

SPONSOR CONTENT

EXCELLENCE IN ENGINEERING

THE 2017 ONTARIO PROFESSIONAL ENGINEERS AWARDS

ADVOCATING FOR A DIVERSE PROFESSION

Role model for aspiring women engineers receives prestigious award

GOLD MEDAL



CATHERINE KARAKATSANIS
P.Eng., FCAE, FEC
Chief Operating Officer, Morrison
Hershfield Group Inc.

No one would be happier than Catherine Karakatsanis if more young women in Canada chose engineering as a profession.

The recipient of this year's prestigious Ontario Professional Engineers Awards (OPEA) Gold Medal, Ms. Karakatsanis says many women want careers in professions with a humanitarian and socially engaged focus, and she is confident they will find that in engineering.

"There are wonderful career opportunities for women in engineering," she adds. "They have the capacity to

gain the knowledge and skills to not only become a larger proportion of the profession, but to become leaders in the field."

Ms. Karakatsanis points out that only about 13 per cent of members of the engineering profession in Canada are women, even though women comprise nearly half the total workforce.

"Engineering is essential in securing Canada's health, safety and economic prosperity, and we must include the greatest possible range of knowledge, skills, experience and perspectives in the profession. That means ensuring more women are joining and staying in the profession – and leading it as well," she adds.

Ms. Karakatsanis is regarded as a role model for aspiring women engineers and admired as a devoted advocate for creating a more diverse profession. A structural engineer by training, she is chief operating officer of Morrison Hershfield Group Inc., one of Canada's largest engineering consultancies, overseeing operations across Canada, the U.S. and internationally.

Ms. Karakatsanis is modest about her achievements, preferring not to

single out any one of her contributions as the most important.

"I started volunteering early in my career. I recall being immensely proud to be associated with the profession and keenly aware that engineering has a tremendous impact on the quality of our lives," she says. "I simply wanted to help further the profession that I cared so much about in any way that I could."

As a career-long volunteer trailblazer in Canadian engineering, Ms. Karakatsanis is the only engineer in Canada

"Engineers approach their work as a privilege, to protect and contribute to the betterment of society."

to have led their provincial regulator (Professional Engineers Ontario), provincial advocacy body (Ontario Society of Professional Engineers) and national organization (Engineers Canada).

Ms. Karakatsanis credits the people she has worked with over the years for much of her success.

"Looking back, I have been incredibly blessed with the meaningful, collaborative and professional experiences I have had through my volunteer work," she says. "As an engineer, I am gratified that I helped build our company from a 100-person firm to a 1,000-person firm while maintaining our collegial, strong ethical culture and our reputation for technical excellence and professionalism."

HELPING BUILD CANADA'S ECONOMY

Nurturing a new generation of engineers

AWARD FOR ENGINEERING PROJECT OR ACHIEVEMENT



SIEMENS CANADA – DUAL EDUCATION PROGRAM
THAMIR (TOM) MURAD
PhD, P.Eng., SM.IEEE, FEC
Head of Siemens Canada Engineering & Technology Academy

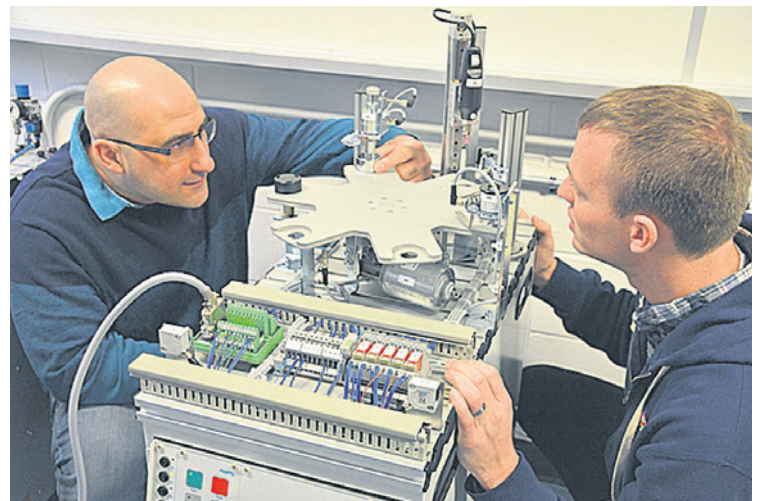
With a goal of closing the skills gap between knowledge learned at school and the know-how required at modern manufacturers, Siemens Canada's Dual Education Program aims to develop and nurture the next generation of the firm's engineers and leaders.

