

RSC NEW FELLOWS 2009 /NOUVEAUX MEMBRES DE LA SRC 2009

ACADEMY OF ARTS AND HUMANITIES ACADÉMIE DES ARTS, DES LETTRES ET DES SCIENCES HUMAINES

Division of Arts

CROZIER, Lorna – Department of Writing, University of Victoria

Lorna Crozier is a poet, essayist, teacher and mentor whose brilliant imagery has gained national and international acclaim. In 1992, Crozier's *Inventing the Hawk* won the Governor General's Award for poetry. She has authored 15 books of poetry; several are in third and fourth printings. Translations of her work are read the world over. Crozier's poetry has been widely anthologized, appearing in volumes used as university texts, including the *Oxford Anthology of Canadian Literature* and *Open Field: An Anthology of Contemporary Canadian Poets*. Her creative non-fiction has been published in major anthologies such as *Dropped Threads*, edited by Carol Shields. In 2009, Greystone Books published her first collection of prose, *Small Beneath the Sky*.

EGOYAN, Eve – Performing Arts, Music

A concert pianist who specializes in new solo piano compositions, Eve Egoyan's definitive performances and recordings have already earned her the title "a composer's dream". Her honours include numerous commissions and awards from the Canada Council and the Ontario Arts Council, FACTOR, a Distinguished Alumna award from the University of Victoria, a K.M. Hunter Award, a German Academic Exchange Scholarship, a Commonwealth Scholarship, and a Chalmers Award. She has premiered works by Canadian and International composers, receiving uniform praise from audiences and artists both at home and throughout the world. In turn she has commissioned new pieces, initiated experimental sound works, composed and performed for film and dance.

INGRAM, Liz – Department of Art and Design, University of Alberta

Liz Ingram pushes the boundaries of traditional printmaking. Technically complex, emotionally nuanced, and intellectually engaging, her work also goes beyond the exploration of technical process and self-expression to insist on the artist's role in giving voice to diversity in our dynamic society. It has been recognized in exhibitions across the globe, from Shanghai to Krakow and Edmonton to Bhopal. Museums and galleries collect her work so that visitors in Berlin, Montreal, Tokyo, and Toronto can experience and learn from her art. For more than thirty years she has worked to promote excellence in printmaking in Canada and abroad.

JACKSON, Christopher – Department of Music, Concordia University

Christopher Jackson est le co-fondateur du Studio de musique ancienne de Montréal, dont il est le directeur artistique depuis 1988. Diplômé du Conservatoire de musique de Montréal, Christopher Jackson a complété sa formation en Europe, où il s'intéressa particulièrement aux grands maîtres de la polyphonie vocale du Baroque et de la Renaissance. Organiste renommé, claveciniste et chef de chœur, Christopher Jackson a fait carrière aussi bien en France, au Luxembourg, en Espagne qu'en Amérique du Nord. Plusieurs de ses concerts ont été enregistrés (sous étiquette Analekta et ATMAClassic). Il a été aussi doyen à la Faculté des beaux-arts de l'Université Concordia à Montréal. L'Université Sudbury, en Ontario, lui a décerné un doctorat honorifique en 1999 pour sa contribution au monde de la musique.

O'BRIAN, John – Department of Art History, University of British Columbia

John O'Brian is an internationally respected historian of art, visual culture and art criticism with particular reference to North America in the Twentieth-century. A leader in innovative analysis of the relation between artistic practice, theory and public culture, Dr. O'Brian has demonstrated in his many publications the intrinsic importance of Canadian art and contribution to wider discourses. He has also curated a series of highly regarded exhibitions on the institutionalization of Modern art, the politics of landscape painting and the uses of photography in the Cold War. His prize-winning books include studies of Henri Matisse and Clement Greenberg's criticism.

PIECZONKA, Adrienne – Performing Arts, Music

Dramatic and stunning, Canadian soprano Adrienne Pieczonka is hailed for her beauty of "tone that can bloom into radiance or shrink to a whisper" (Daily Telegraph). Internationally renowned, she performs on leading opera and concert stages throughout Europe, North America and Asia. Following critically acclaimed performances in Bayreuth and Toronto, she is now widely considered to be the 'Sieglinde of our time' (Die Walkiire). Adrienne Pieczonka is a remarkable Canadian 'export' - her voice, her stage craft, her personality all combine to make her one of the world's leading sopranos with international opera houses competing for her presence.

RATZLAFF, Leonard – Department of Music, University of Alberta

Dr. Ratzlaff's achievements as a choral conductor and educator, already recognized by the Alberta Award of Excellence and the Order of Canada, emerge from his innovations in choral technique, which he has drawn from the bel canto singing tradition. The strength and distinctiveness of the sound he brings about in performance and recording give his choirs a recognizable, singular, and widely admired personality. As a result, his choirs have won an unmatched record of prizes at choral festivals and competitions. Dr. Ratzlaff co-directs the first and still most important Canadian graduate program in choral conducting, whose graduates are active all over the world.

Division of Humanities

BATTERMAN, Robert – Department of Philosophy, University of Western Ontario

Robert Batterman is Professor of Philosophy, Rotman Canada Research Chair in Philosophy of Science at the University of Western Ontario, and co-founder of the J.L. Rotman Institute of Science and Values. He is an internationally recognized authority in the philosophy of science and the philosophy of physics. He has made substantial and ground-breaking contributions in a number of areas including explanation, reduction, and the role of idealization in science. He has pioneered new approaches in the philosophy of physics, specifically in statistical mechanics and condensed matter theory where his work on the renormalization group has both redirected and reshaped philosophical debates about the nature of mathematical explanation and emergence in physics. His book and articles are cited frequently and have served as catalysts for changing the direction of research in philosophy of physics in several areas.

BELL, John – Department of Philosophy, University of Western Ontario

John Bell is Canada's leading logician and philosopher of mathematics. His writings, renowned for their clarity and elegance, span a wide spectrum, including such topics as set theory, modal logic, continuum theory, space-time theory, and the philosophy of mathematics. His work is never merely technical: it always connects with deep questions of philosophy. He is best known for a highly influential theory of mathematics as "local" rather than absolute, for the rehabilitation of early accounts of infinitesimals, and for demonstrating the constructive validity of Frege's derivation of arithmetic from logic. Several of his books are widely acknowledged classics in the field.

