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Education

Ph.D., Theoretical Physics, Caltech, 1979; Thesis Advisor: *W.A. Fowler, Nobel Laureate*

M.S., Theoretical Physics, Caltech, 1975.

B.Sc., Mathematics and Physics, University of Toronto, 1973.

Research Experience

Director... July 2012 – June 2017 CIFAR Cosmology & Gravity Program

Director... July 2007 – June 2012 CIFAR Cosmology & Gravity Program

Director... July 2002 – June 2007 CIFAR Cosmology & Gravity Program

Director... July 1996 – June 2001; July 2001-June 2006 CITA

University Professor ... Jan. 2000 – present ... UofT

Professor ... July 1987 – Dec. 1999 ... CITA

Cross-appointed Professor July 1985 – present ... UofT Depts. of Astronomy and Physics

Acting Director... July 1994 – July 1995 ... CITA

Acting Director... July 1990 – July 1991 ... CITA

Associate Professor ... July 1985 – June 1987 ... CITA

Associate Professor ... Sept. 1985 – May 1987 ... Physics ... Stanford U.

Assistant Professor ... Sept. 1981 – August 1985 ... Physics ... Stanford U.

Affiliate Member, Perimeter Institute for Theoretical Physics ... 2002 –

Sacker Visitor, Institute of Astronomy, Cambridge University, July-September 2008

Visiting Faculty Associate, Caltech, May-June 2008

Visiting Scientist, KIPAC and SLAC, April 2008

Visiting Scientist, Stanford Institute for Theoretical Physics, Stanford University, March 2008

Visiting Scientist, Institute for Astronomy, University of Hawaii, February 2008

Humboldt Fellow, Max Planck Institute for Astrophysics, October-January 2007

Member, Kavli Institute for Theoretical Physics China, Beijing, November 2007

Visiting Professor, 1^{ere} class ... Jan. 2003 – July 2003 ... University of Paris/IAP/IAS

Member ... Nov. 2002 – Dec. 2002 ... KITP, USCB

Moore Scholar ... September 2002 – Dec. 2002 ... Caltech

Member ... July-Aug., Dec. 1999 ... Isaac Newton Institute ... Cambridge

Visiting Research Physicist ... Feb. – June 1995 ... Inst. for Theoretical Physics ... UC Santa Barbara

Directeur de Recherche Associé 4ème échelon ... Aug. 1993 – Jan. 1994, Jan. – May 1996 ...

Institut d'Astrophysique de Paris

Member ... June 1984 – Aug. 1984, Nov. 1988, Mar. 2000, July 2000 ... ITP ... UCSB

Research Fellow ... July 1982 – Sept. 1983 ... Institute of Astronomy ... Cambridge U.

Postdoctoral Fellow/Lecturer ... Sept. 1978 – Sept. 1981 ... Astronomy ... U.C. Berkeley

Research Assistant ... Sept. 1973 – Sept. 1978 ... Kellogg Radiation Lab ... Caltech

Visiting Scientist ... Sept. 1976 – Mar. 1977 ... Nuclear Theory ... Neils Bohr Institute

Scientist ... July 1975 – Jan. 1976 ... Gamma Ray Astronomy ... JPL, Pasadena

Awards and Honours

2016 D.Sc. (H.C.), Doctor of Science (Honoris Causa), St. Mary's University, Halifax
2012 The Queen Elizabeth II Diamond Jubilee Medal
2011 Foreign Associate of the US National Academy of Sciences
2010 Canadian Association of Physicists Medal for Lifetime Achievement in Physics, the first award to an astrophysicist
2009 Henry Marshall Tory Medal, the Royal Society of Canada's highest honour for Outstanding Research in the Physical Sciences or Mathematics, awarded biennially
2008 Gruber Prize in Cosmology
2008 Order of Ontario, O.Ont.
2007 Alexander von Humboldt Research Award - Germany's highest award for career lifetime achievement of non-German academics
2007 Killam Prize in the Natural Sciences - Canada's most distinguished annual award for outstanding career achievement
2006 Herzberg Gold Medal - highest Canadian Research Award for Science
2005 one of three Herzberg Gold Medal Finalists
2005 Officer in the Order of Canada, O.C.
2003 NSERC Award of Excellence; one of three Herzberg Gold Medal Finalists
2003 Honorary Foreign Member, American Academy of Arts and Sciences FHM-AAAS
2003 Inaugural Member, Etobian Gallery of Distinction, ECI, Toronto
2002 Moore Scholar, Caltech
2002 Dannie Heineman Prize, AAS and AIP
2001 Fellow of the Institute of Physics, UK, FInstP; also Chartered Physicist ChP
2001 Fellow of the Royal Society of London, FRS
2000 University Professor, University of Toronto's Highest Honour for Professors
1998 Institut de France, Académie des Sciences / Royal Society of Canada Exchange Lecturer
1998 Fellow of the American Physical Society, FAPS
1998 CAP/CRM Prize in Theoretical and Mathematical Physics
1996 Fellow of the Royal Society of Canada, FRSC
1995 Beals Prize, Canadian Astronomical Society
1989 E.W.R. Steacie Prize, NRC
1988 E.W.R. Steacie Fellow, NSERC 1989-91
1986 - Fellow, Canadian Institute for Advanced Research
1985 - 1986 Associate, Canadian Institute for Advanced Research
1985 Alfred P. Sloan Foundation Research Fellow, 1985-89
1982-1983 Fellow of Churchill College, Cambridge University
1974-1975 Richard P. Feynman Fellowship, Caltech

