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Lawson W. Brigham, PhD

Distinguished Fellow, Center for Arctic Policy Studies, University of Alaska Fairbanks
 Research Faculty, International Arctic Research Center, University of Alaska Fairbanks
 Fellow, U.S. Coast Guard Academy Center for Arctic Studies and Policy
 Work: UAF Center for Arctic Policy Studies, PO Box 757200, Fairbanks, AK 99775 USA
 E-mail: lwbrigham@alaska.edu & lwb48@aol.com

Education

- BS (Ocean Sciences), U.S. Coast Guard Academy (1970)
- Duke University Marine Laboratory Summer Oceanography Program (1976)
- MS (Management), Rensselaer Polytechnic Institute (1979)
- Honor Graduate Diploma (Naval & Strategic Studies), U.S. Naval War College (1982)
- Master of Philosophy (Polar Studies), University of Cambridge (1996)
- PhD (Geography & Polar Oceanography), University of Cambridge (2000)
- Executive Certificate, Management & Leadership Program, MIT Sloan School of Management (2009)

Professional Experience

2016-Present: Distinguished Fellow, Center for Arctic Policy Studies & Research Faculty, International Arctic Research Center, University of Alaska Fairbanks (Fairbanks, Alaska).

2009-2016: Distinguished Professor of Geography and Arctic Policy, University of Alaska Fairbanks (Fairbanks, Alaska).

2014-Present: Fellow, U.S Coast Guard Academy Center for Arctic Studies and Policy (New London, Connecticut).

2008-Present: Senior Fellow, Institute of the North (Anchorage, Alaska).

2004-09: Chair, Arctic Council's Arctic Marine Shipping Assessment (AMSA), Vice Chair of the Council's Working Group on Protection of the Arctic Marine Environment, and Co-Editor *AMSA 2009 Report*; led development of an Arctic nation policy framework for protecting Arctic people and the marine environment; member, U.S. Arctic Council Delegation.

2001-2008: Deputy Executive Director (Arlington, Virginia) & Alaska Office Director (Anchorage, AK), U.S. Arctic Research Commission (U.S. Presidential Commission); established Commission Alaska office (2003); led major Commission studies on permafrost, infrastructure and Arctic oil spill research; member, U.S. Arctic Council Delegation.

1998-2000: Research Associate, Scott Polar Research Institute, University of Cambridge, UK; Adjunct Scientist, Office of Naval Research Europe, London, UK.

1996-97: Office of Naval Research Arctic Chair & Associate Research Professor, Department of Oceanography, Naval Postgraduate School, Monterey, CA.

1996-Present: Managing Director, Polar Strategies, Eagle River, Alaska.

1995-96: Researcher, Scott Polar Research Institute, University of Cambridge, UK.

1993-95: Commanding Officer, USCGC *Polar Sea* (Polar Icebreaker), Seattle, Washington; Commanded the largest ship in the U.S. Coast Guard on Arctic and Antarctic expeditions: summer 1994 trans-Arctic voyage (Arctic Ocean Section 1994 Expedition), summer 1993 operations in Northeast Greenland, and 1993 & 1994 Antarctic Expeditions to the Ross Sea and McMurdo Base; Retired as Captain, U.S. Coast Guard.

1990-93: Chief Strategist and Chief, Strategic Planning Staff, Office of the Commandant, U.S. Coast Guard Headquarters Washington, DC; Director of the Coast Guard's Work-Life Study, a major human resources study involving all active duty, reserve, civilian and auxiliary Coast Guard personnel.

1989-90: Research Fellow, Marine Policy Center, Woods Hole Oceanographic Institution, Woods Hole, MA; Editor, *The Soviet Maritime Arctic* (Belhaven & Naval Institute Press, 1991); Lecturer in the USSR at the Arctic & Antarctic Research Institute, St. Petersburg and the Institute for World Economy, Moscow.

