

## Ignatius G. Rigor - Curriculum Vitae (Updated November 10, 2008)

Polar Science Center, Applied Physics Laboratory  
University of Washington  
1013 NE 40<sup>th</sup>, Seattle, WA 98105

Phone: (206) 685-2571  
Fax: (206) 616-3142  
Email: [ignatius@apl.washington.edu](mailto:ignatius@apl.washington.edu)  
Web Page: [seaice.apl.washington.edu](http://seaice.apl.washington.edu)

### Work Experience

Mathematician / Research Scientist, 1986 – present.  
Polar Science Center, Applied Physics Laboratory  
University of Washington, Seattle Washington

### Education

**Ph.D. in [Atmospheric Sciences](#), 2005**

University of Washington, Seattle, Washington  
Dissertation: Interdecadal Variations in Arctic Sea Ice  
Advisor: John M. Wallace

**M.S. in Atmospheric Sciences, 2001**

University of Washington, Seattle, Washington  
Thesis: On the Response of Sea Ice to the Arctic Oscillation  
Advisor: John M. Wallace

**B.S. in Cell and Molecular Biology, 1986**

University of Washington, Seattle, Washington

### Professional Activities

- Coordinator of the [International Arctic Buoy Programme](#), 1998–present.
- Member of [Alaska Ocean Observing System – Sea Ice Working Group](#), 2006–present.
- Member of [Study of Environmental Arctic Change \(SEARCH\) Sea Ice Outlook – Core Integration Group](#), 2008.
- Contributing author of the Intergovernmental Panel on Climate Change – Fourth Assessment Report.
- Contributing author of the National Oceanic and Atmospheric Administration – Annual Reports on the State of the Ocean and the Observing System for Climate, and State of the Arctic Ocean, 2004–present.
- Member of NASA and NSF Proposal Review Panels.
- Member of the American Meteorological Society and American Geophysical Union.
- Reviewer for various science journals.

### Outreach

- **Press Interviews and News (selected):**
  - Stiffler, Lisa: [North Pole ever closer to having no ice](#). Seattle Post-Intelligencer, Sept. 16, 2008.
  - Renee Schoff: [Low levels of Arctic sea ice signals global warming's advance](#). McClatchy Newspapers, Sept. 9, 2008.
  - Peter Spotts: [Shrinking Arctic Ocean sea ice signals climate change](#). Christian Science Monitor, Sept. 4, 2008.
  - Revkin, Andy: [Fire Under North Pole Ice - More Views](#). Dot Earth Blog, New York Times, July 3, 2008.
  - Secretary Kempthorne: [Press Conference On Polar Bear Listing](#). May 14, 2008.
  - Revkin, Andy: [The \(Annotated\) Polar Bear Decision](#). Dot Earth Blog, New York Times, May 14, 2008.
  - Revkin, Andy: [Forecast: More Shrinking North Pole Ice](#). Dot Earth Blog, New York Times, May 7, 2008.
  - Editorial: [Warming to the truth](#). Las Vegas Sun, March 4, 2008.

