

# Professor Lawrence A. Mysak, CM, FRSC

## **Curriculum Vitae (short): Lawrence A. MYSAK (October 2021)**

Past President, International Association for the Physical Sciences of the Oceans, and Canada Steamship Lines  
Emeritus Professor of Meteorology

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Born: January 1940, Saskatoon, SK, Canada

## **Education**

1957-61: BSc in Applied Mathematics (1961) and Certificate in Arts in Flute Performance (1960), Univ. of Alberta,  
Edmonton

1962-63: MSc in Mathematics, Adelaide Univ., South Australia

1963-66: AM (1964) and PhD (1967) in Applied Mathematics, Harvard Univ., Cambridge, MA

## **Academic Positions**

1966-67: Postdoctoral Research Fellow, Harvard Univ.

1967-70: Assistant Professor, Mathematics, UBC, Vancouver

1970-76: Associate Professor, Mathematics and Oceanography, UBC; Founding Member, Institute of Applied  
Mathematics and Statistics, UBC

1976-86: Professor of Mathematics and Oceanography, UBC

1986-96: Atmos. Environ. Service/NSERC Industrial Research Chair in Climate Research, McGill Univ., Montreal

1989- 2010: Canada Steamship Lines Professor of Meteorology, McGill Univ.

1990-96: Founding Director, Centre for Climate and Global Change Research (now GEC3), McGill Univ.

1997-2014: Member, Global Environmental and Climate Change Centre (GEC3), McGill Univ.

2004-07: Graduate Program Director, Dept. of Atmospheric and Oceanic Sciences, McGill Univ.

2010-present: Canada Steamship Lines Emeritus Professor of Meteorology, McGill Univ.

## **Visiting Positions**

1968 (summer): Visiting Research Associate, Oregon State Univ., Corvallis

1971-72: Senior Visitor, Dept. of Applied Mathematics & Theoretical Physics, Univ. of Cambridge, UK

1976 (fall): Visiting Scientist, Inst. of Ocean Sciences, Sidney, BC

1977: Visiting Scientist, National Center for Atmospheric Research, Boulder, CO

1981 (summer): Visiting Professor, Naval Postgraduate School, Monterey, CA

1982-83: Visiting Professor, Limnology Group, ETH, Zurich, Switzerland  
1995 (spring): "George Lemaitre" Visiting Professor, Cath. Univ. of Louvain, LLN, Belgium  
2000-01: Visiting Professor, Inst. for Climate Research, ETH, Zurich  
2001: Visiting Scientist, National Inst. of Geophysics and Volcanology, Bologna, Italy  
2007 (fall): Visiting Professor, Inst. for Biogeochemistry and Pollutant Dynamics, ETH, Zurich  
2008 (spring): Visiting Professor, International Meteorological Inst., Stockholm University, Sweden

### **Honours**

1986: Fellow, Royal Society of Canada (FRSC)  
1993-96: President, Academy of Sciences, the largest of the three academies in the RSC  
1995: Honorary Professor, Univ. of Kyiv Mohyla Academy, Ukraine  
1996: Member, Order of Canada (CM)  
1999: Inaugural Fellow, Canadian Meteorological and Oceanographic Society (CMOS)  
2000: Fellow, American Meteorological Society (AMS)  
2000: Fellow, American Geophysical Union (AGU)  
2000: Foreign Member, Academia Europaea  
2002 (spring): RSC-NAS (National Academy of Sciences) Ukraine Exchange Lecturer  
2004 (Jan.): Sverdrup Lecturer, 2004 AGU Ocean Sciences Meeting, Portland, OR  
2007-11: President, International Association for the Physical Sciences of the Oceans (IAPSO)  
2009: Priestly Lecturer, CSIRO Aspendale (Melbourne), Australia  
2010 (June 1-2): The CMOS 44<sup>th</sup> Annual Congress (Ottawa) organized the "Lawrence Mysak Session on Ocean and Climate Dynamics", in honor of his retirement from McGill Univ.  
2012: Publication of Atmosphere-Ocean 50-2 Special Issue, "Ocean and Climate Dynamics", a Tribute to Professor Lawrence A. Mysak, in honour of his retirement from McGill University on May 31, 2010. This issue was edited by former PhD student Prof. William Hsieh and contains eight research papers written by former students and colleagues of Lawrence Mysak.  
2015: Inaugural Fellow, International Union of Geodesy and Geophysics (IUGG)  
2020: Selected an Unsung Hero for McGill's Bicentennial celebrations (2021)

### **Awards**

1981: CMOS President's Prize (co-recipient) for 1980  
1982-83: UBC Killam Memorial Senior Fellowship, held at ETH, Zurich  
1997 (spring): Japan Society for the Promotion of Science "Invitation Fellowship" for Research in Japan  
1998: Patterson Distinguished Service Medal (meteorology) for 1997, Atmos. Envir. Service (AES), Env. Canada  
1998: JP Tully Medal (oceanography) for 1997, CMOS  
2000: McGill Univ. David Thomson Award for Excellence in Graduate Supervision and Teaching  
2002: Golden Jubilee Medal for contributions to science, Canadian Governors General  
2005: Prix Michel-Jurdant for (Environmental Sciences), Acfas (QC)

2006: Alfred Wegener Medal and Honorary Membership (for oceanography and climate), European Geosciences Union

2006: Prix Marie-Victorin (for natural sciences), Government of Quebec. This is one of the 11 “Prix du Quebec” awarded annually in all areas of culture and the sciences.