CHAMBERS, J.K. – Department of Linguistics, University of Toronto

J.K. (Jack) Chambers is Professor of Linguistics at the University of Toronto. He is author of Sociolinguistic Theory (3rd ed 2009) and Dialectology (with Peter Trudgill, 2nd ed. 1998), first editor of The Handbook of Language Variation and Change (2002), and other books. His articles include "Canadian Raising" (1973), "Dialect Acquisition" (1992), "Sociolinguistics of Immigration" (2003), "Canadian Dainty" (2004) and "Sociolinguistics and the Language Faculty" (2005). He maintains a parallel vocation in jazz criticism, including the biographies Milestones: The Music and Times of Miles Davis (Da Capo 1998) and Bouncin' with Bartok: The Incomplete Works of Richard Twardzik (Mercury 2008).

ESLING, John – Department of Linguistics, University of Victoria

John Esling is a phonetician known internationally for his auditory and articulatory phonetic research on laryngeal/pharyngeal function in speech. His innovative laryngoscopic investigations of speech sounds in the languages of the world form the basis of the Laryngeal Articulator Model of the vocal tract. His reinterpretation of voice quality classification and of the International Phonetic Association chart has proven highly productive in explaining the organization of sounds in linguistic systems. The research group he directs, the Infant Speech Acquisition Project, is widely recognized for its pioneering discoveries of how infants' earliest vocalizations develop into speech sounds.

GAMMEL, Irene – Department of English, Ryerson University

Irene Gammel, Canada Research Chair in Modern Literature and Culture at Ryerson University, has made major, internationally acknowledged contributions to the scholarship of modernism and to the study of Lucy Maud Montgomery. Her biography of Dada artist Elsa von Freytag-Loringhoven, along with a bilingual edition of her poetry, has established Gammel as one of the foremost researchers of the avant-garde and its appropriation by mainstream cultures. An exhibition curated for the centenary of Anne of Green Gables, in addition to numerous publications on its author, have helped to consolidate Lucy Maud Montgomery studies as an academic field.

KNOWLES, Richard – School of English and Theatre Studies, University of Guelph

Ric Knowles is the foremost scholar of Canadian theatre of his generation. He is also an expert in Shakespearean theatre and in contemporary theories of theatre production and performance. Two of his fifteen books are ground-breaking studies: *The Theatre of Form and the Production of Meaning: Contemporary Canadian Dramaturgies* (1999), was the first analysis of Canadian theatre practice from a sophisticated, theoretical perspective, and it remains the benchmark study in the field; *Reading the Material Theatre* (2004), highly acclaimed on the international scene, is an illuminating, rigorous, wide-ranging, comparative exploration of "materialist semiotics" in theatre production and reception in Britain, the United States, and Canada. Ric Knowles enjoys a prestigious national and international reputation as a superb speaker, innovative thinker, and imaginative critic; few scholars today have his intellectual range and scholarly depth.

PELLETIER, Francis Jeffrey – Philosophy, University of Alberta

Francis Jeffrey Pelletier has made contributions of lasting importance to the Philosophy of Language, Linguistics, History of Philosophy, Logic and the Philosophy of Logic, Cognitive Science, and Artificial Intelligence. It is a record that stands alone, here and abroad, for the importance of its findings and the complexity of its research design. With graduate degrees and appointments in Philosophy, Computing Science, and Linguistics, Pelletier is a logically sophisticated philosopher who has drawn on all three fields in his research to make multidisciplinary contributions that are original, important and linked.

POOLE, Russell – Department of English, University of Western Ontario

Russell Poole is a prominent and highly prolific scholar in the field of medieval studies. His principal scholarly interests span Old English, Old Icelandic, Medieval Latin, and Old Irish language and literature; Anglo-Saxon and medieval Scandinavian history; and the evolution of medieval scholarship. His publications have achieved international recognition and acclaim for their innovative applications of textual criticism, literary and linguistic theory, cultural studies, and historiographic source criticism to an array of very difficult primary sources, in particular skaldic poetry and the Icelandic sagas. He has also published on the sociology of fiction, history of women's education, and professional writing.

RONALD, Rudin – Department of History, Concordia University

Ronald Rudin is both one of the leading historians of French Canada and a pioneer in the realm of historical documentary filmmaking. His writing about the history of both Quebec and Acadie is astonishingly broad and covers topics from finance and the social history of banking to the history of English-speaking Quebecers, the politics of historic commemoration and social memory, and the role of ideology in nationalist historiography. Dr. Rudin's work has been enormously influential inside Quebec, across Canada and internationally. The author of six major monographs and numerous scholarly articles and book chapters, Dr. Rudin is also an acclaimed historical documentary filmmaker. In addition to his research and research-creation activity, Dr. Rudin is the Academic Convenor for the 2010 Congress of the Humanities and Social Sciences.

SOHM, Philip – Department of Art, University of Toronto

Philip Sohm is a leading international scholar of Renaissance and Baroque art history. His four books (a co-authored fifth book in press) are recognized as breaking new ground in many different areas: social history and architectural design; the language of art writing; non-verbal communication in painting; the biological and psychological conditions of artistic creativity and production; and the economic preconditions of making and marketing paintings. His advice is sought by research institutes (Getty; CASVA; Institute for Advanced Study), many top academic presses and journals, and the Ivies. His former Ph.D. students hold tenured and tenure-stream positions at many research universities.

WARKENTIN, Germaine – Department of English, Victoria College, University of Toronto

Germaine Warkentin, Professor Emeritus of English at the University of Toronto, is the leading exponent, editor, and theoretician of exploration writing in English about early Canada. Using the important Humanities perspective of "book history" to investigate, anthologize, and edit the writings of Pierre-Esprit Radisson and other explorers, she inaugurated a new field of academic study in Canada. This is in addition to her major contributions as a scholar of Early Modern literature, and her foundational work editing and writing critically on major modern Canadian writers, from Northrop Frye to James Reaney. Her obviously breathtaking range is matched by equally impressive depth: few scholars have increased more our knowledge of the history of manuscripts and printed books in Western Europe and the Americas from 1300-1700.

WILSON, Robert – Department of Philosophy, University of Alberta

Rob Wilson's work in the philosophy of biology and the philosophy of the cognitive sciences has made him one of the leading philosophers of his generation working in Canada. In particular, he was at the forefront of work on "extended mind" accounts of intentionality, now current in cognitive science and philosophy, according to which elements of a person's environment are constitutive of her states of mind. His contributions to the interpretation of evolutionary theory have also been widely influential. His challenges to orthodox beliefs and defenses of surprising views have sparked valuable debates. On a wide range of topics his prolific, philosophically subtle, and scientifically well-informed work will set the agenda for years to come.

