



## Communiqué de presse

### Intronisation de quarante-cinq nouveaux Membres au sein de l'Académie canadienne du génie

**Ottawa – (le 2 juin 2011)** – Le président Michael E. Charles a procédé à l'intronisation de 45 nouveaux Membres au sein de l'Académie canadienne du génie, le 2 juin 2011. La cérémonie a eu lieu à Vancouver, conjointement avec l'assemblée générale annuelle de 2011 de l'Académie. M. Charles a déclaré : « L'Académie souhaite la bienvenue à ses nouveaux Membres, tous des ingénieurs de calibre exceptionnel, et elle anticipe avec plaisir la perspective de les voir participer aux activités de l'Académie. Bien que les récents projets de l'Académie aient été fortement concentrés sur la question de l'énergie et de son impact sur l'environnement, y compris sur le climat, les domaines d'intérêt de l'Académie sont fort étendus. Les nouveaux Membres aideront donc à façonner les orientations futures de l'Académie et contribueront au développement durable de la société canadienne. »

L'Académie canadienne du génie se compose de plusieurs des ingénieurs les plus expérimentés du pays qui ont manifesté leur dévouement en faveur de l'application des principes de la science et du génie dans l'intérêt du pays et de ses entreprises. L'Académie est un organisme indépendant, autonome et à but non lucratif qui a été fondé en 1987. Les membres de l'Académie sont nommés et élus par leurs pairs à titre de Membres honoraires, en fonction de leurs réalisations exceptionnelles et de leurs longs états de service au sein de la profession d'ingénieur. Les Membres de l'Académie s'engagent à faire en sorte que les connaissances expertes en génie du Canada soient appliquées pour le plus grand bien de tous les Canadiens et de toutes les Canadiennes.

L'Académie canadienne du génie travaille en étroite collaboration avec les autres principales académies, au Canada et sur le plan international. Elle est membre fondatrice du *Conseil des académies canadiennes*, en collaboration avec la *Société royale du Canada* et l'*Académie canadienne des sciences de la santé*. L'Académie travaille aussi en étroite collaboration avec les autres membres du *Forum des leaders du génie canadien* qui regroupe des représentants d'*Ingénieurs Canada*, de l'*Institut canadien des ingénieurs*, de l'*Association des firmes d'ingénieurs-conseils - Canada*, du *Conseil canadien des doyens d'ingénierie* et de la *Fédération canadienne des étudiants et étudiantes en génie*, tous œuvrant afin d'assurer un Canada plus sûr, plus propre, plus sain et plus compétitif. L'Académie est aussi membre actif de l'*International Council of Academies of Engineering and Technological Sciences (CAETS)*, qui comprend 26 autres organismes nationaux semblables situés partout au monde.

Des citations sont annexées pour chacun des nouveaux Membres intronisés, ainsi que le nom de certaines des sociétés et associations auxquelles chaque nouveau membre a indiqué participer.

### Pour de plus amples renseignements ou pour obtenir une entrevue, communiquer avec :

Michael A. Ball, MACG, FIC, P.Eng.

Directeur général

Tél. : (613)235-9056 poste 223

Courriel : maball@acad-eng-gen.ca

## THE CANADIAN ACADEMY OF ENGINEERING

*Leadership in Engineering Advice  
for Canada*



## L'ACADÉMIE CANADIENNE DU GÉNIE

*Chef de file en matière d'expertise-conseil  
en génie pour le Canada*

The Canadian Academy of Engineering (CAE) is the national institution through which Canada's most distinguished and experienced engineers provide strategic advice on matters of critical importance to Canada.

The Canadian Academy of Engineering is an independent, self-governing and non-profit organization established in 1987. Members of the CAE are nominated and elected by their peers to honorary Fellowships, in view of their distinguished achievements and career-long service to the engineering profession. There are at present some 377 active members, 140 emeritus members and 3 honorary members. Fellows of the CAE are committed to ensuring that Canada's engineering expertise is applied to the benefit of all Canadians.

