



News Release

Forty-nine new Fellows and two Honorary Fellows inducted into the Canadian Academy of Engineering

St. John's – (June 26, 2014) – President Richard J. Marceau inducted 49 new Fellows and two new Honorary Fellows into the Canadian Academy of Engineering on June 26, 2014. The ceremony took place in St. John's, in conjunction with the Academy's 2014 Annual General Meeting and Symposium. Dr. Marceau commented: "The Academy warmly welcomes its new Fellows, all of whom are engineers of exceptional ability. Each of these outstanding individuals of widely varying backgrounds, no matter whether they working in Industry, Academe and Government, has demonstrated the ability to perform beyond normal engineering practice and contribute in exemplary ways towards their respective disciplinary fields, and to the wider community. The Academy, which recently has published major reports in education, energy and innovation, looks forward to the valuable contributions these new Fellows will make in helping it inform the public policy debate in Canada for the benefit of all Canadians." Citations and photographs for each of the new inductees follow.

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 CAE 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. Fellows of the Canadian Academy of Engineering 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.

For additional information or interviews, please contact:

Kevin Goheen, Ph.D., P.Eng.
Executive Director
Tel: (613)235-9056 x 223
E-mail: kgoheen@cae-acg.ca

NEW FELLOWS 2014

HONORARY FELLOWS

C. W. (Clem) Bowman



Clement Willis Bowman is an outstanding Canadian chemical engineer who has, with the participation of colleagues, formulated a vision of a National Energy Strategy. Throughout a long career spanning sixty years he has provided exceptional leadership in the development of Canada's petroleum resources, notably with Imperial Oil, Syncrude Canada, the Alberta Oil Sands Technology and Research Authority (AOSTRA) as its Chairperson, the Alberta Research Council as its President, and the Canadian Academy of Engineering as leader of the Energy Pathways Project. Furthermore, he pioneered the widely used ProGrid methodology for decision making and continues as Advisor to the Bowman Centre for Commercialization of Technology, Western University Research Park in Sarnia.

Terence H. Matthews



Sir Terence Matthews is a highly unusual blend of talented engineer, technology visionary, and evangelical salesman who has an enviable international reputation for leadership in innovation. Through his hard work and tenacity he has become one of Canada's most successful entrepreneurs. He has founded or funded over 90 companies that have developed and sold new Canadian technologies around the world, creating wealth and providing thousands of jobs for Canadian engineers in the process. He has set up organizations to provide mentoring and funding that are helping others do the same. He has given back richly to the community, making contributions and donations, representing millions of dollars and in kind, to improve and enhance healthcare, education & entrepreneurship.

FELLOWS

Paul Acchione – President, Chair and Acting CEO, Ontario Society of Professional Engineers



Paul Acchione is the 2013-14 President and Chair of Ontario Society of Professional Engineers. The Society benefited from Paul's experience and determination to establish itself as a public policy advisor. He is instrumental in expanding the role of engineers as public policy advisers. He successfully raised the profile of engineers in Ontario and continues to encourage engineers to contribute to public policy development. His leadership contributes to public recognition of the value of engineers to society. He believes engineers offer unique and valuable skills and experience that are essential in developing effective public policies in areas that are highly technical.

W. James Beckett – Principal, Beckett Consulting



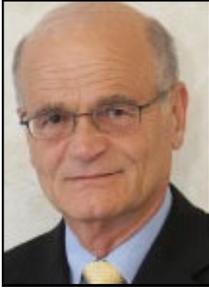
The hallmark of Jim Beckett's career is Leadership. He led ATCO's development of then state-of-the-art computer systems to optimize transmission and distribution assets. His leadership assisted Alberta to develop the legislation which de-regulated the electric and natural gas utilities industries through the Electric Utilities Act of 1995 and subsequent legislation, and he helped to lead the ATCO transformation from vertically integrated utilities to "pipes and wires" providers. He also led the P3 that took over the Provincial Government's mapping services. More recently, he has led the engineering profession as President of APEGA and currently serves as President of Engineers Canada.