This innovative work-integrated learning program equips Canadian engineering and engineering technology students with the educational and professional foundation required for successful 21st century manufacturing, industry and infrastructure advanced technologies careers.

The pioneer behind the Dual Education Program is Tom Murad, PhD, P.Eng., head of Siemens Canada's Engineering & Technology Academy.

"I felt engineering graduates needed opportunities to gain experience. There are co-ops, but more was needed. We teach students real-life engineering and allow them to visualize and innovate in an interactive industrial environment that is safe and engaging," says Dr. Murad.

Modelled on Siemens AG Dual Education System in Germany, the Canadian program combines the



Siemens Canada's Dual Education Program is designed to provide a set of complementary skills and experience required by industry. SUPPLIED

"Siemens Canada's Dual Education Program is successful and sustainable, and I am very proud to be part of it."

skills and knowledge acquired through academic programs with a parallel curriculum delivered at corporate-sponsored academies. It is designed to provide a set of complementary skills and experience required by industry. In addition, it offers a structured and robust mentorship program, as well as a corresponding hands-on work experience that enables young recruits to immediately see the relevance and importance of what they learn at both academic institutions and through the academies by placing them in a real-world work environment that

demonstrates the value and importance of what they learn.

"Being recognized by OPEA is a great honour for our program and for me personally. After many projects during 40 years of engineering on three different continents, I see this as my best achievement," he says. "I feel I have done my part for my profession and the new generation of engineers."

Dr. Murad says Siemens Canada receiving the Award for Engineering Project or Achievement tells him the firm is going in the right direction.

"We are helping to build Canada's economy. Engineers are creators of economic value – when you construct a bridge or a power plant, you create opportunities for wealth and economic development," he adds.

This content was produced by Randall Anthony Communications, in partnership with The Globe and Mail's advertising department. The Globe's editorial department was not involved in its creation.

ABOUT



CELEBRATING
70
YEARS

2017 ONTARIO PROFESSIONAL ENGINEERS AWARDS GALA

Since 1947, the Ontario Professional Engineers Awards (OPEA) gala has served as the province's most prestigious and anticipated engineering event of the year. This annual affair brings together industry innovators, business leaders and policy-makers to honour and be inspired by engineering excellence and achievement.

The 2017 OPEA gala – to be held on November 18 at the Toronto Congress Centre – will celebrate the substantial impact the engineering profession has made on the development of Canada over the last 70 years. The event is proudly co-presented by Professional Engineers Ontario (PEO), the profession's regulatory body, and the Ontario Society of Professional Engineers (OSPE), the profession's advocacy association.

Today, engineers continue to lead the advancement of every facet of society, creating innovations that are launching Canada into its exciting future. From aerospace and automotive to clean technology, biomedical, mining and robotics, the innovations of engineers continue to lead Ontario's major industries and solve society's most pressing challenges.

PEO and OSPE congratulate the 2017 award recipients, all of whom illustrate the highest standards and ideals of the engineering profession.

For more information on the OPEA gala, please visit www.opeawards.ca.

Online? Visit TGAM.ca/opea2017

COMMITTED TO THE FUTURE OF ENGINEERING

Ontario has two organizations that are strongly committed to the future of the engineering profession. Although Professional Engineers Ontario (PEO) and the Ontario Society of Professional Engineers (OSPE) have different mandates, they have worked together for many years to advance the profession.



BEHIND EVERY GREAT ENGINEER.

REGULATES

The mission of PEO is to regulate and advance the practice of engineering to protect the public interest.