1986-89: First Commanding Officer, USCGC *Escanaba* (law enforcement cutter), Boston, MA; Commanded new \$100M ship on law enforcement, response and naval operations in the Atlantic Ocean and Caribbean Sea.

1985-86: Coast Guard Liaison Officer to the Chief of Naval Operations, The Pentagon and Coast Guard Headquarters, Washington, DC: Coordinated key relations between the senior leaders of the Navy and Coast Guard.

1982-85: Chief, Facilities Branch & Assistant Division Chief, Ice Operations Division, U.S. Coast Guard Headquarters, Washington, DC; management of the U.S. polar and domestic icebreaker fleet; coordinator of the Finland-U.S. Cooperation Agreement in Ice Navigation & Icebreaking Technology; planner for replacement U.S. polar icebreakers; executive director of the July 1984 Interagency Report *United States Polar Icebreaker Requirements Study*.

1981-82: U.S. Naval War College, Research Associate, Advanced Research Center, Newport, RI; developed icebreaking operations guide for U.S. Coast Guard icebreakers.

1979-81: First Commanding Officer, USCGC *Mobile Bay* (Great Lakes icebreaker), Sturgeon Bay, WI; Commanded new \$30M ship on law enforcement, search & rescue and ice breaking operations throughout the Great Lakes.

1974-79: Faculty, Department of Science (Marine Science & Chemistry Sections) & Head Intercollegiate Sailing Coach, U.S. Coast Guard Academy, New London, CT; summer operations in Greenland aboard USCGC *Northwind* (polar icebreaker) (1975).

-1970-74: Early Coast Guard career; Commanding Officer, USCGC *Point Steele* (patrol cutter); navigator & marine science officer aboard oceanographic cutter, USCGC *Rockaway*.

Advisory and Contributor Positions

- Member, Council on Foreign Relations Task Force on U.S. Strategy in the Arctic (2016-**Present**)
- Member, U.S. Delegation to the International Maritime Organization (IMO) in London; Maritime Safety Committee meetings on the IMO Polar Code (2013-15).
- Member, World Economic Forum Global Agenda Council on the Arctic (2013-**Present**); co-author of the WEF GAC report *Demystifying the Arctic* (January 2014).
- Commissioner, State of Alaska, Alaska Arctic Policy Commission (2012-15).
- Research Member, Hoover Institution/Stanford University *Arctic Security Initiative* (2012-**Present**).
- Member, National Research Council/National Academy Committee on the Future of Arctic Sea Ice Research in Support of Seasonal to Decadal Prediction (2011-12).
- Technical Adviser, Arctic Council Oil Spill Task Force (2011-13); negotiations resulted in the Arctic Oil Spill Preparedness & Response Agreement.
- Lead Author & Contributor, Arctic Council (PAME) Arctic Ocean Review (2011-13).
- Member, U.S. Federal NOAA Hydrographic Service Review Panel (NOAA Administrator Appointee) (2011-**Present**); Chair of the HSRP Emerging Arctic Priorities WG.
- Member, Western Alaska Area Maritime Security Committee, U.S. Coast Guard Sector, Anchorage, Alaska (2009-**Present**).
- Member of the Board of Advisors, Alaska Marine Exchange (2012-**Present**).
- Counsitor/Board Member, American Geographical Society (2011-**Present**).
- Visiting Researcher, Department of Applied Mathematics & Theoretical Physics, University of Cambridge, UK (2011-15).
- Research Associate, Scott Polar Research Institute, U. of Cambridge (2000-**Present**).
- Member, *State of the Arctic Report*, NOAA Working Group (2005-06).
- Vice Chair, Arctic Council's Working Group on Protection of the Arctic Marine Environment (2004-09).
- Chair, Arctic Council's Arctic Marine Shipping Assessment (2004-09).
- Co-Chair, Cambridge International Workshop on Arctic Marine Transport (2004-05).
- Co-Chair, U.S. Arctic Research Commission Permafrost Task Force (2001-04).
- Member, U.S. Arctic Council & U.S. PAME Working Group Delegations (2001-2009).
- Member, Board of Advisors, and Contributor, *Encyclopedia of the Arctic*, Routledge (1999-2005).
- Member, North Pacific Research Board, Anchorage, Alaska (2002-06).
- Contributing Author, Arctic Council's *Arctic Climate Impact Assessment* (2001-05).
- Member, International Polar Code Working Group, International Maritime Organization (1993-99).