Jonathan Beddoes – Dean, Faculty of Engineering, University of Manitoba



Dr. Jonathan Beddoes is Dean of Engineering at the University of Manitoba, but has a career that spans manufacturing, research in industrial and government laboratories, as well as extensive experience in academia. Dr. Beddoes has led research on intermetallics and superalloys for elevated temperature gas turbine applications and aluminum alloys. He is the co-author of two books dealing with industrial processing of materials. Recently, as Dean of Engineering, he championed the development of new education and research facilities for power engineering and construction materials. Under his leadership as Chair of Mechanical and Aerospace Engineering at Carleton University, programs in Biomedical and Mechanical Engineering and Space Systems Engineering were developed.

Andrew Benedek – Executive Chair and Chief Technology Officer, Anaergia Inc.



After doing research on wastewater treatment as a professor at McMaster University, Andrew Benedek founded ZENON Environmental in 1980 to develop cost-effective membrane technologies for recycling wastewater. He continued as Chairman and CEO until 2006 when ZENON was sold to General Electric. At that time ZENON had annual sales of \$250 million and employed 1,500 people worldwide. He is currently Executive Chair and Chief Technology Officer of Anaergia Inc., which offers advanced technologies for anaerobic digestion and waste processing. Dr. Benedek has received honorary doctorates from McGill, McMaster and Ottawa Universities and many other awards and prizes.

Gilbert J. Bennett – Vice President - Lower Churchill Project, Nalcor Energy



Gilbert Bennett is the Vice President - Lower Churchill Project at Nalcor Energy where he leads the development of the \$6.2 billion hydroelectric project including the advancement of project engineering and market development, environmental assessment and other regulatory activities, and aboriginal consultation. This project marks an important step towards providing a clean, renewable source of electricity to meet the province's growing energy demands and to practically eliminate our thermal electricity generation. Gilbert is a member of the Professional Engineers and Geoscientists of Newfoundland and Labrador and serves on the Canadian Hydropower Association's Board of Directors, Memorial University's Board of Regents and the College of the North Atlantic's Board of Governors.

Xiaotao Bi – Professor, Dept. of Chemical and Biological Engineering, University of British Columbia



Dr. Xiaotao Bi has made outstanding contributions to the advancement of fluidization engineering, particularly on flow regimes, choking, electrostatics and dynamic signal interpretation. He has also made significant contributions to broad areas of engineering practice, explored applications of novel reactors to clean energy conversion systems, particularly on thermal cracking of heavy oil, thermochemical conversion of forest biomass residues and animal wastes, catalytic removal of flue gas NO_x, monitoring/reduction of electrostatics from polymerization reactors, and water management in fuel cells. He has played key roles in incorporating sustainability into engineering training and practice, by developing green engineering, clean energy, and engineering and public policy courses and programs at UBC.

Douglas A. Buchanan – Professor, Dept. of Electrical & Computer Engineering, University of Manitoba



Dr. Douglas Buchanan is a professor in the Department of Electrical and Computer Engineering at the University of Manitoba, and held a Canada Research Chair in Microelectronic Materials for 10 years. He is a Senior-Member of the IEEE, a member of the American Institute of Physics, and is recognized world-wide for his work on modern silicon chip technology. Among his many prestigious awards are a Research Division Award and an Outstanding Technical Achievement Award obtained during his tenure at IBM Research. His work has been published in over 95 journal articles and has resulted in 32 patents over the past 25 years.

Kevin Englehart – Director, Institute of Biomedical Engineering, University of New Brunswick



Dr. Kevin Englehart is recognized internationally in the field of Biomedical Engineering as a leader in developing effective and affordable prosthetic control systems and powered prostheses. His outstanding work has resulted in significant advances in real-time multifunction prosthesis control – offering new state of the art options to adults and children with limb displacements. His work is widely cited in the literature, and his collaborative approach has led to national and international research projects (both fundamental and clinical) with such institutions as the Rehabilitation Institute of Chicago and the US Defense Advanced Research Projects Agency (DARPA).

Uwe Erb – Professor, Dept. of Materials Science and Engineering, University of Toronto



Professor Erb of the University of Toronto pioneered the first Canadian initiative on nanostructured materials and was co-founder of the first Canadian spin-off company in the area of nanomaterials. His research group is the acknowledged world leader in the synthesis, characterization, property evaluation and commercial application of nanostructured materials produced by electrodeposition methods. He has an exceptional publication record and has given exemplary service to professional organizations. Initiator of the Youth Outreach Program: “nanOntario”, Learning Nanotechnology from Ontario’s Great Outdoors, an award winner and an excellent mentor for young engineers, Professor Erb has supervised the research activities of over one hundred and seventy students and visiting scholars.