The Canadian Academy of Engineering works in close cooperation with other senior academies in Canada and internationally. It is a founding member of the *Council of Canadian Academies*, along with the *Royal Society of Canada* and the *Canadian Academy of Health Sciences*. The CAE works in close collaboration with the other members of the *Canadian Engineering Leadership Forum* which brings together representatives from *Engineers Canada*, the *Engineering Institute of Canada*, the *Association of Consulting Engineering Companies - Canada*, the *National Council of Deans of Engineering*, and the *Canadian Federation of Engineering Students*, all working together to ensure a safer, cleaner, healthier and more competitive Canada. The CAE is also a member of the *International Council of Academies of Engineering and Technological Sciences*, which includes some 26 similar national bodies around the world.

The mission of the Canadian Academy of Engineering is to provide leadership in engineering advice and to enhance, through the application and adaption of scientific and engineering principles, the promotion of engineering, the well-being of Canadians and the creation of wealth in Canada.

Specifically, the Canadian Academy of Engineering:

- speaks out on issues of importance to Canada and abroad to highlight emerging issues in which engineering has a role and to comment on their importance and their implications, and more generally to provide an understanding of the need for engineering excellence in professional practice, research, development, innovation and education in Canada's economy.
- provides advice in the appropriate form to government, industry, academia and Canadians at large on specific issues where engineering considerations play a role.
- promotes recognition of engineering excellence by electing Fellows of the Academy from among Canada's most experienced and outstanding engineers, and thus highlighting the contributions of engineers to the well-being of Canadians and the economic development of Canada.
- participates appropriately, actively, and effectively with like-minded national and international organizations in developing a common voice on issues important to Canada and the world.

# NEW FELLOWS 2011

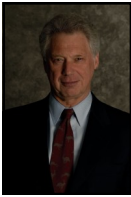
## Andreas K. Athienitis



Named as one of the 25 top innovators in Quebec in 2009; Scientific Director, NSERC Solar Buildings Research Network; contributor to Canadian and US government policies on energy; sought after for advice by governments and major industries; educator of over 60 high performing building engineering graduates now in universities, government and industry; widely published with over 150 journal papers and two books; pioneer of solar technologies and leader of innovative and transformative solar building demonstration projects; distinguished Canadian leader of research networks unifying top researchers, institutions, and industries - Dr. Athienitis is recognized as a major world force to move buildings from heavy energy consumers (40% of all energy) to net-zero energy consumers, which will generate as much energy as they consume.

OIQ, ASHRAE, ISES, SESCO, CSME

## John M. Beck



While leading the growth over a 45-year span of what is now the largest Canadian publicly traded construction and infrastructure development company, Aecon Group Inc., Mr. Beck has spearheaded the development of new engineering technology, led the development of large-scale infrastructure projects both in Canada such as Highway 407 and the CN Tower, and exported engineering expertise internationally for projects such as most recently the Cross Israel Highway, and the Quito International Airport. Mr. Beck has been instrumental in leading innovative finance models, namely the public private partnership model, to better facilitate the development of such significant infrastructure projects. Mr. Beck has also been a dedicated leader in the field of safety.

PEO, CCCE

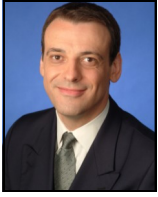
## Dennis E. Becker



Leader of the International Ground Engineering Group in Golder Associates and widely recognized as one of the foremost Geoengineers in Canada, Dr. Dennis Becker has made distinguished contributions to geotechnical engineering practice, the profession, and scholarship. Major projects include the foundation design for the Confederation Bridge, the St Clair Rail Tunnel, Offshore sand fill islands in the Beaufort Sea, and projects involving oil sands, pipelines, resource development, waste management, and dam safety assessment. Professional contributions include Presidency of the Canadian Geotechnical Society, but also significant scholarly contributions remarkable for a practicing Geoengineer (including Editorship of the Canadian Geotechnical Journal).

APEGGA, PEO, APEGBC, APEGM, CGS, ASCE, CSA, CDA

### **Giovanni (John) Bianchini**



John Bianchini, Global Managing Director of Hatch Ltd.'s Metals Division is a superb Non-Ferrous process engineer, an excellent project manager and global business leader. He has applied great skill and effort to expand the scope and volume of Hatch Ltd.'s Mining and Metals business throughout the world. In response to the technological, environmental and EPCM services needed locally by many global mining/metals companies, John has developed a successful organization with Hatch for outsourcing well-qualified engineering and project management services. He has contributed immensely over the last fifteen years in expanding Canadian engineering talent world-wide, which is reflected in the company's growth from 2000 to over 8000 staff.

