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

News Release

Forty-three new Fellows inducted into the Canadian Academy of Engineering

Winnipeg – (June 27, 2016) – President Douglas Ruth inducted 43 new Fellows into the Canadian Academy of Engineering on June 27, 2016. The ceremony took place in Winnipeg, in conjunction with the Academy's 2016 Annual General Meeting and Symposium. Dr. Ruth commented: "We welcome the new Fellows. They are engineers of outstanding abilities. While they have widely varying backgrounds, from Industry, Academe and Government, what they all have in common is the demonstrated desire and ability to go beyond the normal practice of engineering and contribute in exemplary ways towards their fields and to their communities. We expect great achievements through their participation in the Academy's activities. In our past, Fellows of the Academy have produced major studies in the fields of education, energy and innovation; we look forward with boundless anticipation as to how these new Fellows will build upon these good works and explore new and exciting areas of engineering and its impact on public policy." 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 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) 235-4836
E-mail: kgoheen@cae-acg.ca

NEW FELLOWS 2016

Suzelle Barrington - Consulting Engineering, Consumaj Inc

Suzelle Barrington was recognized for her significant contributions to the engineering profession through a Queen Elizabeth II Diamond Jubilee medal. As Professor in Environmental Engineering at McGill University, she produced design criteria acknowledged worldwide, such as earthen wastewater storage facilities and odour-dispersing natural wind breaks. From 2010 to 2014, she held a International Research Chair with l'Université Européene de Bretagne, where she guided and coordinated the research efforts of 4 groups, and successfully introduced new management concepts in organic waste management and gaseous emission control. Finally, she created international opportunities for several Canadian companies.

William Breukelman - Chairman, Business Arts Inc.

William (Bill) Breukelman is a successful entrepreneur and engineer with over 50 years of Canadian and international leadership experience. The companies he has led have significantly advanced the fields of imaging, analytical geochemistry, and geophysics. Mr. Breukelman was a co-founder and Chairman of IMAX Corporation, co-founder and President of Sciex Ltd. and President of Fischer & Porter Company. He is Chairman and Principal of Business Arts Inc. and founder and director of several cutting-edge imaging ventures. Mr. Breukelman was appointed an Officer of the Order of Canada and received the Queen Elizabeth II Diamond Jubilee Medal, recognizing his long-term entrepreneurial service and achievements in Canada and globally.

Thomas Brown - Professor Emeritus, University of Calgary

Dr. Brown is a distinguished structural engineer with accomplishments in teaching, research and practise. He is internationally recognized as an expert in Arctic Engineering, especially for his work relating to Confederation Bridge, the world's longest over ice-covered water and one of Canada's top engineering achievements. His dedication to this project over 20 years has included determination of design ice loads and their measurements which have provided exceptional new knowledge to the engineering community and for graduate research which he has ably supervised. Recipient of numerous teaching awards, he has also received awards from ACI and CSCE acknowledging his contributions to structural engineering in Canada through projects as diverse as the COP bobsled/luge track and Ductal concrete bridges.

NEW FELLOWS 2016

Bruno Bussière - Professor and Industrial NSERC Chair, Université du Québec en Abitibi-Témiscaminque

Bruno Bussière, a prominent mining engineer with 25 years of experience, has had a tremendous impact in the field of mining wastes management and site reclamation. His exceptional contributions through innovative work are recognised and highly praised across Canada and around the world. His findings have led to the development of new and original techniques to prevent the production of contaminated waters (i.e. acid mine drainage, AMD, and contaminated neutral drainage, CND) for operating and closed mine sites. He publishes regularly (135 referred papers and 200 conference articles) and has contributed to the training of 60 specialists, while solving challenging problems. He has received prestigious awards suchs as the 2004 CGS Colloquium and the 2012 ADRIQ-NSERC prize for his IRC.