Judy A. Fairburn – Executive Advisor, Cenovus Energy Inc.



Judy Fairburn is a leader in environmental stewardship in Canada's petroleum industry. She has built on her strong technical / operational skills to advance significant evolutions in oil sands processing and carbon reduction that have had significant environment and economic impact. She has successfully engaged highly qualified teams to innovatively solve complex technical challenges. She is a role model and mentor in her community. Her key role in Canada's Oil Sands Innovation Alliance shows the confidence that the oil sands leadership has in Judy as a catalyst for improved environmental performance for the industry.

Clément Fortin – President-Director General, CRIAQ



From his experience as Military Pilot in the Royal Canadian Air Force to professor and researcher at the Royal Military College of Canada and Polytechnique Montreal, to Polyplan Technologies, a spin-off company he created in 1999, to his leading role as President and CEO at the Consortium for Research and Innovation in Aerospace in Quebec (CRIAQ), Dr. Fortin has demonstrated a unique and extraordinary passion for education and for pushing scientific frontiers and finding engineering sustainable solutions, notably in the field of Product Life Cycle Management and Manufacturing Management (PLM).

Brian L. Garrod – Executive Vice President, Hatch Mott MacDonald



Brian Garrod has played a pivotal role in some of the most challenging and innovative tunnelling projects of the past several decades: the Channel Tunnel, Boston Harbor Outfall, Dulles Airport tunnel, San Francisco's BART extensions and TTC's Sheppard Subway. From this background he has helped establish tunnelling in North America as a cost-effective, predictable and safe construction practice, as is demonstrated by the portfolio of recent and current tunnelling projects in Southern Ontario: OPG's massive new Niagara Diversion Tunnel , the Spadina Subway Extension, York Region's Southeast Collector tunnels, Metrolinx's Eglinton Crosstown subway, and Metro's Coxwell Bypass, as well as the long-awaited pedestrian tunnel to Toronto's Billy Bishop Airport.

Ibrahim J. Gedeon – Chief Technology Officer, TELUS Corporation



Ibrahim Gedeon has made globally recognized contributions to next-generation communications systems. As Senior VP, Wireless Engineering, for Nortel Networks, he pioneered automated core provisioning and IP for wireless. As TELUS CTO since 2003, he has led development of its digital IPTV service, and the first integrated MPLS national core for wireless and wireline traffic. He played a pivotal role in establishing the IPShere 2008 telecommunication network. Leading TELUS' wireless network evolution, he has helped move Canada towards adoption of HSPA and LTE technologies. Since 2008, he has been included on Global Telecoms Business Power100 list four times.

Clermont Gignac – Executive Director, Modernisation of the University Health



Centres of Montreal, Quebec Ministry of Health and Social Services
Clermont Gignac was Deputy Minister of three major ministries in Quebec, the most noteworthy being the Ministry of Transportation. He then became Vice President of Bombardier Transportation for North America; he established an integrated project management system and was in charge of fulfilling the design, manufacturing and commissioning stages totalling more than \$5 billion, namely the New York City and Mexico City subways. Since 2005, reporting to the Minister of Health, he is the Executive Director responsible for the modernization of the three Montreal University Health Centres, a \$6.3 billion program implemented under three public-private partnership agreements, a first for the Quebec public sector. He has been playing a paramount role in the realisation of those complex world-class construction projects.

Ray Gosine – Associate Vice-President (Research), Memorial University of Newfoundland



Dr. Ray Gosine, Associate Vice-President (Research) and former Dean at Memorial University of Newfoundland, is an innovator, educator and academic leader with a longstanding commitment to university-industry collaboration and to the transfer and commercialization of university research to benefit Canada. He has been successful in building research partnerships and generating millions of dollars in investments to Memorial. The Province has profited from his student mentorship as a Research Chair and from his encouragement for his students to identify and address real industrial challenges leading to the creation of their own technology businesses, now employing almost 200 people. His academic work is highly regarded with over 100 peer-reviewed publications in leading international journals and conferences.

Baining Guo – Principal Researcher, Microsoft Research Asia



Dr. Guo is an international authority in computer graphics who is renowned for his work on surface texture and appearance models and Poisson mesh deformation. Dr. Guo is a technology leader who has demonstrated the ability to transfer laboratory work into high impact products used by tens of millions of people worldwide. He is a key contributor of the technology innovations in “Halo 3” game engine, and several core technologies of Microsoft Kinect motion control platform. Dr. Guo has been recognized with some of the most prestigious honours in computer science, including FACM and FIEEE.