Professional Memberships

American Academy of Arts and Sciences; American Astronomical Society; American Physical Society; Canadian Astronomical Society; Canadian Association of Physicists; Institute of Physics; International Astronomical Union; Royal Society of Canada; Royal Society of London; US National Academy of Sciences

Career Numerics

Papers: 450 Total, 341 Refereed Journals, 228 in 2010-2016, 51 Invited Papers, Book Chapters and Reviews, 58 Contributed Papers; citations from Google Scholar
scholar.google.com/citations?hl=en&user=bKrJyyUAAAAJ&pagesize=100&view_op=list_works&cstart=10

(more complete than NASA ADS or InSPIRES), yielding 53233 as of Apr 2016, 26917 since 2011; with h-index = 97 (number of papers with $> h$ citations), 77 since 2011; with i10-index = 276 (number of papers with at least ten citations from others), 220 since 2011; as of Apr 2016, using InSPIRES terminology: 24 renowned (500+ cites), 23 famous (250-499), 52 very well-known (100-249), 58 well-known (50-99), 122 known (10-49); “highly cited researcher” in ISIHighlyCited.com; most highly cited Cdn astronomer 1981-97 (*source D. Burstein 2000, Bull Amer Astron Soc 32*); Who’s Who in the World 25th Anniversary edition; Who’s Who in the World; Who’s Who in America; Who’s Who in Canada; Who’s Who in Science and Engineering; *etc.*

Conference Presentations: 263 Total, 228 Invited Conference Talks (including 16 closing summary talks, 7 opening introductory talks and 2 after dinner speeches); 54 Contributed Conference Talks and Poster Papers

Other Presentations: 23 Public Lectures; 98 Physics and Astronomy Colloquia; 62 Physics and Astronomy Seminars

Training of High Quality Personnel: 25+35 PDFs/SrRAs (direct mentoring); 12 grad students; 20 summer undergraduates

Teaching: 11 Courses, 5 Graduate and 6 Undergraduate; 4 Astronomy, 7 Physics, numerous graduate and undergraduate astronomy research supervision courses, numerous international lecture courses

Grants \geq 2000: CITA NSERC 1999-2003 (PI), 2003-2007 (PI), 2007-11 (co-I), 2011-16 (co-I); 2016-21 (co-I); NSERC SAR 2000-03 (PI); NSERC Award of Excellence 2003, 2005 (PI); CSA Planck-HFI 2002-04, 2005-09, 2010-11, 2011-13, 2013-16 (PI); NSERC Discovery 2002-06, 2007-12, 2012-17; NSERC Accelerator Grant 2012-15; NSERC/CSA joint program 2004-06 (co-I); NSERC Boomerang 2004-06 (co-I); NSERC DRAO 2006-08 (co-I); NSERC Herzberg Gold Medal 2007-11; CIFAR funding 1986- (director 2002-07, 2007-12, 2012-17); University Professor Award 2000-

Team Work: Planck Co-Investigator, High Frequency Instrument (HFI); Canadian Space Agency Principal Investigator for Planck HFI; “Planck Scientist” 2007-; HFI Core Team member; Planck Editorial Board 2010-; NASA US Planck Data Analysis Review Committee 2002-; Team Member for BOOMERANG98 2000-; CBI 2000-04; CBIpol 2003-; CBI2 2006-; BOOMERANG03 (2002-); ACBAR (2002-2009); ACT 2006-; Spider 2005-; CSA Cosmic Microwave Background Discipline Working Group, 2007-2010; Mustang2 2010-; ACTpol 2010-; ABS 2010-; CHIME (21 cm BAO) 2009-; SKA Cosmology 2015-; Advanced ACTpol 2015-

External Board Memberships

1987- Member of 92 Scientific Conference Organizing Committees; Chair of 23; Member or Chair of 31 external advisory committees or Board of Directors.

