sood, P.Eng., Torstein Utigard, P.Eng., William Vangool, P.Eng., David Wilkinson, P.Eng., Michael Worswick, P.Eng., Safwat Zaky, P.Eng., Shiping Zhu, P.Eng., David Zingg, P.Eng., and Jean Zu, P.Eng. The CAE is the national institution through which Canada's most distinguished and experienced engineers provide strategic advice on matters of critical importance to Canada.

Andrew Goldenberg, PhD, P.Eng., professor, department of mechanical and industrial engineering, University of Toronto, and founder and president of Engineering Services Inc. (ESI), has been inducted as a fellow of the Engineering Institute of Canada (EIC) for his exceptional contribution to engineering in Canada. He is one of 15 PEO members recognized in EIC's 2010 awards program (see *Engineering Dimensions*, March/April 2010, p. 44).

The 2010 IEEE Canada awards were recently presented at a banquet in conjunction with the Canadian Conference on Electrical and Computer Engineering in Calgary. The A.G.L. McNaughton Gold Medal went to Alberto Leon-Garcia, P.Eng., for his outstanding contributions to Canadian and global network research and education. The R.A. Fessenden Medal went to Norman Beaulieu, P.Eng., for his contributions to wireless communications theory. The Power Medal went to John Densley, P.Eng., for his contributions to the understanding and diagnosis of power cable problems. The Computer Medal went to Mohamed Kamel, P.Eng., for his contributions to pattern recognition and intelligent systems. The Outstanding Engineer Award went to Edward Davison, P.Eng., for his contributions to control system theory and applications. The Outstanding Engineering Educator Award went to Vijay Bhargava, P.Eng., for his exemplary teaching, curriculum development and dedication to students.

This year, the Canada Council for the Arts awarded eight Killam Research Fellowships.



Andrew Goldenberg, PhD, P.Eng., has been inducted as a fellow of the Engineering Institute of Canada.



Frank Kschischang, PhD, P.Eng. (left), and Andreas Mandelis, PhD, LEL, have both received a Killam Research Fellowship from the Canada Council for the Arts.

Frank Kschischang, PhD, P.Eng., and Andreas Mandelis, PhD, LEL, both engineering professors at the University of Toronto, will each receive \$70,000 to devote towards two years of full-time research. Kschischang will develop approaches that improve transmission rate and reliability of communications through wireless relay networks and fibre-optic communications channels. A significant focus of his study is on self-organizing radio networks, which may be useful in public safety and disaster recovery efforts. Mandelis is expected to lead the development of a portable laser radar-based instrument that can be used for early detection and monitoring of osteoporosis. The instrument will enable preventive, quantitative measurement of bone density and would be available to people living in areas with little access to hospital facilities and to astronauts on long-duration space flight missions. Killam



Elizabeth Edwards, PhD, P.Eng., is the winner of the Kalev Pugi Award from the Society of Chemical Industry.

fellowships support scholars engaged in research projects of outstanding merit in the humanities, social sciences, natural sciences, health sciences, engineering and interdisciplinary studies within these fields. The awards are given in recognition of a distinguished career and exceptional contributions in one of these fields, with the expectation that recipients will continue to contribute to the Canadian research community.

Professor Elizabeth Edwards, PhD, P.Eng., of the University of Toronto's chemical engineering and applied chemistry department, is the winner of the Kalev Pugi Award, presented by the Canadian section of the Society of Chemical Industry. The award is given to an individual or a team for specific R&D projects that embody the qualities of creativity and determination, good experimental design and project management, and have had a beneficial impact on the sponsor company or on society. Edwards is internationally recognized for her pioneering research on how biological processes can be used to reduce or eliminate toxins in the environment.

Mervin Dewasha, P.Eng., has been honoured with the Aboriginal Business Hall of Fame Award from the Canadian Council for Aboriginal Business. The award recognizes leaders who have demonstrated exceptional foresight, determination and resilience in their business careers, and they serve as an example and inspiration to others. Dewasha is the CEO of Neegan Burnside, an aboriginal-owned engineering firm. Under his vision and leadership, the company

has had an annual growth rate of 16 per cent with the number of aboriginal employees nearly doubling in the last five years. He is also president of the Canadian Aboriginal Science and Engineering Association and has been a leader in encouraging aboriginal youth to pursue careers in science and engineering.

University of Toronto professor Yu Sun, P.Eng., is the winner of the 2010 Early Career Award of the Robotics and Automation Society, one of the member societies of the IEEE. The award is given to individuals in the early stages of their careers who have had a major impact on the robotics and/or automation fields. Sun, Canada research chair in micro- and nano-engineering systems, is the first Canadian researcher to win the award since its establishment in 1999.