Feridun Hamdullahpur – President, University of Waterloo



As a practicing professional engineer, educator, researcher and administrator, Feridun Hamdullahpur has educated and advised many engineers, professional civil servants, senior political office holders and United Nations officials. His decades of academic and professional contributions to the field of engineering have resulted in training of highly qualified personnel and to establishing more effective public policy to enhance the quality of life and health of many in Canada and around the world. As president of the University of Waterloo, Dr. Hamdullahpur has enabled the University of Waterloo to be ranked among the Top 50 in the world for Engineering and Technology for the last two years, helping to position Canada as a global leader in the field of engineering.

Terry W. Hennigar – President, Terry Hennigar WATER Consulting



Terry Hennigar is a leading authority on Nova Scotia’s groundwater and hydrogeology, most notably that of Sable Island National Park Reserve. His provincial, municipal and internationally practiced expertise includes contaminant hydrogeology, large scale groundwater supplies and geothermal systems. Mr. Hennigar has published and edited numerous technical papers and was an expert reviewer of the Council of Canadian Academies publication on Sustainable Management of Canada's Groundwater. In addition to two decades as an Adjunct Professor of graduate courses at TUNS, he has contributed extensively to the engineering profession through service as provincial and national Chairs of Technical and Professional Societies.

Nancy E. Hill – Principle, Hill & Schumacher



For more than 20 years, Nancy Hill has demonstrated exceptional leadership in working to improve the engineering profession and the status of women. For example, as chair of Ontario's Women in Engineering Advisory Committee (WEAC), harassment was first included in the definition of professional misconduct in Ontario's Professional Engineers Act Regulations and the Guideline on Human Rights in Professional Practice was published. Ontario took the lead on its position on harassment and this had a profound, lasting and influential impact on the status of women in the engineering profession and has been a beacon for other associations across Canada to emulate.

Steve E. Hrudehy – President, Steve E. Hrudehy and Associates Ltd.



Over Dr. Hrudehy's 43 year career, he has pioneered interdisciplinary expertise in public health plus engineering to address human health impacts of environmental problems, particularly safe drinking water. He is acknowledged as one of Canada's leaders in environmental risk assessment, management and communication. He served as an expert on the Walkerton Inquiry and developed the preventive risk management methodology that underpins recent international drinking water guidelines. Dr. Hrudehy has sought effective use of evidence in public decision-making, serving on 25 expert panels. His peers have recognized his significant contributions awarding him Fellowships with the International Water Association (2010) and the Society for Risk Analysis (2007).

Christopher G. Huskison – President and CEO, Emera



Chris Huskison is a pioneer in the energy sector in Canada and internationally. Since his appointment as President and CEO of Emera Inc. in November 2004 the company has more than doubled its assets, from \$4 billion to over \$9 billion. Under his leadership Emera has expanded its strategic energy services and infrastructure in the Northeastern US, Atlantic Canada, St. Lucia, Grand Bahama and Barbados. Chris has led capital and service based initiatives such as a pumped storage hydro-electric facility, natural gas pipelines, gas-fired power plants, an energy services company and a renewable tidal energy company. Currently, Chris is part of the driving force behind the development of the Maritime Link project facilitating the movement of clean energy from Newfoundland and Labrador into Nova Scotia, and beyond.

Janusz A. Kozinski – Founding Dean and Professor, Lassonde School of Engineering, York University



Dr. J. Kozinski is an internationally-renowned higher education leader, researcher and entrepreneur, and one of the most widely acknowledged experts in sustainable energy systems and immune building concepts. He founded the Lassonde School of Engineering at York University, one of the most ambitious projects in Canadian academia, and led the formation of a Renaissance Engineering program that is empowering creative minds to become entrepreneurial engineers with a social conscience and a sense of global citizenship. He sees the necessity and beauty in bringing people together to not only solve the problems of today and tomorrow, but to challenge each other to improve the social fabric of their societies.