Christophe Caloz - Professor, École Polytechnique Montréal

Highly cited author, winner of many awards and distinctions, IEEE Fellow Dr. Christophe Caloz has pioneered concepts, theories, techniques and applications in electromagnetics engineering and technology, notably in metamaterials, nano-electromagnetic structures, smart antennas and radio systems. He has published over 600 refereed journal, letter and conference papers (more than 40% invited), thirteen books or book chapters; he holds a dozen patents. He co-founded two start-ups, and has acted as advisor to several companies. He is active in various technical society committees, journal boards and conference organizations. A frequent invited speaker around the world, he is considered a leading authority in electromagnetics.

Glen Carlin - Chief Executive Officer, The Jacques Cartier-Champlain Bridges Inc.

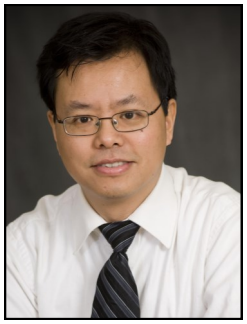
Glen P. Carlin, CEO of JCCBI, dealt excellently with the challenging redecking and other serious deterioration problems with Champlain, Jacques Cartier and Mercier Bridges in Montreal with innovative solutions. Glen Carlin was CSCE Quebec Region Vice-President (2004-2006). He was honoured for his outstanding contributions with CSCE Fellowship (2003), EIC Fellowship (2016), Grand Prix de l'Association des Ingenieurs-Conseils du Quebec (Jacques Cartier Bridge Redecking), and Prix Meritas of the Ordre des Ingenieurs du Quebec (Champlain Bridge Rehabilitation). M. Carlin has also proved his communication skills in interviews with the media, and his teaching and supervision of technical projects at local universities.

NEW FELLOWS 2016

Ambrish Chandra - Professor, ÉTS, Université du Québec

Key differentiator of Dr. Chandra's work is in simplicity and practicality of new solutions in two areas: 1) power quality improvement in distribution systems, 2) integration of renewable energy sources with improved power quality features. He has done ground breaking research in these two areas and has published hundreds of research articles many of those have now become de-facto standards world-wide. Presently, he is involved in many industrial projects in collaboration with other researchers. Google Scholar citations of his pioneering research work are very high, emphasizing the impact of his work. He is coauthor of a book titled 'Power Quality: Problems and Mitigation Techniques', published by John Wiley & Sons. He is a Fellow of many organisations, including IEEE, EIC, and IET.

Jie Chen - Professor, University of Alberta



Professor Chen is a world-leading expert in biomedical devices. His research on designing miniaturized ultrasound devices for dental tissue formation was listed by "Reader's Digest" as a major medical breakthrough in Canada. Over 20 news media worldwide also reported the invention. He is the author of 7 patents, 155 scientific articles and 2 books. He has supervised 68 graduate students and helped found two companies. One was acquired by QUALCOMM, and the other produces digital HD-radios sold in Walmart and BestBuy. He has received prestigious awards including IEEE Fellow, IEEE distinguish Lecturer, Killam Professorship, McCalla Professorship and Fellow of the Engineering Institute of Canada.

J. J. Roger Cheng - Professor and Department Chair, Dept. Civil & Environ. Eng., University of Alberta

Dr. J. J. Roger Cheng is the C.W. Carry Chair in Steel Structures and Chair of the Department of Civil and Environmental Engineering at the University of Alberta. Dr. Cheng is an international leader and expert in steel and cold-formed steel structures, rehabilitation of structures using fiber reinforced composite materials, structural health monitoring, and design and behaviour of steel energy pipelines. He is the author of more than 90 refereed journal publications and more than 150 refereed conference publications. His expertise has led him to be a highly sought after member of technical communities. He was the recipient of the 2016 APEGA Centennial Leadership Award and was inducted as a Fellow of the Canadian Society for Civil Engineering (CSCE) in 2004.