The Canadian Engineering Memorial Foundation (CEMF) has announced its 2010 scholarship winners. The \$15,000 Claudette MacKay-Lassonde Graduate Engineering Scholarship goes to Louise Meunier, P.Eng., who is an environmental engineering PhD candidate at Royal Military College in Kingston. The scholarship is the CEMF's premier award. Donna Beneteau is the winner of the \$10,000 Vale Inco Masters Scholarship in Engineering. She is currently pursuing a master's degree in mineral resources engineering at Laurentian University while raising three children. Julie Ladiges was selected for the \$10,000 AMEC Masters Engineering Scholarship. Ladiges is completing a master of engineering science, focusing on digital signal processing and hearing science, at the University of Western Ontario. Melanie Snow of Toronto, a member of the Wikwemikong band on Manitoulin Island, has been selected as the winner of the \$5,000 AMEC Aboriginal Undergraduate Engineering Scholarship. She is a third-year chemical engineering student at the University of Waterloo. Evelyn Mukwedeya, a biomedical engineering student at the University of Toronto, is the winner of the \$5,000 CEMF Undergraduate Engineering Scholarship. The CEMF was founded in 1990 and honours the memory of the 14 women from École Polytechnique in Montreal who lost their lives on December 6, 1989.

The 2010 Ontario Consulting Engineering Awards were recently presented to consulting engineering firms to recognize the knowledge, skill and

expertise of consulting engineers in Ontario. The awards are presented by Consulting Engineers of Ontario, a non-profit organization representing over 225 consulting engineering firms in Ontario. The Willis Chipman award, which goes to a firm whose project best demonstrates consulting engineering contributions to the economic, social and environmental quality of life in Ontario, went to J.L. Richards and Associates Ltd., for the Ravensview Wastewater Treatment Plant in Kingston. An Award of Excellence went to Quad Engineering Inc. for the new Perryman Company titanium ingots process; DST Consulting Engineers Inc. for the green ground improvement of a Brownfields site in Thunder Bay; and Dillon Consulting Ltd. for the Walker Road CPR grade separation in Windsor. The Award of Merit went to Sigmund Soudack & Associates Inc. for work on The Absolute building in Mississauga. The Environment Award went to Stantec Consulting Ltd. for the Sandy Hill flood control and park rehabilitation project in Ottawa. The Industry, Energy and Resources Award went to Simulent Inc. for the modeling epoxy lining procedure in pipe lining for Bradley Mechanical Services in Mississauga. The Studies and Research Award went to Delcan Corporation with McCormick Rankin Corporation for its work on Ontario's Action Plan for the Intelligent Border Crossing. The Transportation Award went to URS Canada Inc. for the Detroit River international crossing.

Kyla Sask, a PhD candidate in biomedical engineering at McMaster University, has been selected as the first recipient of the \$1,000 Dave Williams Graduate Scholarship in Biomedical Engineering, created by Canadian astronaut, physician and professor of surgery Dave Williams, PhD. The award will be presented annually to a full-time MAsc or PhD student in McMaster University's School of Biomedical Engineering who has demonstrated academic and research excellence, leadership and citizenship.

A team of six civil engineering students from McMaster University has won the 26th annual Troitsky Bridge Building Competition, held March 5 at Concordia University. The competition requires that each team design and build a bridge with popsicle sticks, white glue, dental floss and toothpicks, with an open span of one metre and an overall weight of six kilograms. Judging



McMaster University civil engineering students, left to right, Darren Berwick, Matthew Turner, Brandon Kadoski, Zane Kharas, Daniel Perri and Neil Isenegger show off their winning Troitsky bridge.



ENGINEERS HONOURED FOR SAVING APOLLO 13 ASTRONAUTS

The Canadian Air & Space Museum in Toronto celebrated the 40th anniversary of the Apollo 13 mission by recognizing the little-known role the University of Toronto Institute for Aerospace Studies (UTIAS) played in the safe return of the astronauts on April 17, 1970. UTIAS professors Ben Etkin, PhD, P.Eng. (left), Barry French, PhD, P.Eng. (centre), and Phil Sullivan, PhD, P.Eng. (right), are three of the members of a team that was called to help following the explosion that rocked the Apollo 13 spacecraft 40 years ago—they were involved in a crucial calculation of the correct pressure required to separate the entry module from the damaged space craft so that the astronauts could return safely to Earth. This year, the professors were presented with the Air & Space Pioneer Award, which recognizes individuals and institutions that have advanced Canadian achievements in aviation and space.

criteria include aesthetics, originality, carrying capacity, structural efficiency and predicted mode of failure. This year's winning McMaster team comprises Darren Berwick, Matthew Turner, Brandon Kadoski, Zane Kharas, Daniel Perri and Neil Isenegger. They were one of 30 teams from 11 Canadian and US universities in the competition.

CALL FOR ENTRIES

The Society of Manufacturing Engineers, the world's largest professional society serving the manufacturing industry, has issued its annual call for nominations for the 2011 International Honor Awards, Outstanding Young Manufacturing Engineer Award and the Award of Merit. Nomination forms can be found at www.sme.org/awards. The deadline for entry is August 1, 2010. Σ