Sridhar (Sri) Krishnan – Professor, Dept. of Electrical and Computer Engineering, Ryerson University



Sri Krishnan has made outstanding and innovative contributions to engineering education, and to the growth and momentum of research and innovation at Ryerson University. A Canada Research Chair and leader in biomedical research, Sri pioneers new ways to diagnose illness, supporting less invasive and lower cost procedures. His contributions have resulted in an enhanced understanding of cardiac rhythms, sleep signals, knee sounds and other biomedical signals. At Ryerson, Sri led the establishment of the undergraduate program in biomedical engineering (the only accredited biomedical engineering program in English Canada) and the doctoral program in Electrical and Computer Engineering.

Pierre G. Lafleur – Director, Academic & International Affairs, Polytechnique Montréal



Pierre G. Lafleur has pursued a career as a professor, researcher and academic administrator. His research has focused on the transformation of polymers, and more specifically on the relationship between processes, microstructures and properties. He developed original online measurement methods and simulation software products used for polymer extrusion and blending. He worked on R&D projects for several Canadian and international rubber and plastic companies. As a Chief academic officer, he spearheaded a major reform of the 12 programs at the École Polytechnique, focusing on design and cross-curricular skills. Under his direction, the student retention rate was improved even though the number of students increased considerably.

Claude Laguë – Dean and Professor, Faculty of Engineering, University of Ottawa



As an agricultural engineer, Claude Laguë has made unique contributions to the development of agricultural machinery and to agricultural engineering education. He developed and validated the Wide-Span Implement Carrier (WSIC) concept as an alternative to traditional agricultural field machinery systems. As an academic leader at three Canadian universities, Dr. Laguë has been a tireless promoter of engineering entrepreneurship. Since 2006, he has led paradigm-shifting change in the Faculty of Engineering of the University of Ottawa, making it one of the most graduate student-intensive engineering faculties in Canada. Dr. Laguë is also serving on the boards of directors of not-for-profit organizations that serve the engineering profession.

Earl A. Ludlow – President and CEO, Newfoundland Power



Earl Ludlow, originally from Joe Batt's Arm, Fogo Island, NL, is the President and Chief Executive Officer of Newfoundland Power. He is highly regarded and well-known in the Canadian utility industry for his operational and engineering knowledge and expertise. He is strongly committed to providing customer service excellence in a region that experiences some of the most severe weather conditions in North America. He has received many honours for both his service to Canada and the Province including the Queen Elizabeth II Diamond Jubilee Medal and named five times by Atlantic Business magazine as one of Atlantic Canada's Top 50 CEOs including induction into their Hall of Fame in 2013.

Carmine Marcello – President and CEO, Hydro One Inc.



Carmine Marcello's leadership at Hydro One has transformed the company into the utility of the future by taking the engineers' expertise in process and logic and applying it to the challenges of his organization today. The architect of the Company's technology road map, the corporation is now a leader in grid security, the protection of privacy, asset analytics, the development of the Smart Grid and the safe, reliable connection of clean energy. Carmine's relentless drive also focuses on improving efficiency by harnessing the power of data to get the absolute most out of system investments and deliver value for customers.

Argyrios Margaritis – Professor, Department Of Chemical and Biochemical Engineering, Western University



Dr. Argyrios Margaritis has made significant research contributions in biochemical engineering, biotechnology, and the emerging area of nanotechnology. He is a world-renowned expert in the areas of bioprocess and novel bioreactor design, biofuels production from renewable raw materials, biopolymers and their applications in the biopharmaceutical industry, including biomedical applications. He played an important role with Professional Engineers Ontario in promoting the emerging new engineering disciplines: Bioengineering, Nanotechnology and Molecular Engineering. He has been recognized by the OPE Engineering Medal in Research & Development, and for his service to the profession: Officer, Order of Honour, Volunteer Service Award, 25 Year Service Award, and Fellow of Engineers Canada.

Edward Arthur McBean – Professor, School of Engineering, University of Guelph



Dr. McBean is an eminent scholar, world-class expert and Canada Research Chair in Water Supply Security at University of Guelph. He has authored two books, 17 edited books, over 280 journal papers and has received many awards. Ed has given expert advice to 65 countries and to organizations, including the World Bank, UNESCO, UNDP, & CIDA. During his nine year tenure as VP at Conestoga-Rovers & Associates, a consulting company providing diverse engineering services in Canada, USA and UK, the company grew from 800 to 2600 staff members and Ed is acknowledged as the individual who put the word 'world' in www.CRAworld.com.