- Revkin, Andy: [Skeptics on Human Climate Impact Seize on Cold Spell](#). New York Times, March 2, 2008.
- Arnold, Elizabeth: [How Serious is Climate Change in Alaska?](#), National Public Radio, Feb. 14, 2008.
- Kizzia, Tom: [Polar ice may break 2007 record](#), Anchorage Daily News, Feb. 12, 2008.
- Tracy, John: [The front lines of climate change](#), KTUU 2 News (NBC Anchorage), Feb. 11, 2008.
- Kerr, Richard: Climate Change: Is Battered Arctic Sea Ice Down For the Count? Science, October 5, 2007.
- Revkin, Andy: [Arctic Melt Unnerves the Experts](#). New York Times, October 1, 2007.
- Chasan, Dan: [The new hot spot in the environmental protection war is the Arctic](#). Crosscut News, October 1, 2007.
- Glenn Farley, [Polarbears Losing Their Habitat](#), KING 5 News, September 7, 2007.
- Revkin, Andy: [Analysts See 'Simply Incredible' Shrinking of Floating Ice in the Arctic](#). New York Times, August 10, 2007.
- Miller, Bill: [Misquoted scientists cry foul over polar bear editorial](#). DeSmogBlog.com, January 3, 2007. (*Follow up on misquote in an editorial in The Vancouver Province.*)
- The Vancouver Province, Editorial: [New polar-bear scare is a classic case of blinkered thinking](#). December 29, 2006. (*This was a misquote which the Miller, 2007 article above followed up.*)
- Erickson, Jim: Scientists: [Arctic sea ice tells of warming](#). Rocky Mountain News, September 14, 2006.
- O'Hanlon, Larry: [Arctic Ice Melt Close to Record Low](#). Discovery News, September 6, 2006.
- Erickson, Jim: [Team's ice work heats up](#). Rocky Mountain News, September 5, 2006.
- NSIDC News: Arctic Sea Ice News 2006, [http://nsidc.org/news/press/2006\\_seaiceminimum/20060816\\_arcticseaicenews.html](http://nsidc.org/news/press/2006_seaiceminimum/20060816_arcticseaicenews.html), 2006.
- Talbott, Chris: [Arctic ice pack losing ground](#). Fairbanks Daily News-Miner. April 10, 2006
- Revkin, Andy: [In a Melting Trend, Less Arctic Ice to Go Around](#). New York Times, September 29, 2005.
- Revkin, Andy: [Arctic Ice Cap Shrank This Summer, Experts Say](#). New York Times, September 28, 2005.
- Kerr, Richard A., [Scary Arctic Ice Loss? Blame the Wind](#), SCIENCE Magazine, v. 307, 5707, 203a, 2005.
- Cowen, Robert C.: [In melting Arctic, warming is now](#). Christian Science Monitor, January 6, 2005.
- [Winds, Ice Motion Root Cause Of Decline In Sea Ice, Not Warmer Temperatures](#). Science Daily, December 29, 2004.
- Holland, J.S., Breaking the Ice, v. 205, iss. 1, p 100–111, National Geographic, 2004. [\[Article\]](#) [\[Map of Arctic Forecast\]](#)
- **Invited Outreach Presentations (recent, selected):**
  - Burke Museum: [A Cold One at the Burke](#), July 2008.
  - [Alaska Forum on the Environment: Climate Change – Key Developments in the Arctic](#), February 2008. *This presentation resulted in press interviews with the Anchorage Daily News, National Public Radio, and NBC.*
  - [Focus the Nation: Science at the Cutting Edge Panel](#), January 2008.
  - European Consortium for Ocean Research Drilling (ECORD) and International Ocean Drilling Program (IODP) Summer School on Paleoceanography and Topical Symposium on North Atlantic and Arctic Climate Variability, August 2007.
  - Instructor for Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP, <http://depts.washington.edu/gearup/>), Summer 2007.
  - [Ocean Research College Academy \(ORCA\)](#), Global Warming Panel, December 2006.

- Mentors students for the Alliance for Learning and Vision for Underrepresented Americans (ALVA) program at the UW, which provides an intensive work-study summer experience for incoming freshmen typically conducted at a high tech firm or university research facility.
- Gives presentations on weather, Arctic and global climate to K-12 students, boy scouts, etc.
- Hosts tours of the Department of Atmospheric Science and the Applied Physics Lab at the University of Washington for K-12 students.
- Wrote and administered the “weather” exam for the Washington State Science Olympiad 2002.
- Outreach Coordinator for the UW Department of Atmospheric Science from 1999 – 2000.