- Chair & Member, Editorial Board, *Arctic Yearbook*, Northern Research Forum, Reykjavik, Iceland (2012-**Present**).
- Member, Editorial Board, *Polar Record*, Cambridge, UK (1996-2008).
- Member, Editorial Advisory Panel, *Polar Research*, Norwegian Polar Institute, Tromsø (2007-**Present**).
- Associate Editor, *Polar Geography* (2008-**Present**).
- International Advisory Group Member & Chairman, Evaluation Committee, International Northern Sea Route Programme (INSROP), Fridtjof Nansen Institute, Norway (1993-99).
- Corporation Member, Woods Hole Oceanographic Institution (1995-99).
- Board of Governors, Arctic Institute of North America (1991-**Present**).
- Member Board of Governors & Current Vice President, American Polar Society (1993 – **Present**).
- Advisor, U.S. Arctic Research Commission (1995-2001, 2009-**Present**).
- Journal Peer Reviewer: *Polar Record*, *Polar Research*, *Polar Geography*, *Geophysical Research Letters*, *Arctic Yearbook*, *Polar Journal*.

U.S. Congressional Testimony

- U.S. Senate Committee on Foreign Relations, Washington, DC, May 2009 (U.S. Arctic Policy Affairs and U.S. Arctic Council Contributions).
- U.S. Senate Committee on Appropriations, Subcommittee on Homeland Security, Anchorage, Alaska, August 2009 (Alaska's Arctic Infrastructure Requirements).

Research Interests and Expertise

Arctic & Antarctic environmental change; Arctic marine policy & security issues; global & regional maritime/naval security issues; satellite remote sensing of the oceans & sea ice; Arctic marine transportation; polar environmental regulations and management; Arctic coastal oceanography; and, strategic & scenario planning.

International Experience Summary

Member of the World Economic Forum Global Agenda Council on the Arctic; Arctic advisory work with Singapore's Ministry of Foreign Affairs & National University; two decades of experience with Japanese government maritime & science organizations and the Nippon Foundation/Ocean Policy Research Foundation; member of the U.S. Delegation to the International Maritime Organization (IMO); chair of a major international study for the Arctic Council, the *Arctic Marine Shipping Assessment* during 2004-09; vice chair of an international (Arctic Council) working group on the protection of the Arctic marine environment (PAME); member of a technical working group to the International Maritime Organization (developing polar ship guidelines); contributing author & member of the Arctic Council Arctic Climate Impact Assessment, and Arctic Council Arctic Ocean Review report; member of an international working group chaired by the Government of New Zealand on environmental impacts in the Ross Sea, Antarctica; member of the U.S. Delegation to the Arctic Council; diplomatic experience as commanding officer of a U.S. Coast Guard polar icebreaker in Australia, Canada, Iceland, Norway, Denmark (Greenland) and Antarctica; member of international science working groups on sea ice, climate change, and marine safety/environmental protection

regulations; and, broad experience with Soviet and Russian Arctic marine transportation governmental officials (1982-Present).

Polar & Oceans Field Operations

Participant in seven Antarctic expeditions and eight Arctic Ocean icebreaker voyages; cold regions experience with engineering & icebreaker field tests on the Great Lakes, Baltic Sea, and McMurdo Sound, Antarctica; Arctic environmental data collection experience in the Bering, Chukchi & Beaufort seas; have transited the Northwest Passage & the central Arctic Ocean (through the North Pole); fisheries and drug law enforcement experience throughout the Northwest Atlantic and Caribbean.