PEO, CIM, CSCHE

### **Richard Boudreault**



Richard Boudreault is a recognized aerospace authority who has served on key international committees, and an accomplished teacher. His work in medical imaging led to a new optical platform for breast cancer imaging and for drug development. He is spearheading, scientifically and strategically, development of a new process for the production of alumina which will potentially displace billions of dollars of Canadian imports and impact the aluminum industry worldwide. He is also a recognized expert in venture capital and in the development of technology-based companies, having served on over 25 Boards of Directors, including, presently, Atomic Energy of Canada, Ltd.

### **Ron Britton**



Ron Britton was at the forefront of the movement to re-introduce design content in the Canadian engineering education system. In fact, he always incorporated design in his courses. As one of the first NSERC Chairs in Engineering Design, he was a major player in the Canadian Design Engineering Network. More recently, he was a driving force behind the establishment of the Canadian Engineering Education Association. As a holder of a 3M Fellowship as well as numerous other awards, he is recognized as an outstanding educator. He has also served the profession in many roles and with great distinction, including a term as president of APEGM; he is a Fellow of Engineers Canada.

APEGM, ASEE, ASABE, INES, STLHE

### **Allan Carswell**



Dr. Allan Carswell is an internationally recognized engineer, academic and entrepreneur in the field of laser radar (lidar) applications. The author of over 250 scientific and technical publications, Dr. Carswell is the founder of Optech Inc., the world's leading developer and manufacturer of commercial lidar systems. He has served as President of the Canadian Association of Physicists and Vice-President of the Canadian Academy of Science, and is a Board member of several research institutes and industrial corporations. He is a Member of the Order of Canada, a Fellow of the Royal Society of Canada, and a Fellow of the Canadian Aeronautics and Space Institute.

PEO, OSA, AGU

### **Liuchen Chang**



Dr. Chang is recognized as an authority and a world leader in the field of renewable energy conversion and distributed electric power systems. His accomplishments included innovation and development of electronic power converters that enable the integration of wind energy, solar energy and marine energy systems with the electric power grid. He has created a world class research lab at UNB where he has trained new graduates as leaders in the field and he has established the Canadian Wind Energy Strategic Network, a nationwide partnership among government agencies, the industrial sector and universities, with a mandate to solve technical challenges for deploying wind energy systems throughout Canada, and to empower the Canadian manufacturing sector.

APEGNB, IEEE

### **Louis Cloutier**



Louis Cloutier joined the Faculty of Engineering Sciences at Laval University in 1980, bringing with him a rich Canadian and American industrial experience. In fact, in addition to his graduate studies, he had decided to make his mark in the field of engineering at the very start of his career in industrial research in 1961, at the CNRC, in Ottawa. He then joined the R&D group at Gleason Works, Rochester N.Y. in the field of machine tool design and building. At the end of 1969, he becomes Group leader at the IREQ, the newly created Electricity Research Institute, then, in 1975, he becomes a partner at Roctest Ltée, a small geotechnical instrumentation business. This varied industrial experience has helped him make major breakthroughs, as a university researcher, in "cross-stream sectors".

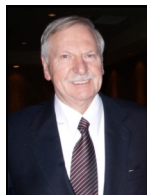
OIQ, CSME/SCGM, CCToMM/IFTToMM, CEA/ACE, AQQ, CIGRE, CANCAM, AGMA, ASME, IEEE

### **David Colcleugh**



Dr. David Colcleugh has exemplified leadership and dedication in business and society. As the former Chairman, President and CEO of DuPont Canada, and as a director and chairman on other corporate boards, Dr. Colcleugh has advocated for corporate responsibility and has fostered sustainable growth in his company and in society. In particular, Dr. Colcleugh was instrumental in developing Responsible Care, the chemical industry's global voluntary initiative under which companies, through their national associations, work to continuously improve their health, safety and environmental performance in the manufacturing of safe and affordable chemicals that bring real benefits to society. Dr. Colcleugh has received several awards within the company for his work on sustainable growth.

### **George A. E. Cook**



George Cook is an exceptional innovator, entrepreneur and mentor. He was the founding President of NORAM, a company that has grown to a staff of 100 plus; a company that thrives on the development of novel processes technologies. NORAM's patented nitrobenzene technology provides over 50% of the world's production, in 10 plants on 3 continents. His leadership has been instrumental in attracting and retaining an extraordinary core of engineers, initiating new processes in the chemical, electrochemical, environmental and pulp and paper industries. Previously under his leadership as Vice-President of Chemetics, the first Oxygen Pulp Bleaching Plant in North America was built, and he initiated the electrolyzer concept for the continuous Sodium Chlorate Process where Chemetics is the world leader.