Division des Lettres et sciences humaines

BÉLAND, Mario - Collections et Recherches, Musée National des Beaux-Arts du Québec

Conservateur au Musée national des beaux-arts du Québec, Mario Béland est considéré comme l'un des grands spécialistes de l'art ancien du Québec. Ses travaux de recherche en sculpture et en peinture sont reconnus, depuis 25 ans, pour leur rigueur, aussi bien ses monographies d'artistes que ses ouvrages de référence ou de synthèse, et cela sans compter son engagement récent pour la photographie historique. Par ses diverses et nombreuses expositions, publications et communications, il a grandement contribué à la connaissance, à la mise en valeur et à la diffusion d'un volet essentiel de l'art canadien.

BRISSET, Annie - École de traduction et d'interprétation, Université d'Ottawa

Annie Brisset a déployé durant toute sa carrière une immense activité pour développer la traduction et la communication interlinguistique et interculturelle. Elle a fondé l'International Association for Translation and Intercultural Studies, a été directrice fondatrice de l'École de traduction du Collège Saint-Boniface et a atteint depuis des années un rayonnement international comme le prouvent ses nombreuses missions pour l'UNESCO, y compris sa participation au Rapport mondial sur la diversité culturelle. Ses publications qui sont des outils de travail incontournables sont citées partout dans le monde. Ainsi, elle a mené une carrière exemplaire, progressant sans cesse dans un savoir théorique appliqué et débouchant sur des pratiques traductologiques et critiques qui font d'elle une spécialiste planétaire essentielle dans le domaine.

HAREL, Simon - Département d'Études littéraires, Université du Québec à Montréal

Professeur au Département d'études littéraires de l'UQAM, Simon Harel a dirigé le Centre d'études sur les lettres, les arts et les traditions (CELAT). Chercheur et auteur prolifique, il a ouvert et développé un domaine de recherche inexploré sur les écritures migrantes, particulièrement en contexte minoritaire. L'œuvre de Simon Harel se situe aux frontières des études littéraires culturelles. S'intéressant aux différentes formes du récit, ses travaux traitent des représentations limitrophes de l'altérité, des phénomènes d'exclusion et de problématiques interculturelles. Son ouvrage *Voleurs de parcours*, publié en 1989 et réédité en 1999 est reconnu comme l'un des livres les plus significatifs dans le champ des études culturelles au Québec.

PANACCIO, Claude - Département de Philosophie, Université du Québec à Montréal

Médiéviste de réputation internationale, Claude Panaccio est également reconnu pour son travail novateur en philosophie de l'esprit, de la connaissance et du langage. Ses publications, dont plusieurs ont reçu des prix prestigieux, ont transformé en profondeur notre compréhension d'un des auteurs les plus importants du Moyen Âge, Guillaume d'Ockham, et du courant nominaliste qu'il a initié. Panaccio a retracé dans un livre marquant et dans plusieurs articles l'histoire de l'idée de langage mental depuis les Grecs jusqu'à la fin du Moyen Âge. En discussion avec la philosophie analytique contemporaine, il développe lui-même une approche nominaliste originale de la pensée humaine.

WALL, Anthony - Department of French, Italian and Spanish, University of Calgary

Le professeur Anthony J. Wall, détenteur d'une chaire de recherche créée par l'Université de Calgary avec le titre de University Professor, professeur invité dans des universités étrangères (Allemagne, Brésil), a de nombreux ouvrages et articles à son actif. Ses recherches, novatrices, lui ont valu de nombreuses bourses et subventions. Les domaines de son activité peuvent se regrouper selon les axes suivants: théorie de la littérature et philosophie du langage à partir du théoricien russe Mikhail Bakhtine, sémiotique visuelle et représentation du corps en littérature et dans les arts visuels, esthétique et pragmatique de la communication littéraire, la littérature comparée. Le corpus, les champs d'investigation comprennent les littératures françaises, depuis le dix-huitième siècle, et québécoise, le domaine franco-allemand, la peinture française du dix-huitième siècle, la peinture de la renaissance italienne.

**ACADEMY OF SOCIAL SCIENCES
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Division des Sciences Sociales

BERNARD, Jean-Thomas – Département d'économique, Université Laval

Jean-Thomas Bernard est le spécialiste québécois de l'économie de l'énergie et l'un des plus grands spécialistes du domaine au Canada. Il a joué un rôle de pionnier dans l'application de l'analyse micro-économique à l'énergie. Il a en outre contribué de façon remarquable à l'introduction des dimensions québécoises et canadiennes dans la littérature internationale sur la question. Ses nombreuses publications scientifiques portent sur la demande et la production d'électricité ainsi que sur sa tarification par les entreprises publiques tant au Canada qu'au niveau mondial. En juin 2003, l'International Association for Energy Economics reconnaissait officiellement sa remarquable contribution au domaine d'économie de l'énergie. Il participe régulièrement à des débats publics portant sur les questions énergétiques.

BOIVIN, Michel - École de Psychologie, Université Laval

Michel Boivin est un chercheur de réputation internationale connu pour ses travaux sur les dimensions bio-psycho-sociales du développement du jeune enfant. Son programme de recherche innove par son caractère interdisciplinaire, longitudinal et populationnel: il étudie le développement des enfants depuis la naissance dans de grandes cohortes populationnelles, dont une étude de jumeaux, afin de comprendre les transactions complexes entre facteurs génétiques et environnementaux dans plusieurs sphères de l'adaptation scolaire. Il dirige un réseau canadien de mobilisation des connaissances sur le développement du jeune enfant.

BRETON, Michèle - Méthodes Quantitatives de Gestion, HEC Montréal

Michèle Breton est une chercheuse de renommée internationale dont les travaux conceptuels et appliqués ont fait leur marque dans plusieurs domaines, notamment en théorie des jeux dynamiques, en gestion de l'environnement et de l'énergie, en ingénierie financière et en recherche opérationnelle. Son approche pluridisciplinaire permet un traitement novateur de nombreux problèmes posés dans ces domaines. Ses contributions théoriques les plus fondamentales ont porté sur la caractérisation d'équilibres, le design de mécanismes de coopération durable entre agents économiques et sociaux et le développement de méthodes de tarification de produits financiers dérivés.

MURRAY, Gregor - CRIMT/École de relations industrielles, Université de Montréal

Gregor Murray is internationally renowned for his contributions to the field of industrial relations. His research explores how, in particular economic and social contexts, labour market actors and their various power resources determine the conditions under which work takes place. His research has helped to identify the practices and institutional forms whereby actors in an increasingly globalized world of work can develop their capacities to ensure both organizational efficiency and equity for workers.