Professional Honors

- Awarded 2015 Polar Medal & Honorary Membership by the American Polar Society (Scripps Institution of Oceanography ceremony, La Jolla, CA 5 November 2015)
- Elected Member (2013), Norwegian Scientific Academy for Polar Research
- Elected Member (2013), Council on Foreign Relations
- Named Distinguished Alumnus (2010), U.S. Coast Guard Academy ('For distinguished service to the Coast Guard, Nation and International polar research/policy communities').
- Signee, American Geographical Society's historic *Flier's and Explorers Globe* (for commanding the icebreaker *Polar Sea* in 1994 as the first ship in history to reach the ends of the global ocean in the Bay of Whales, Ross Sea, Antarctica during February 1994 and at the North Pole in August 1994 (University of Delaware/American Geographical Society Ceremony 12 February 2008).
- Elected Member (2004), Sigma Xi, The Scientific Research Society.
- Selected (1996) Office of Naval Research Chair in Arctic Marine Science, Naval Postgraduate School.
- Elected Fellow (1995) for 'significant contributions to polar knowledge', Arctic Institute of North America, Calgary, Alberta, Canada and Fairbanks, Alaska, USA.
- Elected Fellow (1993), Royal Geographical Society (London).
- Legion of Merit (military award) Awarded by the U.S. Secretary of Transportation for Leading Transportation Department & U.S. Coast Guard Strategic Planning (1993).
- Arctic Service Medal (3 awards) and Antarctic Service Medal (four awards) for polar service to the United States (1969-1995); U.S. Coast Guard & U.S. Navy Meritorious Service Medals (4 military awards).
- Regional Finalist, U.S. Presidential White House Fellowship Program (1983).
- Marine Policy Research Fellowship, Woods Hole Oceanographic Institution (1989).

Recent Research Grants

- State of Alaska, Department of Commerce, Community and Economic Development, Alaska, Arctic Shipping and the New Maritime Arctic (Award: \$215,000; 2013-15).
- National Science Foundation, HIACMS, Integration and Arctic Coastal Marine Systems (Award: \$199,795; 2013-16).