APEGBC

### **J. D. Dale**



Dr. James Douglas Dale has distinguished himself in the education of engineers and in fundamental and applied research. He is internationally recognized for his original contributions in laser ignition for internal combustion engines; energy losses in houses leading to modification of insulation requirements in the building codes, and the standard test method for evaluation of flame resistance clothing for protection against fire simulation using an instrumented manikin. Dr. Dale is an outstanding teacher and mentor, and has received awards for his achievements. He has been in demand for advising engineering program developments in Canada and abroad.

APEGGA, ASHARE, ASME, ASTM, CSME, SAE, CI/CS, NFPA

### **Anton Davies**



Anton Davies, Vice-President and co-founder of Rowan Williams Davies and Irwin Inc. (RWDI), is a renowned scientist and engineer in the fields of wind engineering, air quality and sustainable design, and has published numerous articles on these subjects. As one of the Principals in charge of RWDI's Wind engineering and Sustainability Teams, he has directed many of the firm's major projects such as the Boston Central Artery, Taipei 101, Masdar City, and the Expansion of the Grande Mosque in Mecca. Dr. Davies has served as Chair of the Canadian Environmental Industry Association (CEIA) - Ontario Chapter, as National Director of CEIA and Chair of the Environmental Exporters Council, and has been a member of several other governmental and university advisory boards and committees on environmental improvement.

PEO, AMS, PWMA

### **Jacques A. de Guise**



Having six patents in hand and ten more pending, as well as more than 250 scientific papers in well-known journals, and also conference reports, Jacques de Guise is without contest an international leader in biomedical imagery. With a multidisciplinary team made up of engineers and orthopaedic surgeons, he is the originator of, among other things, concrete medical tools. He is proud of his partnerships and he has developed, jointly with the Laboratoire de Biomécanique de Paris, the EOS 3D biplane imagery system, which uses 10 times less X-rays. Another of his achievements, and a product which is currently marketed, the KneeKG, offers totally new 3D imaged signature of the knee. Jacques de Guise can quite certainly boast that he has now attained a major business objective, that of being useful to society!

IRSSD, ArgoSpine

### **W. J. Murray Douglas**



The career of Professor Murray Douglas could serve as a lesson for anyone aspiring to be an outstanding chemical engineer. Together with a large body of inspired and relevant research, he has a distinguished record of service in education and industry as well as pioneering contributions to chemical engineering professional societies. His research spans the intellectual bridge of using engineering at a very fundamental level and in significant groundbreaking ways to develop novel processing methods, software and instrumentation, patented and adopted in industry world-wide. His coaching has contributed to the development of many well-trained engineering graduates. He was a prime mover in the creation of the Canadian Society for Chemical Engineering and the Interamerican Confederation of Chemical Engineering.

CSCHE, CIC, EIC

### **Robin A. L. Drew**



Dr. Drew has had an impressive career in education and research. Specializing in ceramics, metal-ceramic interactions, composites, joining and metal foams he has published over 100 journal articles and over 75 conference articles. He has held senior positions at both McGill and Concordia Universities, as Department Chair and Dean, respectively, where through mentorship, research and curricula development he has armed engineers with the skills required to support the global economy of the 21<sup>st</sup> century. He has also served on many national and international committees and symposia aimed at disseminating engineering data and furthering educational excellence.

FCIM, FIMMM (UK), IOQ, ACerS, ASM, CSME

### **Said Easa**



Dr. Said Easa has been widely recognized for his pioneering research on road safety. His research on 3D highway design has resulted in new and improved guidelines for the geometric design of intersections, roundabouts, highway curves, and railway crossings. He has published nearly 200 papers in refereed journals, led several national and international conferences, was editor of a best-selling book on GIS, and served as Associate Editor of several journals. He is the recipient of numerous best-paper and lifetime achievement awards from Canadian and U.S. organizations recognizing 28 years of distinguished contributions to teaching and research.