## Publications

- Hutchings, J.K, and **I.G. Rigor**, Mechanisms explaining the anomalous ice conditions in the Beaufort Sea during 2006 and 2007, *J. Geophys. Res.*, submitted 2008.
- Ogi, M., **I.G. Rigor**, M.G. McPhee, J.M. Wallace, Role of Wind-induced Ekman Drift in the Summer Retreat of Arctic Sea Ice, *Geophys. Res. Lett.*, submitted, 2008.
- Rigor, I.G.** S. V. Nghiem, P. Clemente-Colón, D. K. Perovich, J. Richter-Menge, G. Neumann, and M. Ortmeyer, Retreat of Arctic perennial sea ice: The North Pole on thin ice, *Geophys. Res. Lett.*, submitted, 2008.
- Haas, C., A. Pfaffling, S. Hendriks, L. Rabenstein, J.-L. Etienne, and **I. Rigor**, Reduced ice thickness in Arctic Transpolar Drift favors rapid ice retreat, *Geophys. Res. Lett.*, 35, L17501, doi:10.1029/2008GL034457, 2008.
- Nghiem, S.V., **I.G. Rigor**, P. Clemente-Colón, D. K. Perovich, and G. Neumann, New record reduction of Arctic perennial sea ice in winter 2008, *Jet Propul. Lab. Doc. D-44233*, Pasadena, Calif., 2008.
- Nghiem, S.V., **I.G. Rigor**, D.K. Perovich, P. Clemente-Colón, J. Richter-Menge, J. W. Weatherly, and G. Neumann, Rapid reduction of Arctic perennial sea ice, *Geophys. Res. Lett.*, iv. 24, L19504, doi:10.1029/2007GL031128, 2007. [Citations: 8]
- Alkire, M.B, K.K. Falkner, **I. Rigor**, M. Steele, and , J. Morison, The return of Pacific waters to the upper layers of the central Arctic Ocean, *Deep Sea Research*, v. 54, pp. 1509 – 1529, 2007.
- Sasaki, Y.N. Y. Katagiri, S. Minobe, and **I.G. Rigor**, Autumn atmospheric preconditioning for interannual variability of wintertime sea-ice in the Okhotsk Sea, *J. Oceanography*, v. 63, n. 2, pp. 255-265, 2007.
- Intergovernmental Panel on Climate Change (IPCC) Working Group I, Contribution to the Fourth Assessment Report of the IPCC - Climate Change 2007: The Physical Science Basis. (**Rigor, I.G. is a Contributing Author**).
- Richter-Menge, J., J. Overland, A. Proshutinsky, V. Romanovsky, L. Bengtsson, L. Brigham, M. Dyurgerov, J.C. Gascard, S. Gerland, R. Graversen, C. Haas, M. Karcher, P. Kuhry, J. Maslanik, H. Melling, W. Maslowski, J. Morison, D. Perovich, R. Przybylak, V. Rachold, **I.G. Rigor**, A. Shiklomanov, J. Stroeve, D. Walker, and J. Walsh, State of the Arctic. NOAA OAR Special Report, NOAA/OAR/PMEL, Seattle, WA, 2006, 36 pp.
- Richter-Menge, J.A., and many other including **I.G. Rigor**, *State of the Arctic. FY 2005 NOAA Annual Report: The State of the Ocean and the Ocean Observing System For Climate*, ed. Diane M. Stanitski, NOAA Office of Climate Observation, Silver Spring, MD, 20910. USA, 2006.
- Richter-Menge, J.A., D.K. Perovich, B.C. Elder, K. Claffey, **I.Rigor**, M. Ortmeyer, Ice Mass Balance Buoys: A tool for measuring and attributing changes in the thickness of Arctic sea ice cover, *Annals of Glaciology*, v. 44, 2006.
- Serreze, M.C. and **I.G. Rigor**, The cryosphere and climate change: perspectives on the Arctic's shrinking sea ice cover., *Glacier Science and Environmental Change*, \_ed. P. Knight, Blackwell Publishing, Ltd, Oxford, August 2006.
- Eicken, H., R. Gradinger, A. Graves, A. Mahoney, **I. Rigor**, & H. Melling, Sediment transport by sea ice in the Chukchi and Beaufort Seas: Increasing importance due to changing ice conditions?, *Deep Sea Research*, 2005. [Citations: 6]
- Rigor, I.G.**, J. Richter-Menge, C. Lee, Arctic Sea Ice and Ocean Observations, Arctic Research of the United States, v. 19, 2005.