NEW FELLOWS 2016

Steven Cockcroft - Professor, The University of British Columbia

For significant contributions as a globally recognized expert in manufacturing process engineering through industrial experiments and modelling of casting processes and defects with over 15 top Canadian and International producers; a recognized world expert on aluminum alloy wheel casting and aerospace-grade titanium remelting; and for over 25 years of outstanding contributions to the UBC Engineering Community through excellence in teaching of undergraduates, educating of over 50 graduate students, pivotal contributions as Dept. Head and Dean Pro Tem in hiring the next generation of faculty members, and championing the use of UBC facilities as a "Living Laboratory" for alternative energy research.

Elizabeth Croft - Associate Dean, Faculty of Applied Science, UBC

Dr. Croft is an internationally respected figure in robotics, particularly robot trajectory planning and human-robot interaction. She has written over 150 scholarly articles in these broad areas. Dr. Croft is an international leader in recruiting women into engineering. As the NSERC Chair for Women in Science and Engineering, and as Associate Dean of Engineering at UBC, Dr. Croft was a prime driving force behind the almost doubling of the number of women in engineering at UBC. Dr. Croft's service and research excellence have been recognized through the awarding of major provincial, national, and international awards.

Sankar Das Gupta - Chair and CEO, Electrovaya Inc.

Dr. Das Gupta has pioneered numerous innovations including inventing an electrochemical reactor for industrial water pollution abatement & recycling, furnaces for experiments in space, ceramic glow plugs that reduce diesel engine emissions, and an unique non-toxic process for manufacture of the world's most powerful lithium ion batteries with wide application in marine, automotive and energy storage sectors; He developed the first Lithium Ion powered electric car in North America and also in Europe. CEO & co-founder of Electrovaya Inc., Dr. Das Gupta has over 100 publications including over 50 US patents, and is the recipient of numerous international recognitions. An Adjunct Professor at the University of Toronto, he has facilitated knowledge exchange between industry and academia and is an excellent mentor for young engineers.

NEW FELLOWS 2016

Andrew Daugulis - Queen's Research Chair in Biochemical and Cell Culture Engineering, Queen's University

Andrew Daugulis holds the Queen's University Research Chair in Biochemical and Cell Culture Engineering, and is an expert in industrial bioprocessing applied to the production of biofuels and high value chemical intermediates. He originated, and has licensed, the Two-Phase Partitioning Bioreactor (TPPB) technology platform which allows the selective partitioning of target toxic molecules to, or away from, microbial cells – maintaining inhibitory molecules at sub-toxic levels, and allowing microbes to operate at their highest efficiency. Daugulis continues to define, and successfully demonstrate new opportunities for TPPB applications, including advances in the development of "green" solvent-free industrial bioprocessing.

Sadik Dost - Professor, University of Victoria

Dr. Sadik Dost's leads Canadian research in both theoretical and experimental aspects of Liquid Phase Electroepitaxy (LPEE) growth of binary and ternary materials. He developed, for the first time, complete mathematical models for LPEE, and performed experiments with and without the application of magnetic fields. His experiments under magnetic fields increased growth rates of LPEE over tenfold, making the process commercially viable for growth of high quality crystals. This discovery introduced a new material coefficient, magnetic mobility. He is a Fellow of the EIC and an Honorary Professor at Shizouka University, and was Honorary Chair of CAMCAM in 2009.

Hoda ElMaraghy - Professor, Industrial & Mfg. Systems Eng, University of Windsor

Hoda ElMaraghy is a distinguished scholar, accomplished researcher and inspiring mentor. Professor ElMaraghy is an international expert in "Products design and Manufacturing Systems Paradigms, Productivify and Competitiveness. Her pioneering innovative research in flexible manufacturing was a game changer enabling companies to be adaptive and agile. ElMaraghy's impact in engineering, research and education is recognized with many honors and awards. She is Tier I Canada Research Chair in Manufacturing Systems. She has over 450 publications and trained more than 100 Master and PhDs. Professor Hoda ElMaraghy is an exceptional role model. She is the first woman Dean of Engineering in Canada.