PEO, CSCE

### **Henry N. Edamura**



Since graduating from the University of Toronto, Hank Edamura has spent his professional career with world-renowned engineering firm MMM Group Limited, where he established himself as an expert in project and design management of airports. His engineering, managerial, leadership, and team-building skills helped MMM become a world leader in all aspects of airport development, from conceptual design to implementation, working on some of the largest airports around the globe. Mr. Edamura has served on the Executive of the Engineering Institute of Canada and on the Professional Engineers Ontario Appeal Board. He has been a Warden of Camp One since 1995 and served as Vice-Chair on the Camp Executive Committee.

PEO, CSCE, EIC, ACEC, CEO, PMI, ASCE

### **Elizabeth Anne Edwards**



University of Toronto Professor Elizabeth Edwards is an outstanding educator, engineer and researcher, whose research has been instrumental in finding feasible and effective ways to remove industrial pollutants from our soil and water. Professor Edwards has developed a microbial culture called KB-1, which destroys some of the world's most widespread groundwater contaminants at less than half the cost of traditional methods. Her research has garnered a NSERC Synergy Award for Innovation and a Killam Fellowship from the Canada Council, among other prestigious awards.

PEO, ASM, AEEPS, CIC

### **Thomas Zoltan Fahidy**



By successfully adapting numerous mathematical and statistical methods to electrochemical engineering, Dr. Fahidy has significantly widened their horizon, especially in electrochemical process dynamics and metal deposition combined with electric/magnetic fields. He is a Fellow of the Royal Society of Canada, Chemical Institute of Canada, American Institute of Chemical Engineers and Electrochemical Society. His professional stature is also shown by serving two terms as Associate Editor of the Canadian Journal of Chemical Engineering, member of various grant selection committees, CIC nuclear waste disposal review team, CEAB program accreditation team, Associate Dean for graduate studies at Waterloo, PEO examination evaluations and an impressive engineering journal publications record.

PEO, CSE, AICHE, ECS, Sigma Xi

### **John A. Goldak**



Dr. John Goldak brings to the Academy over 45 years of engineering experience. Today he is Professor Emeritus and Distinguished Research Professor at Carleton University and also principal of Goldak Technologies Inc. Dr. Goldak is a leading authority on numerical simulation of manufacturing processes having written over 225 scientific and scholarly works. He has supervised more than 50 graduate students and countless undergraduates. A pioneer in computational mechanics of complex processes such as welding and casting, Dr. Goldak is internationally recognized. His now-commercialized, world-class software suite enables designers to analyse welds early in the design of products ranging from aircraft engines to structural steel components.

AWS, CWA, CCIW

### **Ani Gole**



Dr. Ani Gole is an internationally recognized expert in power systems simulations. Through his research and joint work with such companies as Manitoba Hydro, the HVDC Centre and RTDS, he has contributed to the development of one of the most comprehensive and sophisticated numerical tools for simulating large power systems networks. The PSCAD/EMTDC program, which is a result of this research, now has over 32,000 worldwide licensed users and has been used for the design of the majority of the world's High Voltage Direct Current (HVDC) transmission systems constructed in the last decade. It is no exaggeration to say that every one of us, every day, is touched by technology that Ani helped to develop.

APEGM, IEEE

### **Peter Halsall**



As President of Halsall Associate, (one of Canada's leading engineering companies and a leader in providing green building services), Peter Halsall has led the charge to integrate sustainability into Canada's urban realm, and inspired countless colleagues, clients and communities to "do the right thing". His services on the Waterfront Toronto and City of Toronto Design Review Panels, as well as his firm's signature works – from leading edge green building projects to performance improvements in major buildings across Canada to planning input for eco-villages and net carbon zero communities – are testament to his ability to envision a better future and to engage others in making it a reality.

PEO, APEGGA, APEGBC

### **Tom Jenkins**



Considered one of Canada's most dynamic executives, Tom Jenkins has not only led Open Text to a remarkable level of success these past 20 some years, he has also played a leading role in the community. His ambition is to make Canada a global powerhouse in digital media. And to this end, Mr. Jenkins and Open Text are the key champions in establishing the Stratford Institute, a new think-tank and higher-learning centre. As CEO of Open Text, he was instrumental in the creation of one of the first internet search engines that was used by Netscape®, Yahoo!® and IBM®. In partnership with Netscape and later Microsoft, Mr. Jenkins went on to direct the development of the first Internet-based Document Management system as well the earliest versions of internet based Social Networking software.