- Rigor, I.G.**, Interdecadal Variations in Arctic Sea Ice, *Ph. D. Dissertation*, Univ. of Washington, Seattle, pp. 100, 2005.
- Rigor, I.G.**, and Jackie Richter-Menge, Sea Ice Extent and Thickness. *FY 2004 NOAA Annual Report: The State of the Ocean and the Ocean Observing System For Climate*, ed. Diane M. Stanitski, NOAA Office of Climate Observation, Silver Spring, MD, 20910. USA, pp. 67-74, 2005.
- Pfirman, S., W.F. Haxby, R. Colony, and **I. Rigor**, Variability in Arctic Sea Ice Drift, *Geophys. Res. Lett.*, v. 31, doi:10.1029/2004GL020063, 2004. [Citations: 4]
- Rigor, I.G.** and J.M. Wallace, Variations in the Age of Sea Ice and Summer Sea Ice Extent, *Geophys. Res. Lett.*, v. 31, doi:10.1029/2004GL019492, 2004. [Citations: 55]
- Rigor, I.G.**, Arctic Meteorological Stations, *Encyclopedia of the Arctic*, Routledge, New York, 2004.
- Rigor, I.G.**, Laptev Sea, *Encyclopedia of the Arctic*, Routledge, New York, 2004.
- Rigor, I.G.**, Sea Ice, *Encyclopedia of the Arctic*, Routledge, New York, 2004.
- Steele, M.A., J. Morison, W. Ermold, **I.G. Rigor**, M. Ortmeyer, and K. Shimada, The Circulation of Summer Pacific Halocline Water in the Arctic Ocean, *J. Geophys. Res.*, v. 109, c02027 doi:10.1029/2003JC002009, 2004. [Citations: 24]
- Rigor, I.G.**, J.M. Wallace, and R.L. Colony, Response of Sea Ice to the Arctic Oscillation, *J. Climate*, v. 15, no. 18, pp. 2648 - 2668, 2002. [Citations: 139]
- Bacon, S., G. Reverdin, **I.G. Rigor**, and H. M. Snaith, A Freshwater Jet on the East Greenland Shelf, *J. Geophys. Res.*, v. 107, no. C7, 2002. [Citations: 11]
- Rigor, I.G.**, R.L. Colony, and S. Martin, Variations in Surface Air Temperature in the Arctic from 1979-1997, *J. Climate*, v. 13, no. 5, pp. 896 - 914, 2000. [Citations: 132]
- Jones, P.D., M. New, D.E. Parker, S. Martin, and **I.G. Rigor**, Surface air temperature and its changes over the past 150 years, *Rev. Geophys.* Vol. 37, No. 2, p. 173 - 200, 1999. [Citations: 424]
- Warren, S.G., **I.G. Rigor**, N. Untersteiner, V. F. Radionov, N. N. Bryazgin, Y. I. Aleksandrov, and R. Colony, Snow Depth on Arctic Sea Ice, *J. Climate*, v. 12, no. 6, pp. 1814–1829, 1999. [Citations: 34]
- Landa, E., E. Reimnitz, D. Beals, J. Pochkowski, and **I.G. Rigor**, Transport of  $^{137}\text{Cs}$  and  $^{239,240}\text{Pu}$  by Ice Rafted Debris in the Arctic Ocean, *Arctic*, v. 51, no. 1, pp. 27-39, 1998. [Citations: 26]
- Rigor, I.G.**, and R. Colony, Sea Ice Production in the Laptev Sea, *Sci. Total Environ.*, vol. 202, pp. 89-110, 1997. [Citations: 22]
- Pfirman, S.L., J.W. K\_geler, and **I.G. Rigor**, Potential Shortcuts for Transport of Contaminants from the Kara Sea, *Sci. Total Environ.*, vol. 202, pp. 111-122, 1997. [Citations: 16]
- Pfirman, S.L., R. Colony, D. N\_rnberg, H. Eicken, and **I.G. Rigor**, Reconstructing the Origin and Trajectory of Drifting Arctic Sea Ice, *J. Geophys. Res.*, vol. 102 no.6 pp. 12575-12586, 1997. [Citations: 60]
- Pfirman, S.L., R. Colony, D. N\_rnberg, H. Eicken, and **I.G. Rigor**, Correction to "Reconstructing the Origin and Trajectory of Drifting Arctic Sea Ice." *J. Geophys. Res.*, vol. 102 no.c10, p. 23239, 1997.