Selected Publications

- Brigham, L. 2015. The Realities and Challenges of Russia's Northern Sea Route. *Fletcher Security Review*, Vol. 2, No. 2. (In Press).
- Brigham, L. 2015. More Assets for the Arctic. *U.S. Naval Institute Proceedings*, Annapolis, MD, Vol. 141, No. 12.
- Woityra, W, L. Brigham and M. Davanzo. 2015. Domestic Icebreaking Lessons for the Arctic. *U.S. Naval Institute Proceedings*, Annapolis, MD, Vol. 141, No. 8.
- Brigham, L. 2015. Commentary: The GLACIER Conference & President Obama's Links to the Arctic. In: Heininen, L. (Editor), *2015 Arctic Yearbook*, Northern Research Forum, Akureyri, Iceland.
- Brigham, L. 2015. Future perspective: The maritime Arctic in 2050. *The Fletcher Forum on World Affairs*. Vol. 39:I Winter. The Fletcher School, Tufts University, Medford, MA.
- Brigham, L. 2015. IMO Polar Code for Ships Operating in Polar Waters. ACCESS Policy Brief No. 4, Arctic Climate Change, Economy and Society EU Project. Paris, France.
- Brigham, L. 2015 (Editor) Alaska and the New Maritime Arctic: Executive Summary. Project Report to the State of Alaska Department of Commerce, Community and Economic Development, Fairbanks, Alaska, 1 February.
- Brigham, L. 2014. Polar maps: early eighteenth century vision of a northeast passage. *Polar Geography*, Vol. 37, No. 2, 134-136.
- Brigham, L. 2014. Nordic-Baltic-American Cooperation in the Arctic: A United States View. In: Hamilton, D., A. Simonyi and D. Cagan (Editors). *Advancing U.S.-Nordic-Baltic Security Cooperation*. Center for Transatlantic Relations, The Paul H. Nitze School of Advanced International Studies, Johns Hopkins University, Washington, DC.
- Brigham, L. 2014. (Editor) *Alaska and the New Maritime Arctic*. Conference Report, Anchorage, Alaska, 6-7 November 2013. University of Alaska Fairbanks.
- Brigham, L. 2014. Commentary: The Developing International Maritime Organization Polar Code. In: Heininen, L. (Editor), *2014 Arctic Yearbook*, Northern Research Forum, Akureyri, Iceland.
- Brigham, L. 2014. The Changing Arctic: New Realities and Players at the Top of the World. *Asia Policy* Volume 18, The National Bureau of Asian Research, July.
- Brigham, L. 2014. Environmental and Economic Security Challenges in a Changing U.S. Maritime Arctic. *Arctic Security Initiative* Research Paper, Hoover Institution, Stanford University. April.
- Brigham, L. 2014. Polar Ocean Navigation. In: E. Njoki (Editor) *Encyclopedia of Remote Sensing*, Springer, New York.
- Stephenson, S., L. Brigham and L. Smith. 2014. Marine accessibility along Russia's Northern Sea Route. *Polar Geography*, Vol. 37, No. 2, 111-133.
- Brigham, L. 2014. (Co-author), *Demystifying the Arctic*. World Economic Forum Global Agenda Council on the Arctic. Davos-Klosters, Switzerland. 22-25 January.
- Brigham, L. 2013. Arctic marine transport driven by natural resource development. In: *Baltic Rim Economics Quarterly Review*. Arctic Special Issue No. 2, March..
- Brigham, L. 2013. Commentary: Challenges and Opportunities Ahead for the Arctic Council. In: Heininen, L. (Editor), *2013 Arctic Yearbook*, Northern Research Forum, Akureyri, Iceland.

- Brigham, L. 2013. International Cooperation in Arctic Marine Transportation, Safety and Environmental Protection. In: North Pacific Arctic Conference Proceedings, Korea Maritime Institute and East-West Center.
- Stephenson, S., L. Smith, L. Brigham and J. Agnew. 2013. Projected 21st century changes to Arctic marine access. *Climatic Change*: Volume 118, Issue 3-4. June, pp. 885-899
- McConnell, M., L. Brigham, T. Laughlin and L. Speer. 2013. Workshop Report: Expanded Shipping and Other Marine Activities and the Ecology of the Bering Strait Region. IUCN, NRDC and UAF.
- Brigham, L. 2012. Let's Game the Arctic. *U.S. Naval Institute Proceedings*, Annapolis, MD, Vol. 138, No. 9.
- Brigham, L. 2012. Commentary: Thinking About the 'New' Arctic Geography. In: Heininen, L. (Editor), *2012 Arctic Yearbook*, Northern Research Forum, Akureyri, Iceland.
- Brigham, L. 2012. Arctic marine transportation. In: *McGraw-Hill 2012 Yearbook of Science and Technology*, McGraw-Hill, New York.
- Brigham, L. 2012. Environmental Security Challenges and the Arctic Council's Arctic Marine Shipping Assessment. In: Berkman, P. and A. Vylegzhanin (editors), *Environmental Security in the Arctic Ocean*. Springer, Dordrecht, The Netherlands.
- Brigham, L. 2011. Marine Protection in the Arctic Cannot Wait. *Nature* (13 October, Vol. 478), London, UK.
- Brigham, L. 2011. The Challenges and Security Issues of Arctic Marine Transport. In: Kraska, J. (editor), *Arctic Security in an Age of Climate Change*, Cambridge University Press, UK.
- Brigham, L. 2011. Russia Open Its Maritime Arctic. *U.S. Naval Institute Proceedings* (May Naval Review Issue), Annapolis, MD, Vol. 137, No. 5.
- Brigham, L. 2011. Globalisation and Challenges for the Maritime Arctic. In: Vidas, D. and P. Schei (editors), *The World Ocean in Globalisation*, Martinus Nijhoff Publishers/Brill, Leiden, The Netherlands.
- Brigham, L. 2010. Arctic Marine Shipping Assessment of the Arctic Council. DNAK Security Brief 5-2010. Den Norske Atlanterhavskomite (The Norwegian Atlantic Committee), Oslo, Norway.
- Brigham, L. 2010. The Coast Guard Must Enhance Its Polar Roles. *U.S. Naval Institute Proceedings*, Annapolis, MD, Vol. 136, No. 8.
- Brigham, L. 2010. The Arctic: Think Again. *Foreign Policy* (Sept-Oct), Washington, DC.
- Brigham, L. and M. Sfraga. 2010. *Creating a Roadmap Forward: The Arctic Marine Shipping Assessment*. Workshop Report for 22-24 October 2009, University of Alaska Fairbanks and the University of the Arctic Institute for Applied Circumpolar Policy.
- Brigham, L. 2010. The Fast-Changing Maritime Arctic. *U.S. Naval Institute Proceedings* (May Naval Review Issue), Annapolis, MD, Vol. 136, No. 5.
- Brigham, L. 2009. Navigating the New Maritime Arctic. *U.S. Naval Institute Proceedings*, Annapolis, MD.
- Brigham, L. 2008. Arctic Shipping Scenarios and Coastal State Challenges. *WMU Journal of Maritime Affairs*, Malmo, Sweden.