- Licensing individuals who have met the rigorous qualifications
- Disciplining licence holders who fail to maintain the profession's technical and ethical standards
- Ensuring that only licence holders practice professional engineering
- Establishing and maintaining standards of practice

ADVOCATES

OSPE is the advocacy voice of the engineering profession in Ontario, representing the entire engineering community.

- Raising awareness of the important role engineers play in society
- Influencing public policy that affects the profession
- Connecting engineering talent with employers
- Providing opportunities for ongoing learning, networking and community building

Working together for the future of engineering in Ontario

OSPE and PEO partner to celebrate the engineering profession each November by co-hosting the annual Ontario Professional Engineers Awards Gala. Together, these organizations participate in National Engineering Month and promote engineering licensure in Ontario to graduates of Canadian and international engineering programs.

ONTARIO PROFESSIONAL ENGINEERS AWARDS

The Ontario Professional Engineers Awards (OPEA) celebrate the accomplishments of our province's engineers. The awards recognize engineers' contributions to the well-being of the profession, and honour their commitment to innovation and excellence.

ENGINEERING MEDAL - ENGINEERING EXCELLENCE



ENDRE (ANDREW) BAKOS
BSc, P.Eng., C.E.T., ASME
Project Manager, Toronto Transit Commission

If you've ever used Wi-Fi inside a Toronto Transit Commission (TTC) subway station, thanks are in large part due to Endre (Andrew) Bakos, the TTC engineer and project manager who oversaw the successful implementation of its Wireless Services in the TTC Subway initiative that now delivers wireless services to subway riders on Canada's largest public transportation system. The achievement illustrates Mr. Bakos's exceptional ability combined

with genuine care in executing public infrastructure projects to ensure better health, safety and wellness for the public. In addition to his work as a TTC engineer, Mr. Bakos helps and mentors young engineers, particularly newcomers to Canada.

The Wireless Services in the TTC Subway initiative ranks as one of the most appreciated services for TTC riders.



NICHOLAS STARK
P.Eng., CE, LEED AP, ICD.D
Vice President, HH Angus

Whether redesigning the HVAC system in a new hospital in North Bay to cut energy consumption and capital costs while creating a healthier environment for patients and staff, or directing construction of the Centre Hospitalier de l'Université de Montréal project – one of the largest P3 projects in North America – Nicholas Stark is known as a forward thinker. His work on the Ontario Ministry

of Health and Long-Term Care's Generic Output Specifications and various Canadian Standards Association committees has established a strong baseline of design standards for health care in Canada.

Mr. Stark has made significant technical contributions to the design and construction of health care facilities across Canada, particularly in HVAC design.

ENGINEERING MEDAL - RESEARCH AND DEVELOPMENT



JAN ANDRYSEK
MASc, PhD, P.Eng.
Scientist, Bloorview Research Institute

Dr. Jan Andrysek's work has improved the lives of hundreds of young amputees living in resource-poor countries around the world. After first building a new prosthetic knee joint that enabled a greater variety of physical activities for the user, he realized it was too expensive for use in developing countries, so he engineered the cost-effective All-Terrain Knee.

To make the prosthetic available in the countries where it was needed most, and with backing from supporters and investors, he established LegWorks, an enterprise focused on making the All-Terrain Knee and other assistive technologies accessible globally.

Over the past year, LegWorks has provided more than 500 prosthetic knee joints to amputees in developing countries.



CRAIG SIMMONS
PhD, P.Eng., FCSME
Distinguished Professor of Mechanobiology, University of Toronto

As a world leader in heart valve mechanobiology and microtechnologies, Dr. Craig Simmons has made several fundamental discoveries that have improved the understanding of heart valve function and disease.

A pioneer in mechanobiology – the study of mechanisms by which mechanical forces control biological functions – Dr. Simmons explores how biomechanical forces regulate cell function in heart disease and regeneration.

He currently leads over 100 researchers from engineering and medicine in the Ted Rogers Centre for Heart Research, a bold interdisciplinary initiative that aims to dramatically improve heart health.

