

Andrew Stanton French - Curriculum Vitae

1. Address

Department of Physiology and Biophysics
Dalhousie University
PO Box 15000, Halifax, Nova Scotia
B3H 4R2, Canada
Office: 902-494-1302
E-mail: andrew.french@dal.ca
Web: <http://asf-pht.medicine.dal.ca>

2. Personal

Birth: Holbeton, Devon, England
Canadian and British Citizen

3. Education

1954-61 High School: The Coopers' Company's School, London, England
1961-65 Undergraduate: The University of Salford, England
1965-68 Graduate: The University of Essex, England
1968-70 Post-Doctoral: The University of Alberta, Canada

4. Degrees

1965 Graduate of the Royal Institute of Chemistry
1966 M.Sc. in Chemical Kinetics, University of Essex
1968 Ph.D. in Chemistry, University of Essex
1993 Dosentti in Physiology, University of Oulu, Finland

5. Honors

16th Sarrazin Lecturer of the Canadian Physiological Society, January 1993
Award for Recognition of 25 Years Continuous Support, Medical Research Council of
Canada, 1996
Filosofian tohtori honoris causa (Honorary doctoral degree in Natural Sciences)
University of Oulu, Finland, May 2009

6. Employment

1970-75	Assistant Professor of Physiology, University of Alberta
1975-82	Associate Professor of Physiology, University of Alberta
1976-77	Visiting Fellow, Australian National University, Canberra, Australia
1982-96	Professor of Physiology, University of Alberta
1995-2000	Professor and Head of Physiology and Biophysics, Dalhousie University
1999-	Professor of Biomedical Engineering, Dalhousie University
2000-2022	Professor of Physiology and Biophysics, Dalhousie University
2022-	Professor emeritus of Physiology and Biophysics, Dalhousie University

7. Memberships

Canadian Physiological Society:
Treasurer 1982-85
Nominating Committee 1987
Vice-President 1988-89
President 1989-90
Past-President 1990-91
Chair, Nominating Committee 1990-91
Society for Neuroscience
International Society for Neuroethology

8. Teaching

Undergraduate lecture and laboratory classes to students in:
Medicine, Science, Pharmacy, Occupational Therapy, Physiotherapy,
and Nursing

Subjects taught:

Membrane biophysics, Peripheral nerve and muscle, Central nervous system,
Special senses, Autonomic system, Respiration, Renal system

Dalhousie Medical School Case-Oriented Problem-Solving Program:

Case writing in neuroscience for 1st year medical students
Lectures and laboratories in neuroscience for 1st year medical students
Tutoring genetics, embryology and reproduction for 1st year medical students
On-line module creation for 2nd year medical students
Lectures in neuroscience for 2nd year medical students
Tutoring neuroscience for 2nd year medical students
Tutoring in clinical pharmacology for 4th year medical students

Graduate courses in the following subjects:

Membrane biophysics, Cell biology, Central nervous system, Special senses,
Linear and nonlinear systems analysis, Sensory transduction, Neural coding,
Electronics and computing in physiology, Bioelectricity

9. Trainees (with most recently known positions)

Ralph A. DiCaprio (Ph.D.) 1972-1976, Professor and Chair of Biological Sciences,
Ohio University (Retired)

Janice E. Kuster (Postdoctoral) 1981-1984

Robert E. Watts (M.Sc.) 1981-1985

Arturo E.C. Pece (Ph.D.) 1984-1990, Assistant Research Professor, Datalogisk
Institut, Copenhagen, Denmark

Lisa L. Stockbridge (Postdoctoral) 1985-1989, Program Manager, FDA, Washington

Marek Duszyk (Postdoctoral) 1988-1991, Professor, University of Alberta (retired)

Ti-Dao Tsai (Postdoctoral) 1989-90, Research Scientist, Pharmacia

Malgorzata Wilk (Postdoctoral) 1990-1992, Assistant Professor, University of Texas at Arlington

Päivi H. Torkkeli (Ph.D.) 1991-1994, Professor, Dalhousie University

Baoguo G. Zhang (Postdoctoral) 1991-1992

Susan K. Patrick (Research Assistant) 1992-1993

Melisa W.Y. Ho (Ph.D.) 1992-1997, Research Scientist, Wyeth Research, Cambridge, MA

Mikko I. Juusola (Postdoctoral) 1993-1996, Professor, University of Sheffield, UK

Gillian Ridge (Postdoctoral) 1993-1996, Teacher, UK

Ulli Höger (Postdoctoral) 1998-2002, Assistant Professor, Mount Saint Vincent University, Halifax, Nova Scotia

Shin-Ichi Sekizawa (Postdoctoral) 1998-2001, Professor, University of Tokyo

Elizabeth A. Cowley (Postdoctoral) 1999-2001, Professor and Head, Dalhousie University