VAILLANCOURT, François - Département des sciences économiques, Université de Montréal

François Vaillancourt est un des pionniers mondiaux de l'économie des questions linguistiques et un des spécialistes canadiens dans le domaine des relations financières intergouvernementales. Dans le premier cas, ses travaux ont portés sur divers aspects de la relation entre langue et économie, tels les déterminants de la langue de travail, l'appartenance des firmes et la rémunération des attributs linguistiques et sur l'évaluation des politiques linguistiques, Dans le second cas, il a fait des contributions à l'analyse des relations financières intergouvernementales au Canada et dans nombreux pays du monde, faisant ressortir l'importance des facteurs non-économiques dans le choix des arrangements institutionnels.

Division of Social Sciences

ASMUNDSON, Gordon – Department of Psychology, University of Regina

Gordon Asmundson is a world class mental health scientist whose original contributions to the study of chronic pain and anxiety disorders have improved many lives in Canada and around the world. He pioneered the study of how post-traumatic stress disorder in particular frequently co-occurs with chronic musculoskeletal pain as a result of common environmental stressors such as motor vehicle accidents and combat. The author of four books, thirty book chapters and nearly two hundred peer-reviewed articles in leading journals, he is also the recipient of major awards and funding from agencies such as the Canadian Institutes for Health Research.

BEAMISH, Paul – Ivey School of Business, University of Western Ontario

Paul Beamish is widely recognized as the top contributor worldwide to the international joint venture literature, a core area of study within the international business scholarly domain. Beamish has authored 46 books and over 100 refereed papers, and supervised 23 PhD dissertations. He is a Fellow of the Academy of International Business, a Senior Fellow of the Asia Pacific Foundation of Canada, and holds a Canada Research Chair. He is currently extending his career work on joint ventures in emerging markets to the issue of poverty reduction through management education.

COLEMAN, William – Balsillie School of International Affairs, Department of Political Science, University of Waterloo

William Coleman is an internationally renowned researcher and educator who has furthered understanding of globalization in Canada. A founding director of McMaster's Institute on Globalization and the Human Condition, Coleman has published twelve books, forty-three journal articles and fifty-eight book chapters examining both public policy and globalization. His leadership of a SSHRCC funded international research team on Globalization and Autonomy brought together over eighty scholars from the Humanities and Social Sciences in fifteen countries. It is producing a projected eight volume series on Globalization and Autonomy and an open access online Compendium which provides user friendly condensed versions of research to a global audience.

DOOB, Anthony – Centre of Criminology, University of Toronto

Professor Anthony N. Doob is the most cited criminologist in Canada and is recognized by the international academic community as the foremost authority on Canadian criminal justice. He has made particularly lasting contributions in the field of youth justice and in sentencing research and policy. He has helped to shape Canadian justice policy as a Commissioner on the Canadian Sentencing Commission and continues to be the key source of criminological knowledge for both provincial and federal ministries. His dual career as a scholar and as a public, engaged intellectual has long been seen as a model for criminologists around the world.

GALEF, Bennett – Department of Psychology, McMaster University

Bennett (Jeff) Galef is the 'father' of the field of social learning in animals. During 40 years of exceptional research creativity, Dr. Galef brought the field to its current prominence, introducing major research paradigms, mentoring researchers, and producing an extensive body of extremely well cited publications. His vast contributions led to being named Fellow of key academic societies, election as President of the Animal Behaviour Society, and appointment as the Executive Editor of his field's flagship journal. Dr. Galef is one of the world's most highly regarded behavioural scientists, and his contributions will have lasting implications for diverse research areas.

HODGINS, Sheilagh – King's College, University of London

Professor Sheilagh Hodgins is the best known, and most highly respected forensic psychologist/clinical criminologist in Canada. Her research interests, sustained over thirty-five years, focus on how schizophrenia and personality disorders can be best characterized and understood. Of particular interest to her is how these and related conditions affect violent behaviour. She specializes in the carrying out of tightly controlled, well-funded, large-scale collaborative projects in Canada and Internationally. These rely on both clinical and epidemiological methods. In 2004, she received the Royal Society Wolfson Research Merit Award.

JACCARD, Mark - School of Resource and Environmental Management, Simon Fraser University

Mark Jaccard is an international leader in the development of energy-economy models for simulating the costs of greenhouse gas abatement policies. His research contributions include incorporating behavioural realism in technology-rich models - bridging the methodological schism between bottom-up and top-down approaches - and designing and estimating models that can assess policy packages of technology-specific regulations and subsidies alongside economy-wide carbon taxes and emissions trading. The Cost of Climate Policy (2002) won the Outstanding Research Contribution Award of the Canadian Policy Research Institute (80 competing books) and Sustainable Fossil Fuels (2006) won the Donner Prize for top policy book in Canada (55 competitors).

LI, Peter – Department of Sociology, University of Saskatchewan

Peter Li, one of the most accomplished sociologists in North America, is a pioneering scholar of the Chinese in Canada. His highly original theoretical and empirical writings on the Chinese, immigration, and race relations have profoundly influenced both academe and the world of public policy. His work has been indispensable in several areas of sociology, and has served as the basis of the Chinese Head Tax Redress movement. His influential writings on immigration explain many aspects of immigrant life, including self-employment, entrepreneurship, economic integration, and racial inequality. He is the author of over seventy academic papers and seven books.

ROBSON, Arthur – Department of Economics, Simon Fraser University

Arthur Robson is an international leader in theoretical and evolutionary economics. His pioneering research asks how evolution influences human economic behaviour, and what implications this holds for economic theory. He has published influential articles in the top journals of the profession, and continues to break new ground with research on how evolution has shaped the links between longevity, intelligence and aging. By bridging biology, anthropology, and economics, he has produced unique insights into the origin of economic preferences that are transforming how scientists look at economic behavior and economic theory in general.

*ACADEMY OF SCIENCE
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Division of Applied Sciences and Engineering

ELEFThERIADES, George – Department of Electrical and Computing Engineering, University of Toronto

Professor George Eleftheriades has made seminal contributions to the new subject of metamaterials. These are man-made materials that have electromagnetic properties not found in nature. Specifically, Professor Eleftheriades pioneered the use of transmission lines to synthesize metamaterials. He and his students implemented and experimentally demonstrated many forms and applications of these materials, including the first isotropic lens with a negative refractive index at microwave frequencies that overcomes the diffraction barrier of conventional lenses. The developed devices have unlimited applications and potential to revolutionize the state of the art in various disciplines, including nanotechnology, wireless telecommunications, radars, and microwave and medical imaging.