NEW FELLOWS 2016

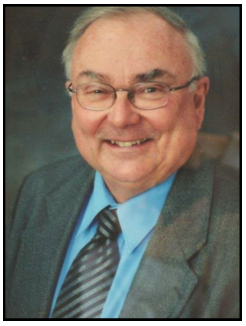
Samantha Espley - General Manager, Mines and Mills, Vale Limited

Samantha Espley is a trailblazer for women in the mining industry. Currently General Manager of Mines Geology and Technical Services for Vale's Ontario Operations, she is the first woman to hold this role, and has been the first woman appointed to many of the senior technical and management positions she has held throughout her career. She has authored and presented several papers on advancing women in engineering and worked within the industry to increase diversity. Ms. Espley is a former president of Women in Science and Engineering Sudbury and has held leadership roles in many other engineering organizations. She received the 2015 Engineers Canada Award for the Support of Women in the Engineering Profession and was named one of 100 Global Inspirational Women in Mining in 2013.

Liping Fang - Prof. and Assoc. Dean, Undergraduate Programs and Student Affairs, Ryerson University

Dr. Liping Fang, as Associate Dean and Department Chair, played a key leadership role in greatly expanding engineering programs at Ryerson University at the graduate and undergraduate levels and enhancing student curriculum choices across programs. He has significantly advanced the field of systems engineering through his pioneering work in devising conflict resolution methodologies, which are used in 28 countries, with applications in different areas of engineering for providing strategic advice to stakeholders. He is Fellow of EIC and the recipient of several awards from IEEE and INFORMS and Ryerson's most prestigious awards in academic leadership and research.

John Gruzleski - Emeritus Professor, McGill University, Department of Mining, Metals and Materials Engineering



Professor Gruzleski's significant metallurgical contributions include oxidation, inclusion formation and hydrogen effects on alloy behaviour. His pioneering studies on microstructural influence of strontium helped make this element the foundry industry's most widely used structural modifier. Through his collaboration with Timminco Metals, this Canadian company became the world's largest producer of strontium. Former Dean of Engineering at McGill and Director of the School of Engineering at the University of Guelph. Professor Gruzleski has been an academic leader in engineering education, and has given exemplary service to professional organizations, serving on journal editorial boards and promoting university-industry collaboration. The recipient of international awards, he has authored over one hundred and fifty papers and three books.

NEW FELLOWS 2016

Jason Gu - Professor, Dalhousie University

Dr. Gu is a Professor in Electrical and Computer Engineering at Dalhousie University. He is an internationally recognized researcher in control, robots and Biomedical Engineering with 260 published conferences and journal papers. He has developed the world first miniature robotic device to enable natural movement of an eye implant with several patents to give the vision to bionic eye, which has potential to benefit over 250 million people visually impaired. His works on robotics vision, surgical robotics, bilateral operation, control theory have been published on distinguished IEEE journals and have been cited worldwide. Dr. Gu is a Fellow of the EIC.

Kimberly Keating - Vice President Fabrication, Cahill Group

Kim Keating has made significant engineering contributions to key projects in the North Atlantic offshore oil and gas industry which have powerfully contributed to transforming Newfoundland and Labrador into one of Canada's "have" provinces. In addition to this, her volunteer service, leadership and impact in her community are widely recognized through her involvement with Memorial University's Board of Regents, the Rhodes Scholarship in Canada regional selection committee, Women in Science & Engineering (NL), the International Women's Forum (NL), and as the 40th Chair of the St. John's Board of Trade, the principal voice of over 900 businesses in Newfoundland and Labrador.

Heather Kennedy - Hearing Commissioner (part-time), Alberta Energy Regulator

Heather Kennedy is a strong champion for responsible development of communities associated with Canada's oil sands. As a corporate executive with Suncor Energy, a regulator, and an operations manager, Heather has strong commitment to safety, operational excellence and development of people and communities. Close collaboration, planning, adaptability and commitment from key stakeholders are all elements of her approach that has helped the oil sands area evolve into a place for people to live, work and play. This is evidenced through her work as Vice Chair of the 2015 Western Canada Games Committee and a board member of Athabasca University. Heather is a pioneer for women in the resource sector and has coached and mentored many young women to successful careers of their own.