### **Catherine Karakatsanis**



As a practicing engineer Catherine Karakatsanis cares deeply about the profession of engineering and its obligation to the public. She has had an extensive career in engineering and management and is currently Executive Vice President of Building, Technology and Energy at Morrison Hershfield. In addition to her diversified career, she has made outstanding contributions to the engineering profession by actively volunteering with the engineering community for almost two decades. Ms. Karakatsanis has been a strong advocate for promoting the engineering profession to young people with an emphasis on young females. She participates in numerous PEO and OSPE committees, having served as President and Chair of both. Catherine has served as a mentor for students considering the profession of engineering and has been a guest speaker at many events in Ontario and Canada.

PEO, APEGGA, OSPE, CEO

### **Tibor Kokai**



Dr. Kokai has become one of the foremost structural engineers practicing from Canada. He has been in charge of the structural design of such unique structures as the tallest residential tower in Canada with 78 floors, the Ritz tower in Toronto and has had involvement in the Lester B. Pearson International Airport, the Toronto Opera, and iconic structures with unique challenges around the world. He works with the best architects in the world, including Frank Gehry. He has been an innovator in earth quake resistant structures, and was the coauthor of a seminal patent in the field with colleagues in the Civil Engineering Department of the University of Toronto. As a coauthor of the CSA Committee's new standards for Design of Concrete Structures he continues to contribute to higher standards of Canadian engineering practice and public safety. He is also a member of the NRC's Standing Committee on Earthquake Design.

PEO, CSA, PTI

### **Mohamed Lachemi**



Dr. Lachemi is a well-known and internationally-respected engineering expert in the use of high performance concrete in construction. He is well recognized for his pioneering work and significant research contributions toward reducing global environmental impacts of the construction industry through the development of high-performance materials and innovative construction technologies. His research led to several industrial applications, over 140 peer-reviewed technical publications, and the training of more than 50 graduate students and postdoctoral fellows. He has also been involved in numerous collaborative industrial projects, including an international project leading to the construction of the world's first reactive powder concrete structure.

PEO, OSPE, CSCE, ACI

### **John Lee**



Dr. John Hak Shan Lee is recognized for significant theoretical and experimental contributions to the fundamentals in the field of combustion, explosion, shock and detonation waves. For significant international input, through consulting and participating on study teams, to safer engineering applications of combustion, explosions, shock and detonation waves. For specialized training of a large contingent of Canadian and international engineers in state-of-the-art research on combustion and explosion physics.

OIQ, APS

### **Martin D. Levine**



Dr. Martin Levine is a pioneer of computer-based image processing techniques and computer vision. Over the past 45 years, he has developed algorithms and processes, which have had a significant impact on society in Canada and around the world. His research has resulted in technologies ranging from automated industrial inspection to monitoring license plates of moving vehicles to security systems used internationally. In Canada, his work has led to a thriving community of researchers in intelligent machines and he was the creator of a world-class research center in the area. He was responsible for founding two computer vision start-ups and has been very actively involved internationally in his field, serving as the President of the International Association for Pattern Recognition.

OIQ, IEEE, CIFAR

### **Wenyuan Li**



Dr. Li is well recognized for his exceptional accomplishments in power system reliability and probabilistic planning. He is an author of five books, numerous papers and technical reports. One book has been translated into four languages from English. He is an inventor of patents in USA and China. The methods and computing tools he developed have produced significant benefits to the electric power industry and to university research. He has made substantial contributions to technical societies and industry organizations through tutorials, seminars, professional courses, paper reviews, editorships, committee activities and consultations at national and international levels. His achievements have been recognized by various awards and honours. He is a Fellow of the IEEE and the EIC.

EIC, IEEE

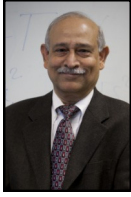
### **John McPhee**



John McPhee is recognized internationally for his leading-edge research in mechatronic system modelling, which has led to new insights into vehicle dynamics, robotics, biomechanics, and sports equipment. He sits on the Editorial Boards for 8 international journals, and has received major awards from the American and Canadian Societies for Mechanical Engineering. His oft-cited research contributions have been commercialized as computer design software that is used by more than one thousand practicing engineers. He has been a tireless promoter of system dynamics and automotive research in Canada, growing the fledgling Waterloo Centre for Automotive Research into a \$10 million/year institution, and he now holds an Industrial Research Chair funded by NSERC, Toyota, and Maplesoft.