Alexandre Widmer (Ph.D.) 2000-2004, Industrial, Switzerland

Ewald Gingl (Postdoctoral) 2002-2003, Research Scientist, Novartis, Vienna

Izabela Panek (Postdoctoral) 2005-2006, Research Manager, Dalhousie University

Russell Wyeth (Postdoctoral) 2005-2006, Professor, Saint Francis Xavier University, Antigonish, Nova Scotia

Keram Pfeiffer (Postdoctoral) 2006-2011, Professor, Würzburg, Germany

Julia Schuckel (Ph.D.) 2006-2010, Postdoctoral, University of Lund, Sweden

Joscha Schmitz (Exchange Graduate Student) 2011, Universität Köln, Germany

Jenai Lowe (Honors Student) 2011-2012, Dental School, Trinidad and Tobago

Irina Ignatova (Ph.D. University of Oulu, Finland) 2011-2018

Vaishnavi Sukumar (M.Sc.) 2013-2015, Research Associate, University of Western Ontario

Hongxia Liu (Postdoctoral) 2014-

Jessica Johnson (Summer, Honors Student) 2016-18

Averie DePalma (Summer Student) 2017

Jessica Johnson (M.Sc.) 2018-2019, Medical student, Dalhousie

Samantha Rogers (Summer Student) 2018, Medical student, University of New Brunswick, Canada

Anneka Hennenfent (Summer, Honors Student) 2018-2020, Masters student, Bonn, Germany

Jinwon Jang (Honors Student) 2019-2020

10. External Ph.D. Thesis examinations and reviews

1987 Ph.D. Thesis, N. Nation, Division of Medical Physiology, University of Calgary, Calgary, Alberta

1990 Ph.D. Thesis, K. Yasukawa, School of Mathematics, Physics, Computing and Electronics, Macquarie University, Australia

1990 Ph.D. Thesis, S.E. Gabriel, Department of Biochemistry, University of Saskatchewan

1993 Ph.D. Thesis, M. Juusola, Department of Physiology, University of Oulu, Finland
1996 Ph.D. Thesis, M. Laine, Department of Physiology, University of Oulu, Finland
2001 Ph.D. Thesis, Han Chunlei, Department of Physical Sciences, Division of Biophysics, University of Oulu, Finland
2008 Ph.D. Thesis, Kyösti Heimonen, Department of Physical Sciences, Division of Biophysics, University of Oulu, Finland
2011 Ph.D. Thesis, Uwe Friederich, Department of Automatic Control and Systems Engineering, University of Sheffield, UK

11. Research grants

Natural Sciences and Engineering Council of Canada
Current award: Mechanisms of sensory transduction and sensory information coding. 2016-2023, \$33,000 per annum
Canadian Institutes of Health Research (formerly Medical Research Council of Canada) - 1972-2009, 2010-2015
Sigrid Jusélius Foundation 2011-2012, Senior Visiting Researcher, University of Oulu, €60,000
Alberta Heritage Foundation for Medical Research (AHFMR):
AHFMR 1980-1984, Post-doctoral Fellowship
AHFMR 1981, Major Equipment Award \$46,170
AHFMR 1981-1984, Graduate Studentship
AHFMR 1982, Major Equipment Award \$19,819
AHFMR 1986-1989, Post-doctoral Fellowship
AHFMR 1986-1989, Graduate Studentship
AHFMR 1988-1991, Post-Doctoral Fellowship
AHFMR 1992-1995, Graduate Studentship
AHFMR 1993, Visiting Scientist to Alberta Award, \$6,400
AHFMR 1993, Major Equipment Award, \$59,000
University of Alberta Central Research Fund: "Mechanically Activated Single Ion Channels", 1985-86, \$4,500
MSI Foundation: "Ion Channel Behavior in Cystic Fibrosis", 1989-1990, \$32,000 per annum
Canadian Cystic Fibrosis Foundation (CCFF)
"Ion Channels in Normal and Cystic Fibrosis Airway Epithelia", 1989-1998, \$53,000 per annum
CCFF 1992-1996, Graduate Studentship
Paulo Foundation, Helsinki, Finland, 1993, Stipendiate, \$3,000
NATO Collaborative grant, 1995-1997, \$8,500
NATO Collaborative grant, 1997-2000, \$11,100
Dalhousie Medical Research Foundation (DMRF):
DMRF 1995, "Patch clamp set-up", \$16,000

DMRF 1996, "Burleigh LSS-1000 System", \$6,000
 DMRF 1997, "Patch clamp amplifier", \$8,000
 Nova Scotia Lung Association, 1999-2000:
 "Interactions between airway surface fluid and epithelial transport in normal and CF airways", \$5,000
 Whitaker Foundation, 1999-2002, "Establishment of a new Institute for Biomedical Engineering at Dalhousie University" PI: Dr. J.M. Lee, \$1,200,000