NEW FELLOWS 2016

Nazir Kherani - Professor, University of Toronto

Nazir Kherani, Professor at the University of Toronto jointly appointed in the Department of Electrical & Computer Engineering and the Department of Materials Science & Engineering, has made sustained contributions in the fields of tritium science and technology, silicon solar photovoltaics, and photonic crystal - device integrations. Specifically, these include innovative tritiated semiconductor materials and devices, record setting heterojunction silicon materials and solar cells, and photonic crystal studies. Dr. Kherani's achievements have been recognized through numerous awards including the Early Researcher Award, the Ontario Research Foundation - Research Excellence Award, and the Professional Engineers' Engineering Medal in Research and Development.

Witold Kinsner - Professor, Dept. of Electrical & Computer Eng., Univ. of Manitoba

Over the last 43 years, Dr. Witold Kinsner has been involved in research on robust real-time algorithms and software/hardware computing engines for signal and data compression in cognitive machines and systems. His major contributions are in the areas of (i) polyscale signal analysis (a new approach), (ii) reconfigurable, synchronous, self-synchronizing semiconductor semiconductor computer memories, and (iii) magnetic bubble memories and devices. He supervised 70 postgraduate theses, over 200 capstone students, with over 730 publications in the areas. In 1978, he co-founded the first Microelectronics Centre in Canada at the University of Manitoba. He has served on CEAB accreditation teams, and was elected as 2014-2015 IEEE Canada President-Elect and 2014-2015 IEEE Region 7 Delegate-Elect/Director-Elect.

Georges Kipouros - Dean of Engineering, University of Saskatchewan

Professor Kipouros has made significant contributions to the fundamental aspects and practical applications associated with metals processing. Working with industry led to production of refractory metal coatings for tool steels. He has worked hard to bridge the gap between academia and industry having worked for many years at General Motors Research and returned to spend a Sabbatical at GM Technical Center. Founding Chair of the Canadian Metallurgy/Materials Education Council, he has championed international collaborations between industry and academia serving as Technical Advisor to NATO's Science for Peace Program: "Electrochemical Production of Mg-Nd Alloys". He has presented courses for industrial personnel, has over 170 publications and supervised over fifty researchers. Dean of Engineering at the University of Saskatchewan, recipient of international awards, he is an ambassador for the Engineering profession.

NEW FELLOWS 2016

Deepa Kundur - Professor, University of Toronto

University of Toronto Professor Deepa Kundur is conducting path-breaking engineering research at the interface of information processing and cyber security, creating key technologies for security of digital media and 'smart' infrastructure. She has introduced paradigm-shifting approaches for ensuring copy protection and tamper-proofing of digital media. Professor Kundur is a leading authority on vulnerabilities in smart-grid infrastructure systems. She is regularly invited to participate in invitation-only task forces and meetings related to cyber security for critical infrastructure and has chaired international conferences and workshops in this area. Professor Kundur is a Fellow of IEEE.

Richard L'Abbé - CEO, Med-Eng Systems

Richard J. L'Abbé has achieved international recognition for his contributions to the research, design, production, and commercialization of personal protection systems for bomb disposal applications. Under his leadership as co-Founder, President, and CEO of Med-Eng Systems, Inc., the company exported its industry-leading Canadian technology to over 120 countries and territories worldwide. Med-Eng diversified into several other fields and its electronic counter measures technology was credited with saving countless lives during the wars in Iraq and in Afghanistan. Mr. L'Abbé's leadership style led to the establishment of high-performance technical teams that were focused on market requirements.