PEO, ASME, SAE, CSME, ISEA

### **Arun K. Misra**



Arun Misra is recognized internationally for his research work in the areas of satellite dynamics and control, space robotics and aerospace structures. His work has had deep impact both in terms of fundamental understanding as well as practical applications. He has collaborated extensively with government agencies and companies. He was closely associated with the very successful Oedipus missions of the Canadian Space Agency. As an engineering educator for over three decades, he has trained a large number of students, in particular in space technology, who have enriched both engineering practice and academia around the world.

PEO, AAS, AIAA

### **Thomas Oxland**



Professor Oxland's principal areas of research and development contribution include the biomechanics of the normal and pathological spine, spinal column and spinal cord injury, orthopaedic implants and surgical techniques. He and his colleagues have documented novel surgical and medicinal approaches to treating these potentially devastating conditions. The scope of the work includes bioengineering research studies, optimizations of treatments for spinal cord injury and medical product development. Overall, his 141 journal publications have been cited over 3,100 times (Web of Science). Furthermore, he was the main research and development engineer for novel spinal implants (BAK) that remain in clinical use today, more than ten years after the initial surgeries.

APEGBC, ISSLS, ASB, ASME, ASTM, CORS

### **Gino Palumbo**



Driven by a rigorous, scientific approach and a vision to transfer basic science into tangible engineering products, Dr. Gino Palumbo has nurtured the first Canadian company to become a world leader in the design and application of nanomaterials. His over-arching philosophy has been the improvement in properties of novel materials through controlled nanostructures and grain-boundary engineering. His pioneering accomplishments have been of great value to Canada and to society in general. Dr. Palumbo has provided commendable service within professional organizations and academia. His numerous awards confirm the superb level of excellence that he has consistently achieved throughout his distinguished career.

### **Jean Paris**



Prof. Paris's efforts to implement the concept of green forestry bio-refining into paper mills make a crucial contribution to the Canadian renewal plan for the forestry industry. The installation of bio-refining units within the mills will allow them to generate new income while maintaining their production of paper products, and thus restore their profitability and remain in business, which is essential to many regional cities. He demonstrated the feasibility of this option in Kraft pulp mills, provided that the entire site attains a very high level of integration and energy efficiency (green bio-refining). This objective can be attained through the implementation of a novel methodology which he developed and has successfully applied to concrete cases.

AIChE, ASEE, SCGCh, PAPTAC, ACFAS

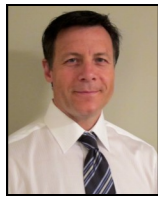
### **Gerry Price**



Gerry Price is a role model for what engineers can contribute to industry. Gerry entered the Price family business in 1977. Rising to the presidency, he proceeded to take a small prairie manufacturer to the top of its sector. At present, the Price Group of Companies supplies approximate 40% of all the non-residential air distribution equipment sold in North America. With over \$300 million in sales, Price ranks in the top 20 companies in Manitoba and among the top five manufacturing companies. The outstanding success of this company can be traced directly to the vision and drive of Gerry Price.

APEGM, ASHRAE

### **Anthony Rosati**



Tony's primary contributions are in the areas of applied cryptography and communications security. In his early career, Tony collaborated with University of Waterloo professors to learn sophisticated finite mathematics to implement the first public key chips, which launched Certicom Corp. In 1993, Tony cofounded TimeStep Corp, and successfully brought VPN technology to the Internet, contributing the original VPN protocols to the IETF standards body. In 1999, Newbridge Networks acquired TimeStep for \$125M. In 2003 Tony lead Certicom's patent licensing effort within the US Government. Today, this technology is standardized and used ubiquitously across computer and consumer electronics industries and governments alike. Tony continues to advance the state of the art in cryptograph at RIM.

PEO, IEEE

### **H. I. H. Saravanamuttoo**



Dr. Herbert Saravanamuttoo brings to the Academy over 55 years of engineering in the field of gas turbine engines, beginning in 1955 with Orenda in Malton on the Iroquois engines for the Avro CF- 105 Arrow, later moving to the UK to work on the Olympus engine for the Concorde SST. Dr. Saravanamuttoo is a superb teacher and mentor to young engineers. He is the primary author of Gas Turbine Theory, which for decades has been the seminal text in the field of gas turbine engines. His teaching and writing have influenced the development of more efficient turbines for aircraft, ships as well as for pipeline compression applications around the world in a career which has combined industrial relevance, scholarly excellence and service to our profession at the highest levels of achievement.