Lloyd A. McCoomb – Chairman of the Board, Canadian Air Transport Security Authority



Lloyd McCoomb has had an outstanding career in transportation and engineering management spanning more than four decades. In his roles as Vice-President, Planning and Development, and later President and Chief Executive Officer of the Greater Toronto Airports Authority, Dr. McCoomb successfully managed the \$4.4 billion airport modernization and expansion program of Toronto Pearson International Airport. His previous senior positions have involved airport planning, operations and marketing, traffic and transit research, and environmental engineering. Dr. McCoomb received the Ontario Professional Engineers Medal (Management Category) as well as a number of public service awards from the Government of Canada.

Peter G. Noble – Offshore, Marine and Arctic Technology Advisor, Noble Associates LLC



Canada has the longest coastline in the world and is surrounded by three great oceans. Peter Noble has spent his career working on the design of vessels and offshore structures with a particular focus on Canada's North. He has provided visionary leadership in these areas and has pioneered work by industry to address problems of ship design in ice-covered waters. His activities have included a wide range of applications, from icebreaker design to LNG tankers, to the use of ice tank testing for design of ice-going ships. His leadership and contributions have been recognized by his election as the first Canadian President of the Society of Naval Architects and Marine Engineers.

Ding-Yu Peng – Professor, Dept. of Chemical and Biological Engineering, University of Saskatchewan



Dr. Peng is a world-renowned thermodynamicist who, with Dr. D.B. Robinson, was first able to predict the properties of complex petroleum fluids at various conditions more accurately. He is the co-developer of the Peng-Robinson equation of state, which is used worldwide by petroleum producers and refiners and is featured in most chemical engineering thermodynamics textbooks. The equation has been cited in over 4500 peer-reviewed publications. He is a Fellow of the Chemical Institute of Canada and recipient of the Donald L. Katz Award from the Gas Processors Association and the Award for Innovative Excellence from the Canadian Gas Processors Suppliers Association. He co-founded D.B. Robinson and Associates in 1980 which was acquired by Schlumberger Canada in 2003.

G. Ross Peters – Professor Emeritus, Faculty of Engineering and Applied Science, Memorial University of Newfoundland



Dr. Ross Peters has made exceptional contributions and outstanding service to the engineering profession, particularly in Newfoundland and Labrador. He served as the dean of engineering at Memorial University for two terms (1982-1993) and led its engineering programs to be fully accredited and highly regarded across Canada and internationally. He served as the Director of the Canadian Council of Professional Engineers (1983-84) and Chair of the National Committee of Deans of Engineering and Applied Science (1990-91). He also served with distinction as the President of the Association of Professional Engineers of Newfoundland (1982-1983). Dr. Peters has served the engineering profession with outstanding contributions and achievements in engineering education and research.

Nicole A. Poirier – President, KoanTeknico Solutions Inc.



Dr. N.A.Poirier has distinguished herself as an exceptionally creative and eclectic innovator, an entrepreneur and a respected R&D manager. She developed and commercialized new paper drying technologies. She co-founded an environmental technologies company which commercialized a small-scale gasification unit, and developed an innovative electrochemical approach for treatment of wastewater, which is particularly useful for applications with situational constraints, such as military installations, ships, or isolated northern communities. As Scientific Director of a Business-led research network, she established and managed a broad portfolio of industrial and university research aimed at developing innovative applications for nanocellulose in a wide range of industries.

Shen-En Qian – Senior Engineer, Optical Payloads, Canadian Space Agency



Dr. Qian is a top scientist at the Canadian Space Agency with 30 years' experience. He has provided leadership to Canadian industry and academia in the development of space technologies for Earth observation, Lunar and Mars missions. He holds 16 patents developed in Canadian government laboratory. His inventions provided solutions that have overcome technical challenges to the Canadian optical space missions. He has solved the problem of transmitting huge satellite data to ground by using onboard data compression. He has enhanced satellite performance using signal processing approaches. He has developed three international standards for satellite data systems. He has authored five books and over 100 papers. He is an elected fellow of the International Society of Optics and Photonics Engineering.

Charles James Randell – President & CEO, C-CORE



Charles Randell started his career in research and development at C-CORE as a technician blowing up icebergs and, through education and dedication, has worked his way up to his current role as President and CEO. He has a substantial record of success in initiating, negotiating and stewarding multi-million-dollar, multi-national collaborations for industry and government, comprising dozens of international partners and with values often in the tens of millions. Dr. Randell serves on the Board of Directors for Ocean Networks Canada and the Saskatchewan Research Council as well as numerous national and provincial advisory councils. In 2012, Charles was named as one of Atlantic Canada's Top 50 CEOs.