Jingli Luo - Professor, University of Alberta

Dr. Jingli Luo is a professor and was a Canadian Research Chair in Alternative Fuel Cells (2004-2015). An internationally known scholar, her outstanding achievements in research on fuel cells and corrosion control are widely acknowledged. She pioneered several non-conventional fuel cells that co-generate electricity and value-added products. Dr. Luo holds six patents and led three NSERC Strategic Projects. She has published over 270 papers in referred journals and received the Canadian Metal Chemistry Award and Morris Cohen Award from the Metallurgy and Materials Society. She has supervised 114 graduate students/postdoctoral fellows and three of her Ph.D students are now university professors.

NEW FELLOWS 2016

Jeannette Montufar - Professor, University of Manitoba

Jeannette Montufar has demonstrated outstanding leadership and innovation in the areas of road and pedestrian safety, commercial vehicle operations, traffic engineering and education. She is past President of the Canadian Institute of Transportation Engineers, past Chair of the US Transportation Research Board's Truck Size and Weight Committee, founder of the Team Canada Alliance for Transportation Teaching, and recipient of TAC's Educational Achievement Award in 2013. Her contributions have been recognized with various honours and awards, including a YMCA/YWCA Woman of Distinction Award and the first-ever Global Media Women in Leadership Award. She has authored more than 125 technical articles and 100 major reports, and has an extensive record of volunteering in promoting educational opportunities for underprivileged women in science and engineering.

Michel Nakhla - Chancellor's Professor, Carleton University

The career of IEEE Fellow, Michel Nakhla, Chancellor's Professor, Carleton University, spans 40 years of academic and industrial contributions. Winner of several best paper awards, he made trend-setting achievements to the state of the art in computer-aided design of large scale and high-speed VLSI circuits and systems. These include harmonic balance algorithms for fast simulation of radio frequency and microwave circuits, model-order reduction techniques to handle large-scale circuits, and innovative macromodeling algorithms to model high-speed distributed interconnects. He has published over 350 peer-reviewed research articles and has provided an exemplary leadership and service as educator, R&D engineering manager, and researcher.

Gregory Naterer - Dean and Professor, Memorial University of Newfoundland

Dr. Greg Naterer, Dean of Engineering and Applied Science, has successfully led the significant growth of engineering enrolments, infrastructure, and research capacity at Memorial University. He has made significant contributions to mechanical engineering in the fields of energy systems, heat transfer and fluid mechanics. Dr. Naterer has received numerous awards and he is a Fellow of CSME, ASME and EIC. He has held prominent leadership roles, including Chair of the National Council of Deans of Engineering and Applied Science of Canada, and Editor-in-Chief of two international journals – AIAA Journal of Thermophysics and Heat Transfer; and Energy and Policy Research.

NEW FELLOWS 2016

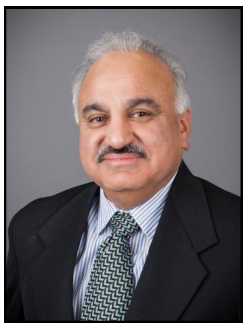
Andrew Pape-Salmon - Associate, Senior Energy Specialist, RDH Building Engineering Group

Andrew Pape-Salmon is a recognized authority on efficient energy consumption and utilization of renewable energy by new and retrofit buildings and within communities in Canada and the United States. He is a sought after advisor to sub-national and local governments, utilities, building owners and NGO's on strategy development and economics. He is the leading proponent of a bi-national Roadmap to Resilient Ultra-Low Energy Buildings under which new buildings would be net-zero energy and emissions by 2030 and existing buildings would be 30 to 70% lower. Under his leadership, case studies in ten provinces, territories and states and by the United States Army are being evaluated.