12. Research grant committees, site visits and reviews

1981 Chair, Site Visit, Division of Neuroscience, University of Calgary, Alberta Heritage Foundation for Medical Research
 1981 Site Visit, Faculty of Physical Education, University of Calgary, Alberta Heritage Foundation for Medical Research
 1986 Grants Committee, Major Computing Facilities, Medical Research Council
 1987-92 Grants Committee, Neuroregulatory Mechanisms, Medical Research Council
 1987-90 Grants Committee, Post-Doctoral Fellowships, Alberta Heritage Foundation for Medical Research
 1989-90 Study Section on Nonlinear Mechanisms in Neuroscience, National Institute for Mental Health (USA)
 1989 Site Visit, Center for Complex Systems, Florida Atlantic University, Boca Raton, Florida, National Institute for Mental Health (USA)
 1989-90 Special Study Section and Site Visit, Biomedical Simulations Resource, University of Southern California, Los Angeles, California, National Institutes of Health (USA)
 1989 Special Study Section on Nonlinear Methods in Psychobiology and Behavior, National Institutes of Health (USA)
 1990 Site Visit, Department of Anatomy, University of Calgary, Networks of Centers of Excellence Program
 1990-92 Grants Committee, Major Equipment, Alberta Heritage Foundation for Medical Research
 1991-94 Research Grants Committee, Canadian Cystic Fibrosis Foundation
 1992-93 Chair, Major Equipment Grants committee, Alberta Heritage Foundation for Medical Research
 1992-96 Resource Advisory Committee, Biomedical Simulations Resource, University of Southern California (National Institutes of Health)
 1995-98 Grants Committee, Rick Hansen, Man in Motion Foundation
 1995-98 Chair, Neuroscience "B" Grants Committee, Medical Research Council
 1996-00 Chair, Resource Advisory Committee, Biomedical Simulations Resource, University of Southern California (NIH)
 1999 External Reviewer, Department of Physiology, University of Toronto
 1999 Chair, Expert Review Panel, Networks of Centers of Excellence

- 2000 Program, Consortium for Medical Image Science and Technology
Chair, Biomedical Engineering Committee, Canadian Foundation for Innovation
- 2000-2002-05 College of Reviewers, Canada Research Chairs Program
- 2002- Groups Review Committee, Canadian Institutes of Health Research
- 2002- College of Reviewers, Canadian Foundation for Innovation, New Opportunities Program
- 2005-7 Chair, Research Resources Committee, Canadian Institutes of Health Research
- 2015 Dementia Chair Committee, Research Manitoba

13. Editorial

- 1977- Editorial Board, *Biological Cybernetics*
- 1980-83 Board of Reviewers, *Journal of Electrophysiological Techniques*
- 1996- Advisory Board, *Journal of Comparative Physiology "A"*.

14. Scientific meetings

- 1980 Chair, Organizing Committee, Canadian Physiological Society Winter Meeting, Banff, Alberta
- 1982 Program Committee, Canadian Federation of Biological Societies
- 1984 Chair, Scientific Session, Canadian Federation of Biological Societies, Annual Meeting, Saskatoon, Saskatchewan
- 1984 Chair, Scientific Session, Canadian Physiological Society, Winter Meeting, Sainte Adèle, Quebec
- 1985 Invited Participant, Workshop on Biomedical Applications of Identification, IFAC Symposium on Identification and System Parameter Estimation, York, UK
- 1986 Chair, Scientific Session, Canadian Physiological Society, Winter Meeting, Vernon, British Columbia
- 1986 Chair, Symposium on Control Systems in Physiology, International Union of Physiological Sciences, Vancouver, British Columbia
- 1988 Chair, Scientific Session, Canadian Physiological Society, Winter Meeting, Mont Tremblant, Quebec
- 1989 Chair, Scientific Session, Canadian Physiological Society, Winter Meeting, Whistler, British Columbia
- 1990 Chair, Scientific Session, Canadian Physiological Society, Winter Meeting, Beaupré, Quebec
- 1991 Chair, Scientific Session, Society for Experimental Biology, Annual Meeting, Birmingham, UK
- 1992 Chair, Scientific Session, Canadian Physiological Society, Winter Meeting, Kimberley, British Columbia
- 1992 Organizing Committee, 21st. International Chemosensory Workshop on Insects, Jasper, Alberta

- 1994 Chair, Organizing Committee, Canadian Physiological Society Winter Meeting, Lake Louise, Alberta
- 1999 Organizing Committee, Canadian Physiological Society Winter Meeting, Cornerbrook, Newfoundland
- 2000 Chair, Scientific Session: Nonlinear Modeling of Physiological Systems, Biomedical Engineering Society Meeting, Seattle, USA
- 2004 Chair, Scientific Session, Canadian Physiological Society, Winter Meeting, Vernon, British Columbia