Robert J. C. Reid – President, Mackenzie Valley Aboriginal Pipeline LP



Robert Reid is a most talented professional engineer who has the unique capability of resolving not only highly technical challenges but also complex, multi-disciplined and extremely contentious issues, many with major political and national overtones. Mr. Reid has utilized his skills and leadership in many ways. His most recent stunning success brought the NWT Aboriginals into a one-third ownership interest in the Mackenzie Valley Pipeline without major capital outlays or commitments. For the benefit of Canadians Reid's creative, intellectually sound, politically endorsed, and economically viable concepts brought closure to several contentious natural gas marketing/transportation issues.

James E. (Ted) Robertson – Principal Consultant, Ted Robertson Consulting



Ted Robertson is, without question, one of the most eminent automotive engineers worldwide. He has risen to the most senior engineering executive positions in the automotive industry and was responsible for the design and production of over 15 million vehicles on the road. As a leader, he has been invited by the top associations to sit on their boards, including the Society of Automotive Engineers International, the International Federation of Automotive Engineers Worldwide, and AUTO21. His many honours include the Green Car Vision Award, Truck of the Year, SUV of the Year, Hall of Distinction Award, Electrifying 100 Award, and President of the SAE.

Edward H. Sargent – Professor and Canada Research Chair in Nanotechnology, Dept. of Electrical and Computer Engineering, University of Toronto



Edward Sargent is Professor and Canada Research Chair in Nanotechnology at the University of Toronto's Department of Electrical and Computer Engineering. He serves as Vice-Dean, Research for the Faculty of Applied Science and Engineering. Prof. Sargent has conducted ground-breaking research in nanotechnology, applying novel quantum-tuned materials to the realization of full-spectrum solar cells and ultra sensitive light detectors. The impact of his work has been felt in industry through his formation of two start-up companies. He is a Fellow of IEEE and of the AAAS and received the 2012 NSERC Steacie Prize.

Dimitry G. Sediako – Senior Research Officer, Canadian Neutron Beam Centre



For pioneering neutron diffraction studies of solidification kinetics and evolution of solid phases of lightweight alloys, enabling both development of new aluminum-silicon alloys for automotive industry and technological solutions for achieving reduced residual stress, and improved microstructure. Results of this research were used in improvement of manufacturing technologies in engine block casting and heat treatment. His innovations in magnesium casting led to stable casting operations in manufacturing of new advanced alloys and assisted in the continued employment of Canadians in this industry. Dr. Sediako has received a number of international awards for his research from Russia, China, and Taiwan.

Heather Sheardown – Professor, Dept. of Chemical Engineering, McMaster University



Heather Sheardown has built on her background in Chemical Engineering and become an accomplished, multidisciplinary Biomedical Engineer and Scientist with a breadth and depth of expertise and experience. Through her work at McMaster University, she is recognized internationally for her contributions to the design of new ocular materials and drug delivery systems. She has many patents covering the breadth of potential applications of materials in the eye. She has worked extensively with industrial partners, performing relevant research. After spending the last 5 years running a highly successful research network, she has an excellent understanding of clinical and manufacturing needs and uses her skills as an Engineer to overcome these challenges.

Jeanette M. Southwood – Global Sustainable Cities Leader | Canadian Urban Development & Infrastructure Leader, Golder Associates



An award-winning engineer, Jeanette Southwood is a Principal at Golder Associates, a global, employee-owned firm of more than 8,000. She has made outstanding contributions to the engineering profession, society and the community through her distinguished volunteer service on several Boards over the years and as Golder's Global Sustainable Cities Leader and Canadian Urban Development & Infrastructure Leader. One area of focus is strategic integration of cutting-edge international innovation and knowledge into value-creating urban resilience solutions. She has authored many papers, made numerous presentations, taught university and other courses, and been recognized with national, provincial and local honours for her leadership.