Dr. Simmons's goal is to develop improved strategies to treat cardiovascular disorders, the greatest health burden faced by Canadians.

ENGINEERING MEDAL - YOUNG ENGINEER



MAX MANTHA
P.Eng., MBA
Vice President, Area Manager, EllisDon Toronto Civil and Looby Construction

Max Mantha has risen quickly and steadily as an executive and engineer thanks to his extensive private and public industry knowledge, leadership, team-building skills and dedication.

In the last two years, Looby Construction has experienced unprecedented growth, with Mr. Mantha leading the firm to successful outcomes on multiple, complex Ontario Ministry of Transportation design-build projects.

During his tenure with Infrastructure Ontario, Mr. Mantha was responsible for Metrolinx's Up Express Spur Line, a rail link between Toronto Pearson Airport and Toronto Union Station.

Mr. Mantha is a founding member of Young Leaders in Infrastructure, an organization mandated to engage and create relationships among the next generation of leaders in the infrastructure sector.

ENGINEERING MEDAL - ENTREPRENEURSHIP



J. PAUL SANTERRE
PhD, P.Eng., FBSE, FAIMBE, FAAAS, FCAHS
Professor, University of Toronto

As a leader in biomaterials and polymer science, Dr. Paul Santerre has led the development of technology that prevents blood clotting on medical devices like catheters, vascular grafts and dialyzers – an enormous problem that reduces the service life of these devices and threatens patient safety. He founded Interface Biologics, a company that builds on his work on biomedical polymers and their application for medical devices, with a specific focus on blood-contacting materials and drug delivery applications.

He has also helped develop the next generation of biomedical engineers, turning students into engaged, motivated and creative independent researchers and engineers.

Dr. Santerre conceived and helped launch a program to train young engineering students to bring their own ideas to market.

ENGINEERING MEDAL - MANAGEMENT



SAMANTHA ESPLEY
MASc, P.Eng., FCAE
Technical Director, Vale Base Metals

Samantha Espley is recognized as a trailblazer for women engineers in the mining industry. She is one of a few female engineers to hold several senior positions in the sector where she has demonstrated engineering and management expertise that has led to significant health, safety and environmental advances. She has also improved productivity and reduced costs through the design of new methods to mine and extract metals.

She co-authored *Gaining Insights on Career Satisfaction for Women in Mining*, a paper that explored factors that improve and/or inhibit career satisfaction for women in the industry.

Ms. Espley encourages young women to consider careers in science and engineering and provides a support network for women in these fields.

CITIZENSHIP AWARD



BENNY PANG
P.Eng., DAR
Knowledge Domain Owner (Acoustics) and Principal Engineering Specialist, Bombardier Inc.

Benny Pang is one of Canada's foremost experts on aircraft noise, work-

ing to improve the quality of life of people living and working around airports by continually seeking ways to reduce aircraft-related noise pollution.

Mr. Pang helped create a Canadian R&D program dedicated to airplane and engine noise and emissions reduction, which ultimately became the Green Aviation Research and Development Network (GARDN). Since its launch, GARDN has supported more than 35 collaborative research projects and is now the leader in reducing the environmental footprint of the aviation sector in Canada and worldwide.

Mr. Pang has contributed to alleviating the impacts of aviation noise near airports for Canadians and citizens across the globe.



MARGARET KENDE
P.Eng.
Dean of Engineering Technology, Centennial College (retired), and President of Anteus Enterprises

For Margaret Kende, former dean of engineering technology at Centennial

College, management consultant, and lifelong volunteer and mentor, citizenship has been an integral part of life for more than 50 years.

After immigrating to Canada in 1957, Ms. Kende attended the University of Toronto and was one of the first four women to complete the civil engineering program.

As a volunteer, she has used domestic and international platforms to advance gender equity and human rights, and worked with the Toronto District School Board to encourage students to pursue careers in science, technology, engineering and mathematics.

Appointed as Canada's first female engineering dean in 1977, Ms. Kende used her engineering skills to facilitate the programming and future directions of Centennial College.

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