15. Other national and international activities

- 1976 Invited Participant, National Science Foundation (USA) Workshops on Computing Requirements in Neuroscience
- 1989 Canadian Delegate, Council of the International Union of Physiological Sciences, Helsinki, Finland
- 1989 Board of Directors, Canadian Federation of Biological Societies
- 1989-93 Secretary, Canadian National Committee to the International Union of Physiological Sciences
- 1990-91 Member, Committee for International Science and Technology Associations, National Research Council of Canada
- 1993 Canadian Delegate, Council of the International Union of Physiological Sciences, Glasgow, UK
- 1997 Invited participant, Medical Research Council Atlantic Regional Retreat, Halifax, Nova Scotia
- 1999 Invited participant, MRC-CIHR Discussion Session, Toronto, Ontario
- 1999 Invited participant, Canadian Membrane Consortium Workshop, Banff, Alberta.

16. Departmental Administration

University of Alberta:

- 1970-72 Representative to the Faculty of Pharmacy
- 1970-91 Representative to the Faculty of Science
- 1970-72 Physiology 361 Course Organizer
- 1972-81 Physiology 410 Course Organizer
- 1979-82 Graduate Program Organizer
- 1979-83 Representative to the Faculty of Graduate Studies and Research
- 1982-88 Honors Program Organizer
- 1976-94 Undergraduate Teaching Scheduling (7 courses)
- 1986-94 Recruitment Committee
- 1987-91 Physiology 310 Course Organizer
- 1990-92 Neuroscience Graduate Program Coordinator
- 1991-92 Representative to the Faculty of Graduate Studies and Research
- 1992-94 Neuroscience Graduate Program Committee

Dalhousie University:

- 1995-00 Head, Department of Physiology and Biophysics
- 1995-00 Chair, Department Academic Planning Committee
- 1995-96 Chair, Department Search and Selection Committee
- 1997-98 Chair, Department Search and Selection Committee
- 1999-00 Chair, Department Search and Selection Committee
- 2002-04 School of Biomedical Engineering, Ph.D. Program Committee
- 2002-04 School of Biomedical Engineering, Appointments Committee
- 2004-09 Graduate Coordinator, School of Biomedical Engineering
- 2016-17 School of Biomedical Engineering, Marble/Holbrook Committee

17. University and Faculty Committees

University of Alberta:

- 1972-73 Review Committee, Faculty of Medicine Student Evaluation Board
- 1973 Review Committee, Chair of Physiology
- 1973-75 University of Alberta Research Committee
- 1973-74 University and City of Edmonton Research Committee
- 1976 Review Committee, Chair of Secondary Education
- 1978 Review Committee, Chair of Physiology
- 1979 Review Committee, Chair of Surgery
- 1980-81 Tenure Committee, Occupational Therapy
- 1982 Tenure Committee, Physiology
- 1983-84 Review Committee, Chair of Physiology
- 1983-86 University Academic Development Committee
- 1984 Review Committee, Ph.D. Program in Marketing
- 1984-85 Committee for the Quinquennial Review of Quota Faculties
- 1984-85 Search and Selection Committee, Chair of Physiology
- 1984-86 University Facilities Development Committee
- 1985-86 ADC/PPC Joint Sub-Committee on the University Budget
- 1985-86 Search and Selection Committee, Chair of Surgery
- 1985-88 GFC Panel for Review/Selection Committees
- 1986 Search and Selection Committee, Director of the Centre for Research in Theoretical Psychology.
- 1987 Search and Selection Committee, Chair of Speech Pathology and Audiology
- 1987-89 Search and Selection Committee, Chair of Computing Science
- 1987-88 University Planning and Priorities Committee
- 1987-88 University Academic Development Committee
- 1987-94 Graduate Program Committee, Division of Neuroscience
- 1988 Search and Selection Committee, Chair of Clothing and Textiles
- 1990 Review Committee, Chair of Physiology
- 1992-93 Sub-Committee for Honors and Specialization in Cell Biology Program
- 1993 Review Committee, Director of the Division of Neuroscience
- 1994 General Appeals Committee

Dalhousie University:

- 1995-96 Faculty of Medicine Finance Committee
- 1995-00 Faculty of Medicine Advisory Committee
- 1996-98 Chair, Faculty of Medicine Space Committee
- 1998-00 Faculty of Medicine Finance Committee
- 1999-00 Dalhousie Medical School Information System Steering Committee
- 1999-00 School of Biomedical Engineering, Appointments Committee
- 2000 Faculty of Medicine Budget Subcommittee
- 2000-01 Scientific Advisory Committee, Dalhousie University Brain Repair Center Project
- 2002-04 School of Biomedical Engineering, Appointments Committee
- 2003-06 Faculty of Medicine Tenure and Promotion Committee
- 2004-09 Faculty of Engineering Graduate Committee
- 2009- Faculty of Medicine Neuroscience Unit, Physiology Component Head