Milica Radisic - Professor and Canadian Research Chair, University of Toronto

Professor Milica Radisic is an international leader in the fields of biomedical and cardiovascular tissue engineering. She has pioneered electrical field stimulation for cultivation of functional heart tissue in the laboratory, leading to innovative new approaches to testing drugs in vitro on arrays of human tissues. Her groundbreaking research on the design and development of bioreactors for cardiac tissue engineering based on stem cell derived cardiomyocytes and biomaterials has led to accolades such as the NSERC E.W.R. Steacie Fellowship, the Engineers Canada Young Engineer Award, and inclusion in MIT Technology Review's Top 35 Innovators under 35.

Manoj Sachdev - Chair, Electrical and Computer Eng. University of Waterloo



Dr. Sachdev is an internationally recognized pioneer, innovator, and engineer whose contributions to integrated circuit engineering have had profound impacts on both academia and industry. He has successfully exploited his deep knowledge of integrated circuit design, VLSI reliability, yield and testability to propose novel yet pragmatic circuit solutions. He holds over 30 patents in these areas, and has contributed to more than 190 publications, five books, and two book chapters. His original work has led to technologies with unparalleled reliability and efficiencies. This legacy of research has contributed directly to our fundamental understanding of Integrated Circuit performance and the impacts of current manufacturing processes and technology scaling on these devices.

NEW FELLOWS 2016

Vinay Sharma - CEO, London Hydro Inc.

Dr. Vinay Sharma is an outstanding leader of one of a major Ontario electricity distribution utilities, among those evolving into smarter grids by exploiting the advances in information technology through applications such as smart meters and Green Button Standards for augmenting operational efficiencies. As the CEO of London Hydro, he and his management team won several North American, National and Ontario Awards and recognitions. In addition to this outstanding governance, business management and engineering skills he has exceptional people skills which are observed through enhanced corporate culture, customer engagement and relationships of trust with the shareholder and other stakeholders of London Hydro. He has a recognized engineering design, analysis and research record. He is a leader in all aspects of engineering and governance of technologically advanced electricity distribution systems.

Xueliang Sun - Prof., Canada Research Chair (Tier 1), University of Western Ontario

Xueliang (Andy) Sun, PhD, is a Professor at Western University and Canada Research Chair in Nanomaterials for Energy Conversion and Storage. A global leader in developing solutions to solve critical and long-standing problems in clean energy, Sun is creating nanotechnologies and nanomaterials to develop fuel cells and lithium batteries better able to generate, store and conserve energy. This research will help address energy shortages and environmental challenges for transport applications in a cost-effective way. Sun's research discoveries and innovative solutions have been published in top science and engineering journals and resulted in a high number of citations.

Murray Thomson - Professor, University of Toronto

University of Toronto professor Murray Thomson is an internationally known researcher in the areas of alternative fuels, pollution control and combustion sensors. He has contributed significantly to the advancement of knowledge in these fields and several Canadian companies have benfited from his research. Among his many accomplishments, he has developed four patented industrial sensors which allow reductions in energy consumption and emissions through better monitoring. Professor Thomson has also made extensive contributions to his professional community; he is Director of the NSERC CREATE Program in Clean Combustion Engines and Vice-Chair of the Canadian Section of the Combustion Institute. He is a Fellow of CSME and Engineering Institute of Canada.

NEW FELLOWS 2016

Paitoon Tontiwachwuthikul - Professor, University of Regina

Tontiwachwuthikul's greatest achievement as a professor, researcher, and administrator has been leading the development and implementation of the University of Regina's flagship research program in Carbon Capture and Storage. He achieved this by establishing the Petroleum Technology Research Centre, and by co-founding the International Test Centre for CO2 Capture. His innovative research made the University of Regina the recognized world leader in CCS research and development and created one of the strongest research groups in the world. He has supervised over 80 students at PDF, Ph.D., M.A.Sc. levels and has published over 300 publications in highly prestigious journals and conferences.