- Brigham, L. 2007. Thinking About the Arctic's Future: Scenarios for 2040. *The Futurist* (September-October), Bethesda, MD.
- Brigham, L. 2007. Arctic Ocean. In: J.Hattendorf (editor), *The Oxford Encyclopedia of Maritime History*. Oxford University Press, New York.
- Brigham, L. 2006. The Arctic Marine Shipping Assessment: Changing Marine Access and a Critical Need for Improved Sea Ice Thickness. In: P. Wadhams (editor), *Arctic Sea Ice Thickness: Past, Present & Future*, European Commission, Brussels.
- Brigham, L. 2006. Future Marine Access in the Arctic Ocean, In: H. Kitagawa (editor). *New Era in Far East Russia & Asia*, Ship and Ocean Foundation, Tokyo.
- Richter-Menge, J., J. Overlund, A. Proshutinsky, V. Romanovsky, L. Benstsson, L. Brigham and 19 others. 2006. *State of the Arctic Report*. NOAA OAR Special Report.
- Brigham, L. and B. Ellis (editors). 2005. *Arctic Marine Transport Workshop Report*. Scott Polar Research Institute, Cambridge, UK, 28-30 September 2004. Special Report by the Institute of the North, U.S. Arctic Research Commission and International Arctic Science Committee.
- Tucker, T. L. Brigham, and F. Nelson. 2004. A New Report on Permafrost Research Needs. *Journal of Cold Regions Engineering*, December 2004: 123-133.
- Brigham, L., V. Grishchenko, and K. Kamesaki. 1999. The Natural Environment, Ice Navigation and Ship Technology. In: W. Ostreng (editor), *The Natural and Societal Challenges of the Northern Sea Route: A Reference Work*, Kluwer Academic Publishers, Dordrecht, Netherlands.
- Brigham, L. (1991). (editor) *The Soviet Maritime Arctic*, Belhaven Press, London, UK.