HANSSON, Carolyn – Department of Mechanical and Mechatronics Engineering, University of Waterloo

Dr. Carolyn Hansson is an internationally recognized scientist and engineer whose contributions in the basic science of corrosion and metallurgical processes and applied engineering have had a profound and lasting impact on her field. Her original work on the interactive relationships between material properties and reinforced concrete behaviour, the cavitation erosion of metal alloys, and applications of ion implantation and laser surface treatment for metals and alloys are exceptional in their creativity, vision and scholarly achievement. She has authored over 100 technical articles, numerous reports, edited 3 books and has been honoured with various awards and election to several academies.

JAYAS, Digvir – Office of the Vice-President (Research), University of Manitoba

Digvir Jayas is a world renowned leader in grain storage research, striving to reduce losses in grain quality and quantity during storage in farm and commercial systems. His research results are published in 270 refereed papers and are the basis upon which storage recommendations are made in North America and around the world. As co-author of one book, co-editor of two books, and co-developer of a grain storage CD, his works have been distributed globally and have significantly advanced the understanding of stored-grain ecosystems. In reducing spoilage of stored grain, Dr. Jayas' research has increased remarkably the availability of high quality grains to feed the growing population of the world.

JULLIEN, Graham – Schulich School of Engineering, University of Calgary

Dr. Graham Jullien is a world-class researcher, with an international reputation, in the field of high-performance digital signal processing. He has had a major impact on the implementation of finite ring arithmetic, and has been cited regularly (over 430 citations) by many of the field's international experts. Another important research contribution was one of the first uses of in-camera video stream processing. Some of this work on machine vision is currently in use in industrial inspection systems around the world, with sales in the millions of dollars. Dr. Jullien has trained more than 75 graduate students and led several large multidisciplinary research groups.

PATEL, Rajnikant – Department of Electrical and Computer Engineering, University of Western Ontario

Dr. Patel is a pre-eminent scholar and an internationally recognized leader in robotics and control. His innovative and outstanding contributions in these fields place him among the most influential leaders in the design and control of advanced robotic systems. Dr. Patel's research in robotics has resulted in very successful technology transfer to the Canadian Space Agency and Bombardier Inc. The breadth and depth of his contributions have made him a world renowned authority on redundant and flexiblelink robots. His robotics expertise has enabled him to make major strides in the rapidly growing field of medical robotics. Dr. Patel's pioneering contributions on numerical and computational issues in control have helped to bridge the gap between theoretical advances in control and their practical applications.

WILKINSON, David – Faculty of Engineering, McMaster University

Professor David Wilkinson is recognized internationally as a leader in the science and technology of solid materials. Over the past three decades, his fundamental studies of the different levels of structure of metallic, ceramic and composite materials and their related properties have contributed greatly to our understanding of advanced engineering materials. His impact has been profound: Through his personal research, through his service to the Canadian and International academic and industrial communities and through his innovative role as an educator, he has played a major part in the advancement of the discipline of Materials Science and Engineering.

YANG, En-hui – Department of Electrical and Computer Engineering, University of Waterloo

En-hui Yang is an international leader in source coding, a branch of information theory dealing with how to efficiently encode information for transmission, storage, and processing. A recipient of many awards including the 2007 Ernest C. Manning Award of Distinction and an IEEE Fellow, he has made profound contributions to source coding by introducing fundamental source coding theory, solving long-standing open problems in source coding, inventing state-of-the-art lossless and lossy multimedia encoding algorithms, and transforming research results and coding algorithms into practice, which now impact on the daily life of tens of millions people worldwide in over 130 countries.

Division of Earth, Ocean and Atmospheric Sciences

MCELROY, C.T. – Experimental Studies, Environment Canada

Dr. McElroy is one of Canada's foremost atmospheric scientists. He is a co-inventor of the Brewer ozone spectrophotometer, now used for ozone measurements world-wide, and the UV index, which is used to inform the public of the safety of remaining outside in sunlight. He has developed techniques for measuring ozone and other gases from the ground, from aircraft and from space. He has developed instruments used by astronauts on the space shuttle and the MAESTRO instrument on Canada's SCISAT satellite. He has sat on numerous national and international committees, and received numerous awards.

NESBITT, H. Wayne – Department of Earth Sciences, University of Western Ontario

Wayne Nesbitt has made outstanding contributions to geochemical weathering both at the macro-scale and more recently at the nano-scale. His major papers between 1978 and 1995 address the relations between chemical weathering of the crust, and recent and ancient climatic conditions (of great importance to the global warming debate). These papers have changed the emphasis of the way Sedimentary Petrogenesis is taught today. Most of his research since 1994 addresses the detailed reactions at mineral surfaces using modern surface sensitive probes. These most recent studies are fundamental to all recent dissolution studies of minerals in aqueous solution.

REISZ, Robert – Department of Biology, University of Toronto at Mississauga

Robert Reisz is an internationally renowned for his extensive research on the initial stages of terrestrial vertebrate evolution and the organisms that eventually gave rise to mammals, reptiles, and birds. His discoveries encompass every major group of tetrapods, and have transformed our understanding of the origins and early evolution of numerous groups of vertebrates, including turtles and dinosaurs. His work has integrated the study of specimens from museum collections with the discovery of new fossils through fieldwork in North America, Europe, and Africa. He has also introduced innovative paleontological techniques for analyses of anatomy, biogeography, and developmental and evolutionary patterns.

STEWART, Ronald – Department of Environment and Geography, University of Manitoba

Professor Stewart is a global leading expert on precipitation processes within winter storms. As the scientific leader for the Canadian Atlantic Storms Program, the Beaufort and Arctic Storms Experiment and the Mackenzie GEWEX Study and now co-lead for the Storm Studies in the Arctic experiment and the Drought Research Initiative, he has led the way in Canadian research with extensive publications, special issues of journals and books, and supervision of graduate students. He has been President of the Canadian Meteorological and Oceanographic Society. He plays leading roles internationally, including the Global Energy and Water Cycle Experiment and now its new initiative on climate extremes.

Division of Life Sciences

BROSNAN, John – Department of Biochemistry, Memorial University

John Brosnan has discovered important basic mechanisms in amino acid metabolism that also address crucial clinical issues. He discovered the mechanism of regulation of circulating homocysteine levels. His concept of methylation demand has led to novel approaches to reduce those elevated homocysteine levels that can contribute to stroke, Alzheimer's disease and diabetic complications. He discovered mechanisms of regulation of the synthesis and catabolism of arginine, the NO precursor. His work on creatine is particularly important for infant nutrition and catabolic illnesses, while his discovery that renal function is protected by amino acids has led to novel approaches for the preservation of organs for transplantation.