2015- Simons Foundation Fellow Committee

2012- Kavli Institute for Cosmology in Cambridge Advisory Board

2011- Korean Institute for Advanced Study Advisory Board

2008 ad hoc committee on appointments, Institute for Advanced Study’s School of Natural Science, November 2008

2008 Max Planck Society Research Field Commission for Astrophysics

2007-2010 Member-at-Large of the Corporation, Fields Institute for Research in the Mathematical Sciences

2007-08 Vice Chair, Review Panel for the Institute for Advanced Study’s School of Natural Science. Site visit November 2007.

2007-2010 Kavli Institute for Cosmological Physics (Chicago) Advisory Board

2007-2010 Kavli Institute for Theoretical Physics (UCSB) Science Advisory Board
2006-2007 Cambridge University Institute of Astronomy and Cavendish Astrophysics Review Panel (Kavli Institute Phase I and II)
2006 Korean Institute for Advanced Study Physics Evaluation Committee
2006-2011 Rutherford Medal Committee, Royal Society of Canada, Chair 2010, 2011
2006 Member, Science and Technology Forum, Alberta, June
2005 External Cosmology Faculty Search Committee, Perimeter Institute for Theoretical Physics
2005 US NSF Physics Frontier Institutes Evaluation Committee for the Kavli Institute for Cosmological Physics, University of Chicago
2005- Advisory Board, Pacific Institute of Theoretical Physics (UBC-based)
2004 Member, NASA Committee to Review US Data Analysis of Planck
2004-2007 Board of Directors, Fields Institute for Research in the Mathematical Sciences; also Member of the Scientific Nominating Committee
2004-2010 Fachbeirat Advisory Board to the Max Planck Society for the Max Planck Institute for Astrophysics, Garching, Munich; Chair 2007
2003-2007 Henry Marshall Tory Medal Committee, Royal Society of Canada
2003- Sloan Fellowship Selection Committee for Physics (panel of 3)
2002 Chair, NASA Committee to Review the Case for Coherent Detectors on the Planck-Surveyor Spacecraft
2002-2005 Sectional Committee 5, Royal Society of London, selects FRS in Astronomy and Geophysics
2002 Principal Investigator on the Canadian Planck High Frequency Instrument, Canada Space Agency
2002-current NASA US Planck Data Analysis Review Committee; Chair 2003
2001 UBC Physics Department Evaluation Committee
1999-00, 2000-01 CAP-CRM Prize Committee
1996-97, 2000-02 Steering Committee, NSERC Reallocation
1998- Harvard Astronomy Department Advisory Board
1997-2003 CERN Theory Advisory Board
1995 NASA Midex Review Panel Member, August 1995, Washington (we chose (W)MAP)
1990- CIFAR Cosmology and Gravitation Program Executive Committee
1995 Co-ordinator of the Workshop on Background Radiations and Galaxy Formation, Feb.-June 1995, Institute for Theoretical Physics, (UC Santa Barbara)
1994 Odin Scientist Selection Committee, Canadian Space Agency
1992-1995 Scientific Advisory Committee, IUCAA, Pune, India
1991-1997 Organizing Committee for IAU Commission 47 (Cosmology)
1991 The NRC/NSERC Astronomy Planning and Priorities Committee: The Next Two Decades

Internal Board Memberships: U. of Toronto

1986- 21 Faculty Search Committees
2007 University Professor Committee, Chair Provost
2006 Physics Graduate Student Admissions
2006 Senior Awards Committee, Chair VP Research
2006 Royal Canadian Institute MARS Anniversary Dinner Host
2004- SciNet High Performance Computing Committee
2005 Advisory Committee on University Professor Nominations, Faculty of Arts and Science, Chair FAS Dean
2005 School of Graduate Studies Vice Dean Search Advisory Committee, Chair SGS Dean
2004 School of Graduate Studies Dean Search Committee, Chair Provost

2004 School of Graduate Studies Review Committee, Chair Provost
2001-2002 Provost Search Committee, Chair President
2001-2002 Task Force on Internationalization and Strategic International Partnerships Chair,
VP Research, Dean of Arts & Science
2000- Promotions Committee, Physics Department, UofT
1998-2000 Planning Committee, Physics Department, UofT
1999- Natural Science and Engineering Panel of the Research Advisory Board, Chair VP
Research
1990-91, 1994-95, 1996-present Ex-officio Member, CITA Council
1994-1995 CITA SGS 5 year Review Committee
1994-1996 Task Force on Mathematical Sciences, University of Toronto
1992-1995 Research Advisory Board, University of Toronto
1992 Committee to Review the Office of the Vice-President, Research and International Re-
lations
1986-1993 Chair, Postdoctoral Evaluation Committee, CITA
1987-1993 Graduate Student Admissions Committee, Physics Department
1986-1993 Physics Colloquium Committee, Physics Department
1990-1994, 1997-present Welsh Lecture Committee, Physics Department
1992-1993 Chair, Computing Committee, CITA
1989-1990 CITA SGS 5 year Review Committee