Recent and Selected Presentations

Baltic Maritime Forum, Turku, Finland (5/16); U.S.-Sino Arctic Policy Workshop, Washington DC (5/16); Nippon Foundation Conference on the Northern Sea Route, Tokyo (2/16); National University of Singapore, Centre for International Law, Singapore (12/15); Arctic Circle Conference, Reykjavik, Iceland (10/15); World Maritime University, ShipArc Conference, Malmo, Sweden (8/12); Ministry of land, Infrastructure, Transport and Tourism, Tokyo, Japan, International Seminar on Navigational Safety in Polar Waters, Keynote Address on the IMO Polar Code (1/20/15); Arctic Circle Conference, Reykjavik (10/14), Panel on the Future of the Arctic; Center for Strategic and International Studies, Keynote Address on Emerging Arctic Shipping Challenges, Conference on the Future of Arctic Cooperation (6/25/14); Arctic Dialogue 2014 (Arctic Shipping & Globalization), High North Center, University of Nordland, Boda, Norway (3/14); University of Georgia Geography Department, Dohrs Annual Lecture (10/13); Arctic Circle Conference, Reykjavik (10/13); Nippon Foundation/Ocean Policy Research Foundation & National Institute for Polar Research (Tokyo) (9/13); Svalbard, Norwegian Scientific Academy for Polar Research, Lecturer, Special Course on Arctic Marine Transport (8/13); Stanford University, Hoover Institution Arctic Security Workshop, AMSA & The New Maritime Arctic: Implications of Globalization & Changing Marine Access (4/13); American Polar Society 75th Anniversary Conference, MBL, Woods Hole, MA (4/13); Michigan State U. Law School Arctic Conference Keynote (2/13); UArctic Applied Circumpolar Conference, Carnegie Endowment, Washington, DC (2/13); University of Wisconsin Milwaukee Wilkommen Annual Lecture (11/12); Rutgers, State University of New Jersey, Initiative on

Climate & Society (11/12); RAND Corporation, Santa Monica, CA, Technology & Applied Sciences Speaker Series (The New Maritime Arctic: Complexity and Global Challenges) (10/12); East-West Center, Korean Maritime Institute Arctic Conference, Honolulu, Hawaii (8/12); San Francisco World Affairs Council (3/12); Annual Meeting of the Association of American Geographers, New York, NY (The New Geography of the Central Arctic Ocean) (2/12); National University of Singapore, Energy Studies Institute, Energy Security & Geopolitics in the Arctic Conference (1/12); 1st (Moscow 2010), 2nd (Arkhangelsk, 2011) and 3rd (Salekhard) International Arctic Forums, *The Arctic: Territory of Dialogue*, hosted by the Russian Geographical Society; Princeton University, Woodrow Wilson School of Public and International Affairs (2/11); Center for Strategic & International Studies, Washington DC (4/10); UCLA Department of Geography (10/12 & 4/10); Space & the Arctic, European Space Agency, Stockholm (10/09); Norwegian Shipowner's Association, Oslo (8/09), Norwegian Institute for Defence Studies, Oslo (8/09); Polar Science Center, University of Washington (2/09); Vanderbilt Law School (2/09); Dickey Center for International Understanding, Dartmouth College (11/07 & 12/08); Ocean Policy Course, Department of Mechanical Engineering, MIT (11/08); Woods Hole Oceanographic Institution (9/08); The Fridtjof Nansen Institute Future Oceans Conference, Lysaker, Norway (7/08); Arctic & Antarctic Research Institute, St. Petersburg, Russia (2/08); Geography & Marine Science Departments, University of Delaware (2/08); Norwegian Defence Force Arctic Security Conference, Tromso, Norway (9/07); Scott Polar Research Institute, University of Cambridge, UK (4/07); Antarctic Climate & Ecosystem CRC, University of Tasmania, Hobart, Australia (3/09 & 4/06); Ocean Policy Research Foundation, Tokyo (7/05); Panama Canal Authority, Board & Staff, Panama City (1/05).

Professional Memberships

American Association for the Advancement of Science; American Geophysical Union; Sigma Xi (Elected Member); American Society of Limnology & Oceanography; The Oceanography Society (Life Member); World Future Society; Arctic Institute of North America (Elected Fellow); Royal Geographical Society (Elected Fellow); American Geographical Society (Councilor & Member of the Board); U.S. Naval Institute (Life Member); Council on Foreign Relations (Elected Member); American Polar Society (Vice President).