18. Invited Presentations

- "Spectral analysis of information transfer through single units", 4th Winter Conference on Brain Research, Aspen, Colorado, 1971
- "Some problems in the transmission of information by neuronal spike trains", Joint meeting of the American Statistical Association and the Biometric Society, Montreal, 1972
- "The analysis of information coding by neuronal spike trains", 8th International Biometric Conference, Constanta, Romania, 1974
- "Electrical coupling in early *Xenopus* embryos", Department of Physiology, University of West Virginia, Morgantown, West Virginia, 1975
- "A sampling algorithm for bandwidth limitation of action potential trains", Workshop on Computer Technology in Neurobiology, University of West Virginia, Morgantown, West Virginia, 1975
- "A software package for spectral analysis of neurophysiological data", Workshop on Computer Technology in Neurobiology, University of West Virginia, Morgantown, West Virginia, 1975
- "Measuring the Wiener kernels of a nonlinear system by use of the fast Fourier transform and Walsh functions", 1st Symposium on Testing and Identification of Nonlinear Systems, California Institute of Technology, Pasadena, California, 1975
- "Patterns of electrical coupling in early amphibian embryos", Department of Biology, University of California, San Diego, California, 1976
- "Analysis of mechanotransduction in the cockroach trochanteral hair plate", Department of Neurobiology, Australian National University, Canberra, 1977
- "Linear analysis of phototransduction in the fly compound eye", Anatomisches Institut der Universität Zürich, Zürich, Switzerland, 1977
- "White noise analysis of phototransduction in the fly compound eye", Max-Planck-Institut für Biologisches Kybernetik, Tübingen, Germany, 1977

- "The frequency domain approach to nonlinear analysis of neural coding", Workshop on Quantitative Analysis in Neuroscience, 7th Annual Meeting, Society for Neuroscience, Anaheim, California, 1977
- "Structure and function of trochanteral hair plate sensilla in the cockroach", Department of Entomology, University of Alberta, Edmonton, Alberta, 1978
- "Electrical coupling between cells in the early *Xenopus* embryo", Department of Physiology, University of Pittsburgh, Pittsburgh, Pennsylvania, 1979
- "Sensory transduction in some insect mechanoreceptors", Department of Otolaryngology, University of Pittsburgh, Pittsburgh, Pennsylvania, 1979
- "Some aspects of transduction in two insect mechanoreceptors", Department of Neurobiology, Australian National University, Canberra, Australia, 1980
- "Linear and nonlinear analysis of mechanotransduction mechanisms", Department of Biomedical Engineering, McGill University, Montreal, 1981
- "Sensory transduction in insect mechanoreceptors", Department of Zoology, University of Alberta, Edmonton, Alberta, 1981
- "Sensory transduction in the cockroach tactile spine", Bekey Laboratory of Neurobiology, University of Hawaii, Honolulu, Hawaii, 1981
- "Linear and nonlinear frequency domain analysis of sensory transduction in an insect mechanoreceptor", Hawaii International Conference on System Sciences, Honolulu, Hawaii, 1982
- "Sensory transduction in some insect mechanoreceptors", Department of Zoology, Cambridge University, England, 1982
- "Sensory transduction and adaptation in an insect mechanoreceptor", Biological Discussion Group, Faculty of Medicine, University of Alberta, Edmonton, Alberta, 1983
- "Applications of frequency response techniques to sensory transduction", Advanced Short Course on Physiological System Modeling, Biomedical Simulations Resource, University of Southern California, Los Angeles, California, 1986
- "Mechanisms of rapid sensory adaptation", International Chemosensory Workshop on Insects, Kona, Hawaii, 1986
- "Interactions between single photons in locust photoreceptors", International Chemosensory Workshop on Insects, Kona, Hawaii, 1986
- "Frequency domain approaches to sensory transduction and sensory adaptation", XXXth Congress of the International Union of Physiological Sciences, Vancouver, British Columbia, 1986
- "Applications of Volterra-Wiener methods to sensory transduction in an insect mechanoreceptor neuron", 2nd Workshop on Advanced Methods of Physiological System Modeling, Biomedical Simulations Resource, University of Southern California, Los Angeles, California, 1987
- "Mechanisms of rapid action potential adaptation in an insect sensory neuron", Division of Neurobiology, University of Arizona, Tucson, Arizona, 1988
- "Nonlinear analysis of sensory transduction and encoding", 3rd Workshop on Advanced Methods of Physiological Systems Modeling, Biomedical Simulations Resource, University of Southern California, Los Angeles, California, 1988