2009: Distinguished Alumni Award, University of Alberta, Edmonton

2010: Inaugural recipient of the “McGill Medal for Exceptional Academic Achievement” for a retiring faculty member

2013: Queen Elizabeth II Diamond Jubilee Medal (established in 2012) for contributions to science

### **National and International Appointments (selected)**

1981-89: Three NSERC grant selection committees

1988-98: Canadian Climate Program Board, Environment Canada

1989-96: Canadian Global Change Board, RSC

1990-92: Intergovernmental Oceanographic Commission/SCOR Committee on Climatic Changes and the Ocean

1992-02: Co-Chair, Fundraising Committee for RSC-NAS Ukraine exchanges

1995-96: Founding Chair, Partnership Group for Science and Engineering (PAGSE)

1997-2001: Science Advisory Committee, International Arctic Res. Center (IARC), Alaska

1998-2000: Scientific Advisory Panel, Can. Climate Research Network;

Chair 1999

1999-2004: CMOS Prizes and Awards Committee

2000-03: Science and Technology Advisory Board, Environment Canada

2001-05: Earth Science and Technology Advisory Panel, NATO (Brussels)

2001-2016: Editor-in-Chief, Atmospheric and Oceanographic Library Series, Kluwer Academic Publishers (now under Springer), Dordrecht, The Netherlands

2002-05: Grant Review Committee, Can. Foundation for Climate and Atmos. Sciences (CFCAS);

Chair, 2004-2005

2003-07: Vice-President, International Association for the Physical Sciences of the Oceans (IAPSO), one of eight sister organizations of IUGG

2005-09: National Organizing Committee for Joint Assembly of IAMAS, IAPSO and IACS in Montreal, July 2009 (MOCA-09)

2004-08: Fellows Selection Committee for AGU (Washington, DC)

2006-2012: Selection Committee for Alfred Wegener Medal and Honorary Membership, European Geosciences Union; Chair, 2011 & 2012

2007-11: President, IAPSO

2007-11: Executive Committee member, Scientific Committee for Oceanic Research (SCOR)

2007-11: Executive Committee member, IUGG

2008-14: Board of Trustees, Canadian Foundation for Climate and Atmospheric Sciences (CFCAS); since 2012: Canadian Climate Forum (CCF)

2010-present: EWR Steacie Prize (Canada) Selection Panel

Chair of Panel, 2013-present

2010-2014: AXA Research Fund (France) reviewer

2011-2015: Past President, IAPSO

2014-2015: Selection Committee for inaugural Gold Medal of IUGG, presented in Prague in 2015, at the 26<sup>th</sup> General Assembly of IUGG

2015-present: Inaugural Subject Editor (Atmospheric and Climate Sciences) for FACETS, a multidisciplinary journal of Canadian Science Publishing, Ottawa ([www.facetsjournal.com](http://www.facetsjournal.com))

2016-2019: Chair, Past Presidents' Council, Academy of Science, RSC

2017-2019: Deputy Chair, Local Organizing Committee for 2019 General Assembly of IUGG, Montreal

2021-present: Board of Trustees, EWR Steacie Memorial Fund

### **Publications**

1978: "Waves in the Ocean" (with PH LeBlond), 602 pp, Elsevier

1966-present: 175 refereed journal articles + 28 book chapters and refereed papers in conference proceedings

### **Lectures**

1966-present: Over 600 lectures, seminars, conference presentations (over 400 of these invited) in 30 countries

### **Courses taught**

1990-2010: Climate Dynamics I and II (including paleoclimates); Ocean Circulation and Physics; Arctic Oceanography; Introduction to Oceanic Sciences; Earth System Science

### **Graduate Students, PDFs, Research Associates**

1967-2017: Supervised or co-supervised 23 MSc and 24 PhD students, 33 PDFs and RAs; supported 18 sabbatical visitors at UBC and McGill. Twenty-two of my students and PDFs are now professors in 13 countries.

### **Recent Research Support**

2008-14: NSERC Discovery Grant, \$74 K/yr

2001-06: CLIVAR Network Grant (J Derome, PI), \$60 K/yr

2002-05: Canadian Foundation for Climate and Atmospheric Sciences (CFCAS), \$96 K/yr

### **Recent Research Activities and Interests**

Project 1: Modelling the effects of chemical weathering in regulating atmospheric CO<sub>2</sub> concentrations during glacial-interglacial cycles and future climate change

Project 2: Model study of the global carbon cycle during the Holocene and late Pleistocene with an intermediate complexity climate model

Project 3: The evolution of North Atlantic Deep Water since the Last Glacial Maximum

- Project 4: Model study of late Pleistocene megafauna-forest vegetation interactions in an Earth system climate model
- Project 5: Impact of climate change and variability on the outdoor skating season in Canada, 1951-2005
- Project 6: A carbon cycle box model study of the Paleocene-Eocene Thermal Maximum (PETM) around 55 Myr ago
- Project 7: The response of a low-order atmosphere-ocean-sea ice climate model to Milankovitch forcing
- Project 8: Modelling the freshwater budget of the Arctic Ocean and exchanges with the North Atlantic: Present, past, and future
- Project 9: Transient simulations of the Little Ice Age and beyond with a global reduced complexity climate model