CAIRNCROSS, John – Foothills Hospital Department of Clinical Neurosciences, University of Calgary

In 1988, Dr. Gregory Cairncross discovered that oligodendrogliomas, a type of brain cancer, are sensitive to chemotherapy. In 1998, he discovered a molecular marker of chemosensitivity and long survival in this cancer. Testing for loss of chromosomes 1p and 19q is used worldwide to assist in the diagnosis and care of patients with oligodendrogliomas. This finding provided a new framework for basic research and clinical trials in his field. In 2008, he reported that life is prolonged by giving chemotherapy for this disease.

COOK, Deborah – Department of Clinical Epidemiology & Biostatistics, McMaster University

Deborah Joanne Cook MD, FRCPC, MSc, is a prolific, world-renowned scientist and educator in critical care medicine and research methodology. Dr. Cook has advanced our scientific knowledge in numerous ways, most notably in the prevention and management of the often lethal problems of deep venous thrombosis and pneumonia among critically ill patients. Her medical discoveries have saved many lives and are used around the world. She has also been a pioneer in compassionate and ethical end-of-life care. She holds a senior Canada Research Chair and has received local, provincial, national and international awards for her research, teaching and leadership.

FOWKE, Larry – Department of Biology, University of Saskatchewan

For more than three decades, Dr. Larry Fowke has established the groundwork in plant-cell biology that other scientists have successfully followed. He has creatively combined cytological, biochemical, and molecular techniques to advance our understanding of the process and nature of plant-cell development and division. This innovative research, often performed painstakingly by microscope, has consistently produced groundbreaking contributions to the discipline of cell biology. It has also led to exciting applications, in particular the development of methods for generating large quantities of conifer embryos for forestry. Larry Fowke is a leading world authority in cell biology.

GIGUÈRE, Vincent – The Rosalind and Morris Goodman Cancer Centre, McGill University

Vincent Giguère is an international leader in the field of nuclear receptors, a class of DNA-binding proteins that regulate the expression of genes in a cell and tissue-specific manner in response to small lipophilic molecules such as steroid hormones and vitamin A. Dr. Giguère identified several members of the super-family of nuclear receptors and revealed mechanisms demonstrating how these proteins work at the molecular level. His groundbreaking work also led to major advances in our understanding of the roles played by nuclear receptors and their natural and synthetic ligands in embryonic development, adult physiology and several diseases, most notably hormone-dependent cancers and metabolic disorders.

KEVAN, Peter – School of Environmental Sciences, University of Guelph

Kevan's extensive pioneering ecological, zoological, and botanical contributions are truly interdisciplinary. He elucidated unsuspectedly tight pollination relations between Arctic insects and plants. His studies on floral colours link botany to insect colour vision ecophysiology. For greenhouse and field crops, his cross-cutting research on pollinators for vectoring biocontrol agents exemplifies rigorous, practical lateral thinking. A world leader in pollination conservation, he served on the US-NAS panel "Status of Pollinators in North American", leads our Strategic Network "NSERC-CANPOLIN" and is chair of the International Commission for Bee-Plant Relationships. His international, Arctic-to-tropical, interests embrace ecosystem

function and stress, sustainability, conservation, terrain disruption and soil ecology, habitat fragmentation, pesticides, and urban ecology.

KOOP, Ben – Department of Biology, University of Victoria

Professor Ben Koop is one of Canada's leading evolutionary geneticists. His career has spanned diverse topics, including the genes of the human immune system and genome duplication in salmonids. Using novel bioinformatics technologies, he succeeded in identifying a new pattern of DNA sequence conservation which suggested very different mutation rates over different genomic regions and led to the proposal of a "Mosaic Model of Genomic Evolution." A project leader of the multinational consortium for Genomic Research in All Salmon (cGRASP), he has developed genomic resources to answer questions of great economic and social importance to aquaculture, conservation, and the environment.

KUBES, Paul – Snyder Institute of Infection, Immunity and Inflammation Immunology, University of Calgary

Dr. Kubes is one of the world's leading researchers in the molecular mechanisms of inflammation. Using cutting edge imaging he has visualized the behaviour of single immune cells and uncovered mechanisms by which our immune system battles bacteria but also causes injury. The work has been published in the top journals and has been cited more than 12,000 times. Many of his seminal discoveries have contributed to new developments in anti-inflammatory therapy. He now leads more than 100 faculty as the founding Director of the Snyder Institute of Infection, Immunity and Inflammation.

LOZANO, Andres – Toronto Western Hospital, University of Toronto

An internationally leading neurosurgeon and a pioneer in the field of deep brain stimulation surgery, his research has focused on understanding the organization and function of human brain circuits controlling movement, mood and cognition. Dr. Lozano has identified new brain targets that are being used to help patients with neurological and psychiatric disorders. His discoveries have lead his group to new surgical procedures to improve brain activity and restore function in patients with Parkinson's disease and dystonia and his current work using electrical stimulation of the brain using fully implanted electrodes and pacemakers, is showing promise in patients with other disorders including depression.

MONTANER, Julio – BC Centre of Excellence in HIV/AIDS, University of British Columbia

For his pioneering work on the use of combinations of anti-retrovirals to treat HIV/AIDS that led to the first international trial establishing non-nucleoside reverse transcriptase based highly active antiretroviral therapy (HAART) as the standard of care for AIDS and the WHO recommended first line therapy for AIDS in resource limited settings. For introducing the hypothesis that an expanded use of HAART might dramatically curb the growth of the HIV epidemic, while decreasing AIDS morbidity & mortality worldwide.

PARFREY, Patrick – Patient Research Centre, Memorial University

Dr. Patrick Parfrey is an international authority on the clinical epidemiology of kidney and genetic diseases. His research has had a global impact on the management of cardiac disease in chronic kidney disease, treatment modality in end-stage kidney disease, hepatitis in end-stage kidney disease; contrast media induced acute kidney disease, and inherited cystic diseases of the kidney. He has lead or collaborated in national/international interdisciplinary research teams that have determined the molecular genetic basis of renal cystic diseases, arrhythmogenic cardiomyopathy and colorectal cancer. Also he has provided evidence to the Government of Newfoundland and Labrador that changed multiple health-care delivery policies.