Afzal Suleman – Professor and Canada Research Chair, Dept. of Mechanical Engineering, University of Victoria



Dr. Suleman is a Canada Research Chair who has conducted high impact and fundamental work in the area of Computational and Experimental Mechanics, with application to Aerospace Engineering such as: Aircraft Design, Multidisciplinary Design Optimization, UAVs, Experimental Flight Testing and most importantly Systems Integration of Complex Engineering Systems. He has made contributions to the engineering profession through the development of technologies, transfer of technology to industry and leadership in policy-making bodies such as NATO and UN-COPUOS. He has also demonstrated a commitment to the training of highly qualified personnel with supervision of over a hundred theses in mechanical and aerospace engineering, all while also performing his University of Victoria governance responsibilities as Associate Dean Research and Associate VP Research.

Yu Sun – Professor, Dept. of Mechanical & Industrial Engineering, University of Toronto



Yu Sun is a Professor at the University of Toronto and the Canada Research Chair in Micro and Nano Engineering Systems. A global leader in the development of micro-nano robotics and device technologies for biomedical, clinical, and precision instrumentation disciplines, he has invented automated processes for cell manipulation that are revolutionizing how genetic studies, cancer research, and clinical cell surgery and diagnostics are conducted. Dr. Sun is a Fellow of the ASME (American Society of Mechanical Engineers), the CSME (Canadian Society for Mechanical Engineering), and the EIC (Engineering Institute of Canada). He was a 2013 NSERC E.W.R. Steacie Fellowship awardee.

Owen Tobert – City Manager, City of Calgary (retired)



For ten years, Owen Tobert, P.Eng., MBA, has been the City Manager for The City of Calgary, with an annual operating budget of almost \$3 billion, a yearly capital budget of \$2 billion and 15,000 employees. He reached this highest non-elected position in the City through many years of excellence in increasingly senior engineering positions within the City. Owen has made significant impacts on the City of Calgary through the introduction of a corporate project management framework, increased financial planning, fostering of a culture that puts citizens first, and the City's excellent response to the devastating June 2013 flood.

James Tranquilla – Chief Technology Officer, Atlantic Hydrogen Inc



For pioneering contributions to the research, development, and application of microwave technology in mining and refining industries, including translation of university research into practical commercial products and systems, and invention, development, engineering and reduction to practice of the world's first commercial microwave plants for treatment of arsenical ores and production of low-cost and low-greenhouse gas hydrogen and solid carbon, and for international leadership in the research, development and application of electromagnetics to space-based and military programs.

Arun J. Valsangkar – Professor Emeritus, Dept. of Civil Engineering, University of New Brunswick



Dr. Arun Valsangkar is a dedicated engineer who has achieved excellence from both academic and industry perspectives. Nationally recognized first as a researcher and educator at UNB, Dr. Valsangkar has also made invaluable contributions to geotechnical engineering practice in Canada through hundreds of projects as a senior consultant with Jacques Whitford/Stantec. His work as Editor of the Canadian Geotechnical Journal contributed to its recognition as one of the world's leading journals in this field. Recognized by his peers for excellent teaching and mentorship, outstanding research, professional practice, and years of service to Canadian engineering, he is an outstanding example of the benefits that accrue from university-industry cooperation.

John Vlachopoulos – Professor Emeritus, Dept. of Chemical Engineering, McMaster University



Dr. John Vlachopoulos, of McMaster University, is a world leader in polymer processing. He has published more than 130 refereed papers, of significant impact in the thermo-mechanical processing of polymers. He has converted several algorithms, used in his publications, into user friendly software packages and licensed them to numerous corporations in 30 countries, through a spin-off. He offers short courses to industry professionals, in seven languages, and he is an active industry consultant worldwide. He has been honoured by the Education Award, the Extrusion Division Outstanding Achievement Award of the Society of Plastics Engineers (USA) and The S.G. Mason Award of the Canadian Society of Rheology.

Charles Peter Watson – Deputy Minister, Executive Council, Government of Alberta



C. Peter Watson, P.Eng. has led a distinguished career in the Alberta government, culminating in his present responsibilities as Deputy Minister to the Premier, Secretary to Cabinet and head of the Alberta public service. He is highly respected for his personal leadership, unwavering integrity and ability to forge consensus among diverse interests. Bringing an engineering perspective and systems thinking to Alberta's two most technically complex and challenging ministries, Environment and Energy, Mr. Watson has had a formative personal role in the development of many significant policy frameworks and strategies, including Water for Life - Alberta's Water Strategy, Alberta's Climate Change Regulatory Framework, and Alberta's approach to cumulative effects environmental management.