Honghi Tran - Professor of Chemical Engineering, University of Toronto

Professor Honghi Tran's contributions to the pulp and paper industry over the past three decades have been truly extraordinary. They include his research advances in energy and chemical recovery which have saved the industry hundreds of millions of dollars, his leadership of 10 highly successful industrial consortia based at U of T and involving more than 50 companies around the world, his supervision of 87 graduate students and over 100 undergraduate students, his publication of over 270 technical papers, and his many leadership positions in his professional community. Professor Tran has won several major awards given out by the pulp and paper industry, including the Pulp and Paper Technical Association of Canada's most prestigious honour, the John S. Bates Gold Medal.

Douglas VanDine - President, VanDine Geological Engineering Limited

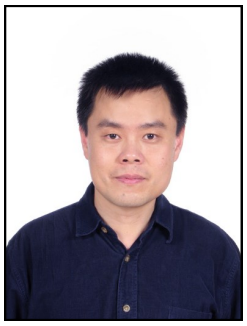
Mr. Doug VanDine P.Eng., P.Geo., FEIC, FEC, FGC, has provided outstanding leadership in engineering geoscience through the development and application of expertise on natural hazards and landslides in Canada. His work has played a significant role in decreasing risk, preventing loss of life, and reducing damage to homes and infrastructure in British Columbia. His pioneering work on landslide recognition, analysis and prevention is a credit to Canada's engineering and geoscience professions. His long service and leadership within the professional engineering community and its associations are exemplary.

NEW FELLOWS 2016

Antonio Vannelli - Dean, College of Physical & Engineering Science, University of Guelph

Dr. Vannelli has exemplary leadership in engineering education in Canada. He has guided outstanding growth at U. of Guelph where enrollments have tripled, female became Canada's highest, and research funding doubled. Tony accomplished these amazing results during very difficult funding environments, using leadership and innovation in education delivery, strategic planning, and insightful alumni engagement. While Chair of Electrical and Computer Engineering at Waterloo, he guided growth from 37 to 70 faculty members, and implemented the first Nanotechnology Engineering program in North America. These were accomplished all while demonstrating research leadership in Power Systems Engineering and receiving accolades for his classroom teaching.

Zhou Wang - Professor, University of Waterloo



Zhou Wang is a global leader and one of the world's most cited authors in the field of visual perception-based image quality assessment, processing, and compression. His work on the Structural Similarity (SSIM) algorithm created a paradigm change in the field. The SSIM method is used for video quality assurance throughout the global media delivery industry, directly affecting tens of millions of viewers daily. Prof. Wang is a Fellow of IEEE, a recipient of NSERC's Steacie Memorial Fellowship, a member of RSC's College of New Scholars, Artists and Scientists, and a winner of a Television Academy's Engineering Emmy Award.

Jiujun Zhang - Principal Research Officer, National Research Council of Canada

Dr. Jiujun Zhang, FISE, FEIC, FRSC, has excelled in all aspects of his research and professional career. He is a world-renown expert in electrochemical engineering with over 400 publications and over 18,000 citations. He is one of the pioneers of modern fuel cell technology and has also made significant contributions to the engineering of batteries, sensors, and other electrochemical devices. His many awards include election as a Fellow of the International Society of Electrochemistry, a Fellow of the Engineering Institute of Canada, a Fellow of the Royal Society of Chemistry, and being listed as one of "The 3000 World Most Influential Scientific Minds" by Thomson Reuter. He presently holds the highest technical rank of Principal Research Officer at the National Research Council and has co-founded and served as the Chairman/President of the International Academy of Electrochemical Energy Science.

NEW FELLOWS 2016

Ying Zheng - Professor, University of New Brunwick

Ying Zheng, a professor of UNB,is the Canada Research Chair in Chemical Process and Catalysis. She is an expert in catalysis and catalytic processes for production of clean fuels and biofuels. She authored over 120 technical publications and holds five patents. A couple of technologies have been transferred to industrial practice. She also has an outstanding record of professional leadership and service, and received significant recognitions including being elected to the College of New Scholars of the Royal Society of Canada, Fellowship of the Chemical Institute of Canada and the Humboldt Research Fellowship, and the 2010 Syncrude Canada Innovation Award.