- "Mechanically-activated ion channels", International Chemosensory Workshop on Insects, San Diego, California, 1988
- "Ion channels in non-excitable human tissues", Neuroscience Group, Queen's University, Kingston, Ontario, 1988
- "Ion channel kinetics: How did we get into this state?", Division of Neuroscience, University of Alberta, Edmonton, Alberta, 1988
- "Transduction and adaptation in an insect sensory neuron", Department of Physiology, University of Western Ontario, London, Ontario, 1990
- "Volterra-Wiener analysis of sensory systems", 5th Short Course on Nonlinear Methods of Physiological System Modeling, Biomedical Simulations Resource, University of Southern California, Los Angeles, California, 1990
- "Nonlinear interactions between photons in the locust eye", 4th Workshop on Nonlinear Methods of Physiological System Modeling, Biomedical Simulations Resource, University of Southern California, Los Angeles, California, 1990
- "Ion channels and fluxes in airway epithelial cells", Department of Physiology, Tampere University, Tampere, Finland, 1990
- "Nonlinear models of photon interactions during transduction", 9th International Congress of Eye Research, Helsinki, Finland, 1990
- "Ion channels and movements in normal and cystic fibrosis airway epithelial cells", Merck-Frosst Canada, Inc., Montreal, Quebec, 1990
- "Physiology of the human airway epithelium", Department of Zoology, University of Hawaii, Honolulu, Hawaii, 1990
- "Physiology and morphology of the cockroach tactile spine neuron", International Chemosensory Workshop on Insects, Koloa, Hawaii, 1990
- "Chloride and sodium channels in human airway epithelia", International Chemosensory Workshop on Insects, Koloa, Hawaii, 1990
- "Analysis of a nonlinear cascade model for sensory encoding by modification of ion channels", 12th International Conference of the IEEE Engineering in Medicine and Biology Society, Philadelphia, Pennsylvania, 1990
- "Ion channels and currents in human airway epithelial cells", Department of Kinesiology, Simon Fraser University, Vancouver, British Columbia, 1990
- "Chloride and sodium channels in airway epithelial cells", Heritage Days Workshop on Epithelial Cell Function in Health and Disease, University of Alberta, 1990
- "Transduction and adaptation in an insect mechanoreceptor", Department of Entomology, University of Alberta, 1991
- "Rapid adaptation in the cockroach tactile spine", Symposium on Mechano-transduction, Society for Experimental Biology, Birmingham, England, 1991
- "Sensory transduction and adaptation in an insect mechanoreceptor", Biologisches Kolloquium, Universität Bielefeld, Germany, 1991
- "Mechanisms of rapid sensory adaptation in the cockroach tactile spine neuron", Kolloquiumsreihe des Sonderforschungsbereiches, J.W. Goethe-Universität, Frankfurt am Main, Germany 1991
- "Transduction and rapid adaptation in a mechanoreceptor", Division of Neuroscience seminar, University of Alberta, 1991

- "A nonlinear model of action potential encoding in a rapidly adapting sensory neuron", 13th International Conference of the IEEE Engineering in Medicine and Biology Society, Orlando, Florida, 1991
- "The dynamic properties of an insect mechanoreceptor", Institute for Sensory Research, Syracuse University, Syracuse, NY, 1992
- "The morphology of the sensory neuron in the cockroach tactile spine", 21st International Chemosensory Workshop on Insects, Jasper, Alberta, 1992
- "Nonlinear analysis of signal transmission by photoreceptors and large monopolar neurons in the fly retina", 5th Workshop on Nonlinear Methods of Physiological System Modeling, Biomedical Simulations Resource, University of Southern California, Los Angeles, California, 1992
- "Ion channels in human airway epithelia", Aktuelle Themen der Neurobiologie, Fachbereich Biologie, Universität Kaiserslautern, Germany, 1992
- "Ionic mechanisms underlying action potential encoding in an insect mechanoreceptor", Biologisches Kolloquium, Universität Kaiserslautern, Germany, 1992
- "The ionic basis of sensory adaptation in the cockroach tactile spine neuron", Kolloquiumsreihe des Sonderforschungsbereiches, J.W. Goethe-Universität, Frankfurt am Main, Germany 1992
- "Ionic channels in normal and cystic fibrosis airway epithelial cells", Department of Physiology, University of Oulu, Oulu, Finland, 1992
- "The ionic basis of rapid sensory adaptation in a mechanosensory neuron", Montreal Neurological Institute, Montreal, Quebec, 1993
- "The cockroach tactile spine", The Sarrazin Lecture, Canadian Physiological Society Winter Meeting, Mont Tremblant, Quebec, 1993
- "Ion channels responsible for transduction and adaptation in mechanoreceptors" NATO Advanced Research Workshop on The Cellular Mechanisms of Sensory Processing, Wye College, Kent, UK, 1993
- "Mechanotransduction and adaptation in the cockroach tactile spine", Department of Physiology, University of Oulu, Oulu, Finland, 1993
- "Mechanisms of rapid adaptation in an insect mechanoreceptor", Physiological Society of Stockholm, Stockholm, Sweden, 1993
- "The ionic mechanisms of rapid adaptation in a mechanosensory neuron", XXXIInd Congress of the International Union of Physiological Sciences, Glasgow, Scotland, 1993
- "Mechanisms of mechanotransduction and sensory encoding". Department of Physiology and Biophysics, Dalhousie University, Halifax, Nova Scotia, 1994
- "Mechanisms of sensory transduction in two types of mechanoreceptors", Department of Physiology, University of Oulu, Oulu, Finland, 1994
- "Transduction and adaptation in two arthropod mechanoreceptors", Department of Zoology, Helsinki University, Helsinki, Finland, 1994
- "Transduction and adaptation in two arthropod mechanoreceptors", Zoological Institute, J.W. Goethe University, Frankfurt, Germany, 1995
- "Sodium channel distribution in an arthropod mechanosensory organ", 24th International Chemosensory Workshop on Insects, Cozumel, Mexico, 1995