ROBERTSON, Raleigh – Department of Biology, Queen's University

Dr. Robertson is one of Canada's leading environmental scientists and a world authority in Ornithology, Conservation Biology and Behavioural Ecology. He has over 190 refereed publications, is an ISI highly cited researcher, and has trained 50 postgraduates. Dr. Robertson is recognized for building the Queen's University Biological Station into one of the largest and most successful field research stations in North America. He was the inaugural holder of the prestigious Baillie Family Chair in Conservation Biology at Queen's, and most recently received awards from the Society of Canadian Ornithologists and the Canadian Council of University Biology Chairs for lifetime contributions to Canadian biology.

ROOS, Noralou – Manitoba Centre for Health Policy / Community Health Sciences, University of Manitoba

Noralou Roos founded the Manitoba Centre for Health Policy and created a population database for understanding why some people are healthy and others are not. She received CFI funding to create Canada's first data laboratory and was awarded a Tier 1 Canada Research Chair. Citations to Dr. Roos' work place her among the top 100 Canadian scientists (all fields, all institutions) according to The Institute of Scientific Information. She was a member of the Prime Minister's National Forum on Health, the Medical Research Council, the Council setting up the Canadian Institutes for Health Research and awarded the Order of Canada.

SNIDERMAN, Allan – University Health Centre Division of Cardiology, McGill University

Allan Sniderman introduced apoB into clinical practice worldwide as the key index for treating elevated cholesterol levels thus saving many lives. In 1980 he first published that apoB was a better index of vascular disease risk than LDL cholesterol; and confirmed this in subsequent epidemiologic studies. In May 2008, the American Diabetes Association and College of Cardiology jointly stated that apoB is superior to other cholesterol markers. His work on the regulation of the composition, number, and hepatic secretion of apoB particles, and the regulation of fatty acid transport in adipocytes provided a physiologic basis for his seminal clinical finding.

WALSH, Michael – Department of Biochemistry and Molecular Biology, University of Calgary

Dr. Walsh is the premier smooth muscle scientist in Canada. In 1982 he established the central importance of myosin phosphorylation-dephosphorylation in smooth muscle contraction. All of the regulatory pathways defined by him have been subsequently shown to contribute to abnormal smooth contraction, such as in hypertension, cerebral vasospasm, coronary artery disease and asthma. He has served as President of the Canadian Society of Biochemistry & Molecular Biology and as Chair of the Organizing Committee for the 6th International Muscle Energetics Conference and Chair of the Scientific Program Committee for the XIX International Congress of the International Union of Biochemistry & Molecular Biology. Honours include the Ayerst Award of the Canadian Biochemical Society, the NRC Steacie Prize and Tier I CRC.

WEISS, Samuel – Hotchkiss Brain Institute, University of Calgary

Dr. Samuel Weiss has made very important contributions to our understanding of the potential for brain repair. In 1992, Dr. Weiss made the original discovery that neural stem cells are present in the brains of embryonic and adult mice. Neural stem cells are now being extensively studied as a tool for treating a variety of diseases characterized by damage to the brain, including Alzheimer's disease, Parkinson's disease, multiple sclerosis and stroke. Since his original discovery, Dr. Weiss has conducted groundbreaking research in the area of neural stem cell biology and has established himself as an international leader in the field.

ZHUO, Min – Department of Physiology, University of Toronto

Professor Zhuo is internationally recognized for his numerous contributions that have revolutionized our understanding of the mechanisms underlying pain and memory. He is the first Michael Smith Chair in Neuroscience and Mental Health, and a CRC Chair Tier I in pain and cognition. He has published over a hundred original, peer-reviewed papers and his scientific articles have appeared regularly in journals such as Nature, Science, PNAS, Nature Neuroscience and Neuron. His research forms the basis for novel therapeutic approaches that will revolutionize the management of pain, addiction and mental illness.

Division of Mathematical and Physical Sciences

BAO, Xiaoyi – Department of Physics, University of Ottawa

Dr. Xiaoyi Bao has made exceptional contributions in distributed Brillouin sensors and their applications to civil structures as well as dynamic impairment emulator for evaluation and design of high speed communications systems. Her pioneering efforts on diagnosing the health of structures connects measured physical parameters with the status of the civil structures, which is instrumental in preventing the collapse of steel and concrete structures. She is making outstanding contributions not only to the development of the sensing technology but also to the discipline of physics in general.

BROWN, R. Stanley – Department of Chemistry, Queen's University

In an independent research career of over 32 years, R. Stan Brown's research has encompassed diverse areas in organic chemistry including X-ray and UV photoelectron spectroscopy, model enzymes, bio-organic and bio-inorganic chemistry and mechanistic physical organic studies. This work has generated more than 150 research publications in leading journals and seven book chapters. It is characterized by a careful attention to experimental detail and the general interest of the questions to be answered. The findings and interpretation of much of this work concerning organic reaction mechanisms has now been incorporated into textbooks at the undergraduate and graduate levels.

BURIAK, Jillian – Department of Chemistry, University of Alberta

Jillian Buriak heads a top notch, internationally prominent research group in nanoscience and materials chemistry. No one working in the important area of semiconductors has had such widespread impact over the last 10 years, and the key reactions discovered by her have truly revolutionized the field. From integrating nanomaterials and biology with silicon technology, to efficient and versatile synthetic strategies of highly complex nanoscale materials, the nanoscience research of this group is both fundamental and of critical technological importance. By creatively combining diverse areas of science into her research, she has provided answers to many challenges regarding the chemistry of nanomaterials and their application in a broad range of technologies.

CARLBERG, Raymond – Department of Astronomy and Astrophysics, University of Toronto

Ray Carlberg is one of Canada's most internationally renowned and innovative astrophysicists. He has made seminal contributions to understanding why spiral patterns occur in galactic disks, the origins of elliptical galaxies, the distribution of cold dark matter in gravitationally bound and dynamically relaxed "halos", made an important modern measurement of the dark matter content of the universe and recently made the first high quality measurement that describes the mysterious dark energy that causes the expansion of the universe to accelerate. He utilizes both theoretical and observational techniques, often within extremely effective collaborations he has formed and led.

KIRKPATRICK, David – Department of Computer Science, University of British Columbia

David Kirkpatrick is internationally recognized for many seminal contributions to the design and mathematical analysis of algorithms and data structures. His research has significantly enriched our understanding of the intrinsic complexity of a wide collection of fundamental computational and communication tasks. His work has broad application, from algorithms for acoustic simulation of concert halls, virtual machining and video-on-demand broadcasting, to fundamental techniques in computer graphics, robot motion planning and geographic information systems. He is considered a pioneer in the field of computational geometry, where his major contributions include the introduction and application of object-based hierarchical search structures, generalized Voronoi diagrams, alpha-shapes and output-size-sensitive complexity analysis.