PEO, CASI, ASME

### **Robert Schober**



Dr. Robert Schober has made outstanding contributions to the field of wireless communication. His single-antenna interference cancellation (SAIC) algorithm for the Global System for Mobile Communication (GSM) has been licensed to several companies and implemented in hundreds of millions of mobile phones. Over the last decade he has made several pioneering contributions to the theory, design and application of signal detection in fast fading channels, space-time coding, widely-linear processing, and ultra-wideband signaling.

APEGBC, IEEE, ITG

### **David C. Sego**



Dr. David C. Sego is a world-renowned expert in permafrost and cold regions engineering and oil sands tailings research. His extensive research has bolstered Canada's international reputation for innovation in technology and research related to the arctic and natural resources development. An influential researcher and dedicated educator, Dr. Sego has contributed to the training of numerous students and practitioners globally.

APEGGA, CGS, EIC, ISSMGE, ASCE, CSCE

### **Sirish L. Shah**



Professor Sirish Shah is the pre-eminent world authority on the subject of controller performance benchmarking and process data analysis and co-author of a much referenced monograph on the subject. He has depth as well as breadth in the field of process control. His formidable forte is not only in conducting fundamental theoretical work but also in the practice of control engineering, specifically in transferring technology to industry. His research results have yielded translational tools for process and performance monitoring that are widely used by industry in Canada and internationally. He has supervised and mentored over 100 graduate students and visiting researchers.

APEGGA, CSCHE, AIChE, IEEE

### **Dawn Tattle**



Dawn Tattle has served since 1997 as President of Anchor Shoring & Caissons Ltd., a highly respected firm specializing in innovative soil retention and engineered foundation solutions. In this role she provides leadership and creative engineering solutions on high-profile, complex projects. In addition to being an industry leader, Ms. Tattle is committed to increasing the representation of women in engineering, serving as a role-model and mentor to young women considering or establishing careers in this field. She was named one of Canada's 100 Most Powerful Women in 2008 and again in 2010. She was the recipient of the University of Toronto 2T5 mid-career award in 2010.

PEO, CGS, ADSC

### **Tom Tiedje**



Dr. Thomas Tiedje, PEng, FRSC, FAPS has contributed significantly to the pioneering development of engineering and scientific knowledge, especially in the field of new semiconductor materials (through conducting extensive advanced research, prodigious publishing of refereed journal articles, eliciting numerous patents and supervising award winning graduate students); to the practice of engineering through his interdisciplinary leadership in the Faculties of Physics, Astronomy and Electrical Engineering at the University of British Columbia and through his innovative development, as Dean, of the Faculty of Engineering at the University of Victoria (through his steady advancement of a new Civil and Environmental Engineering program during a time of budgetary restraint and government deficits).

APEGBC, RSC, CAP, CISR

### **Christopher Young**



Dr. Young has distinguished himself in the service of Canada's electricity sector in his career as an engineer, business manager, plant manager, and vice-president at Ontario Power Generation by exercising leadership in ensuring the efficient, reliable and environmentally-friendly operation and maintenance of power plants, and in stimulating the development of new technologies for achieving these aims. In particular, he is to be commended for spearheading one of the nation's ground-breaking initiatives for reducing the dependency of thermal electric power generation on fossil fuels by aiming to convert Ontario's coal fired generating units to burn alternative fuels, including conversions to 100% biomass fuelling, thus stimulating the creation of new biomass industry and biomass fuel supply chain.

PEO

### **Weihua Zhuang**



Weihua Zhuang is a Professor in Electrical and Computer Engineering at the University of Waterloo, and holds a Tier I Canada Research Chair in Wireless Communication Networks. She is an internationally recognized expert in radio resource allocation and service quality provisioning for broadband wireless communications. Her pioneering work on channel precoding, mobile user location, Global Positioning System (GPS) receiver modeling and analysis, and radio resource management has enabled advances in engineering design and industrial products. Her outstanding achievements have been recognized by numerous awards and honours. She is a Fellow of IEEE and the Editor-in-Chief of IEEE Transactions on Vehicular Technology.

PEO, IEEE

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