- "Sensory transduction and adaptation in two mechanoreceptors", Neurosciences Seminar Series, Queen's University, Kingston, Ontario, 1995
- "Some nonlinear properties of insect photoreceptors", Institute for Neuroscience Seminar Program, Dalhousie University, Halifax, Nova Scotia, 1996
- "Membrane ion channels: permeation and gating", Advanced Course in Mechanisms of Cell Signalling, Biocenter Oulu, University of Oulu, Finland, 1996
- "Mechanotransduction", Seminar Series, Biocenter Oulu, University of Oulu, Finland, 1996
- "The information capacity of sensory transduction and action potential encoding in a spider mechanoreceptor", 25th International Chemosensory Workshop on Insects, San Juan, Puerto Rico, 1997
- "Methods in Neurobiology - Signal analysis and modeling", Advanced Course in Neurobiology, Department of Physiology, University of Oulu, Finland, 1997
- "Methods in Neurobiology - Ion channels, receptors and transporters", Advanced Course in Neurobiology, Department of Physiology, University of Oulu, Finland, 1997
- "Single electrode voltage clamp recording from mechanoreceptor neurons", Symposium on Microelectrode Recording Techniques: Basic to Advanced", Society for Neuroscience Annual Meeting, New Orleans, LA, 1997
- "Information transmission in an insect mechanoreceptor", 26th International Chemosensory Workshop on insects, Molokai, Hawaii, 1998
- "Mechanotransduction mechanisms", Department of Cellular and Molecular Medicine, University of Ottawa, Ontario, 1998
- "Nonlinear analysis of a spider mechanoreceptor using principal dynamic modes", 14th Annual BMSR Workshop on Advanced Methods of Physiological System Modeling, Los Angeles, CA, 1998
- "Transduction and adaptation in mechanosensory neurons", Division of Neuroscience, University of Alberta, Edmonton, Alberta, 1999
- "Mechanoreceptors: A touching story", Bishop's University, Quebec, 1999
- "Temperature sensitivity of transduction and action potential conduction in a spider mechanoreceptor", 28th International Chemosensory Workshop on insects, Puerto Vallarta, Mexico, 2000
- "Nonlinear models of action potential firing in paired mechanoreceptor neurons", Biomedical Engineering Society Annual Meeting, Seattle, USA, 2000
- "Fundamental processes in mechanotransduction", Department of Biology, University of New Brunswick, Fredericton, New Brunswick, 2000.
- "Advanced short course in linear and nonlinear systems analysis", Department of Physical Sciences, Division of Biophysics, University of Oulu, Finland, November 27-29, 2000.
- "Sensory transduction in mechanoreceptors: a touching story", Department of Biology, Saint Francis Xavier University, Antigonish, Nova Scotia, 2001
- "Transduction and adaptation in arthropod mechanosensory neurons", Gordon Research Conference on Gravitational Effects on Living Systems: Mechanosensing, Connecticut College, New London, CT, July 1-6, 2001.
- "Sensory transduction and encoding in mechanoreceptor neurons", School of Biomedical Sciences, University of Queensland, Brisbane, Australia, August 17, 2001.