MACKWORTH, Alan – Department of Computer Science, University of British Columbia

Internationally renowned computer scientist Alan Mackworth is Canada's leading figure in the field of artificial intelligence. His work in AI and robotics concentrates on constraint-based knowledge representations. His pioneering development of constraint satisfaction algorithms for applications such as vision, scheduling, and design have opened up a new discipline known as constraint programming. For introducing the first soccer-playing robots, Mackworth is globally recognized as the founding father of the famous robot soccer challenge RoboCup, stimulating an enormous range of research in perceptually-guided robotics. His current work on constraint nets and constraint-based agent architectures strongly influences computational intelligence, control theory, and hybrid systems.

OAKLEY, Richard – Department of Chemistry, University of Waterloo

Professor Richard Oakley, has an international reputation for his seminal work in the area of main group chemistry. His original contributions to the discovery of new classes of molecular conductors and magnetic materials span the boundaries of inorganic chemistry, organic chemistry and solid state physics. His creative investigations of heterocyclic systems have demonstrated a mastery of synthetic chemistry. The judicious application of theoretical chemistry and physical techniques has provided a detailed understanding of the electronic and magnetic properties of novel solid-state molecular materials. He is the recipient of the Alcan Lecture Award and the Pure or Applied Inorganic Chemistry Award from the Canadian Society for Chemistry, and the Akron Section Award from the American Chemical Society. He has also been awarded a Canada Council Research Fellowship.

ORR, Robert – Department of Physics, University of Toronto

Robert Orr is one of Canada's leading experimental particle physicists, having made crucial contributions to discoveries in elementary particles. Through the development and exploitation of new experimental techniques, he has made seminal contributions to the study of the electroweak interaction, proton structure and heavy quark physics. Through his leadership, a team of 100 Canadian scientists is playing a significant role in the ATLAS experiment at the CERN Large Hadron Collider, a project designed to uncover the fundamental mechanism for mass and search for phenomena that would allow us to understand the properties of the basic forces.

REED, Bruce – School of Computer Science, McGill University

Bruce Reed is a mathematician and theoretical computer scientist who has made deep contributions in the areas of discrete mathematics and probabilistic combinatorics. He has settled long-standing open problems in graph theory, including Gallai's conjecture, from the 1960's, on packing directed circuits. Reed is well known for his profound and influential work on graph colouring, the perfect graph conjecture, the theory of graph minors, and the analysis of random trees, graphs and network models. In 2002, Reed and Molloy published the acclaimed research monograph, "Graph Colouring and the Probabilistic Method".

SCHOLES, Gregory – Department of Chemistry, University of Toronto

Greg Scholes is an international leader in the study of how light interacts with complex nanoscale systems. His principle contributions include the elucidation of mechanisms by which the energy of light absorbed by a molecule can be transferred efficiently to other molecules; a process predominant in photosynthetic antenna systems and organic light-emitting diodes. In other work he has contributed to our comprehension of the basic electronic and optical properties of semiconductor nanocrystals, where new viewpoints needed to be elucidated to extrapolate our understanding between molecules and bulk semiconductors.

SIU, K.W. Michael – Department of Chemistry, York University

Professor K.W. Michael Siu is one of Canada's foremost bioanalytical and biophysical chemists and an exceptional mass spectrometrists with an outstanding record of innovation and accomplishment. He has made most significant contributions to understanding the structures, energetics, and ionization and gas-phase chemistries of protonated and metalated peptides as well as peptide radical ions, developing new mass spectrometry (MS) instrumentation in collaboration with Canadian industry, and developing innovative MS technologies and methodologies for proteomics, especially in the discovery, identification, verification and quantification of protein biomarkers for better diagnostics and prognostics of cancers.

SPECIALLY ELECTED FELLOWS
MEMBRES À TITRE SPÉCIAL

DODGE, David – Chancellor, Queen’s University

David A. Dodge, who received his PhD. in Economics from Princeton University, started his career as Assistant Professor of Economics at Queens' University. Throughout his career which mainly took place in the Canadian Public Service, he kept a strong relationship with the academic and scientific milieu. He can rightly so be commended for regularly making public the case for the social value of research, advanced knowledge and graduate studies. He has filled with great wisdom a very large spectrum of high level positions within the federal public service. His major accomplishments include, for example, important research management activities within the Anti-Inflation Board which eventually led to public policies with respect to salary and prize controls in a difficult economic conjuncture; Assistant Deputy and Deputy Minister of Finance responsibilities in a crucial period that saw the implementation of major tax reforms and of policies as well as annual budgets aiming at deficit and debt controls; and finally a strong, expert and innovative leadership at the head of a very complex organization, the Bank of Canada.

GRAY, Charlotte – Department of History, Carleton University

Charlotte is an historian who has won an international reputation for her meticulously researched and beautifully crafted biographies of a number of Canadians, including the two pioneer women of Ontario, Susanna Moodie and Catharine Parr Traill, as well as Alexander Graham Bell. Her ability to place her subjects in the context of their times is outstanding. Her capacity to enchant the general reader and, at the same time to please the academic, is extraordinary. Her talent for communicating the importance and relevance of Canadian history to her fellow citizens is of immense value to her country.

***FOREIGN FELLOWS
MEMBRES ÉTRANGERS***

CARDONA, Manuel – Solid State Research, Max Planck Institut

Manuel Cardona has contributed enormously to our modern understanding of the optical properties of solids. He has used linear and nonlinear optical spectroscopy to systematize the electronic, structural and vibrational properties of semiconductors and superconductors. He has also made many seminal contributions to our theoretical understanding of the important properties of these materials. His work combines contributions to basic science with key ideas for subsequent applications. His recent work on measuring and explaining the diverse effects which isotopic composition has on the physical properties of materials has laid the groundwork for this new field

EWING, Rodney – Department of Geological Sciences, University of Michigan

Rod Ewing is universally recognized as the world's leading scientist on the geochemistry of uranium and the role of uranium in all aspects of nuclear power, from nuclear-reactor processes to safe storage of radiogenic waste. With his intellectual capabilities and scientific expertise, he has made major and fundamental scientific advances in Earth and Environmental Sciences. He has tirelessly pursued geological solutions to the problem of nuclear-waste disposal, almost single-handedly impressing the Materials Science community and Government Agencies with the importance of this approach. This is the most creative and sustained scientific initiative in this area since its inception.