- "Modeling mechanoreceptor neuron dynamic responses", School of Biomedical Engineering, Dalhousie University, September 21, 2001.
- "Searching for connections in a mammalian sensory pathway by nonlinear analysis of spike trains", Biomedical Simulations Resource Workshop on Advanced Methods of Physiological System Modeling, Los Angeles, USA, April 20, 2002.
- "Sensory transduction in an arthropod mechanoreceptor system", IV World Congress on Biomechanics, Symposium on Mechanotransduction, Calgary, Alberta, August 8, 2002.
- "Mechanotransduction in a spider slit-sense organ", 30th International Chemosensory Workshop on insects, Kona, Hawaii, January 22-26, 2003.
- "Transduction channels and the sensory dendrite in a spider mechanoreceptor", Department of Physical Sciences, Division of Biophysics, University of Oulu, Finland, April 9, 2003.
- "Advanced short course in linear and nonlinear systems analysis", Department of Physical Sciences, Division of Biophysics, University of Oulu, Finland, April 9-11, 2003.
- "Dynamic properties of moth antennal responses to pheromone", 31st International Chemosensory Workshop on Insects, Charleston, South Carolina, February 20-24, 2005.
- "Mechanotransduction in spider slit sensilla", United States Department of Agriculture, Agricultural Research Center, Beltsville, Maryland, November 15, 2005.
- "Calcium levels during mechanotransduction in spider slit sensilla", 32nd International Chemosensory Workshop on Insects, Key West, Florida, January 22-25, 2006.
- "Locating the sites of sensory transduction and action potential initiation in spider mechanoreceptor neurons", Invertebrate Sound and Vibration XI, University of Toronto at Scarborough, August 9, 2006.
- "Linear and nonlinear biological systems analysis", Division of Biophysics, University of Oulu, Finland, September 19-20, 2007.
- "First steps in mechanosensation - lessons from a simple spider preparation", Department of Physical Sciences, University of Oulu, Finland, September 21, 2007.
- "Measuring the feeling - transduction, adaptation and information coding in a mechanoreceptor", School of Biomedical Engineering, Dalhousie University, Halifax, Nova Scotia, September 24, 2009.
- "Olfactory dynamics, measurement and interpretation", 33rd International Chemosensory Workshop on Insects, Kona, Hawaii, November 1-4, 2009.
- "Sensory transduction, adaptation and information coding in an arthropod mechanoreceptor", Department of Biology, University of Kassel, Germany, June 29, 2010.
- "Transduction, adaptation and encoding in spider mechanoreceptors", Physiological Society Cross-Themed meeting, Mechanosensitivity: from transduction to sensation, Durham University, UK, December 15-17, 2010.
- "How do you feel? Clues from spider mechanoreceptors", Department of Physiology and Biophysics, Dalhousie University, Halifax, Nova Scotia, March 24, 2011.
- "Excitatory and inhibitory opponent coding by *Drosophila* olfactory receptors", Department of Physics, University of Oulu, Finland, May 11, 2011.

- "Feeling the vibes – How spiders do it", Department of Biomedical Science, University of Sheffield, UK, August 18, 2011.
- "First steps into the *Cupiennius* transcriptome", Division of Biophysics, University of Oulu, Finland, May 22, 2012.
- "Calcium ions modulate transduction and are strongly buffered in spider mechanosensory neurons", Invertebrate Sound and Vibration XIV, Strathclyde University, Glasgow, Scotland, July 25, 2013.
- "How fast do they smell? The dynamics of olfaction in *Drosophila*", University of Alberta, Department of Physiology, Centennial Symposium, May 29, 2014.
- "Blinding cockroaches with science. Molecular and functional roles of opsins and TRP channels in insect phototransduction", Guests of the NMHI Talks, Neuroscience and Mental Health Institute, University of Alberta, Edmonton, November 12, 2015.
- "Targeted transcriptome assembly plus *in vivo* RNA interference for molecular and functional identification of opsins and TRP channels in insect phototransduction", School of Biomedical Engineering, Dalhousie University, February 11, 2016.
- "RNA interference of early stages of visual transduction in the cockroach, *Periplaneta americana*", Faculty of Biology, University of Havana, Cuba, February 2, 2017.
- "Naturalistic stimulation changes the dynamic response of a rapidly adapting spider mechanoreceptor", Invertebrate Sound and Vibration XVI, Schloss Rauschholzhausen, Ebsdorfergrund, Germany, September 15, 2017.
- "Early steps in *Periplaneta* phototransduction: RNA interference and electrophysiology", Institut für Zoologie, Universität zu Köln, Germany, September 18, 2017.
- "Speed of smell – The dynamics of insect olfaction", Sensory Transduction in Insects Symposium, Physiological Society, London, UK, December 8, 2017.
- "Evidence for a nanchung-inactive model of mechanotransduction in the cockroach tactile spine." Invertebrate Sound and Vibration XVII, Iowa City, USA, August 8, 2019.