Waleed Abdalati

Director, Cooperative Institute for Research in Environmental Sciences (CIRES)
Professor, Department of Geography
The University of Colorado
Campus Box 216 http://cires.colorado.edu/people/abdalati
Boulder, CO 80309 Citizenship: United States of America

Dr. Abdalati is currently the director of the Cooperative Institute for Research in Environmental Sciences (CIRES), an 850-person, $100M/year research institute formed through a partnership between the National Oceanic and Atmospheric Administration (NOAA) and the University of Colorado Boulder. CIRES scientists conduct research supported by a wide range of federal agencies (e.g. NOAA, NASA, NSF, DoE, USGS, etc.), charitable foundations, industry, and other sources. Dr. Abdalati has extensive experience in high levels of government, academia, and industry, and he has been recognized for his scientific achievements and leadership through various awards and appointments. These include a White House award, a range of NASA awards, recognition from professional societies, and leadership on committees and boards of the National Academy of Sciences. He also has extensive experience in science communications, which reflects his ability to make complex science topics accessible to people of all backgrounds, from elementary school students to the general public, to members of Congress (including formal Congressional Testimony) and to other various domestic and international political leaders.

Education

Ph.D.	1996	Dept. of Geography/Program in Atmospheric and Ocean Sciences University of Colorado, Boulder, CO.
M.S.	1991	Department of Aerospace Engineering Sciences University of Colorado, Boulder, CO.
B.S.	1986	Department of Mechanical and Aerospace Engineering (*cum laude*) Syracuse University, Syracuse, NY.

Professional History

7/13 - present: *University of Colorado at Boulder*

- Director, Cooperative Institute for Research in Environmental Sciences (CIRES) and Professor, Department of Geography: Leading an interdisciplinary environmental research institute comprised of approximately 650 researchers and administrative and support staff, as well as nearly 200 graduate and undergraduate students. CIRES is a cooperative Institute between NOAA and the University of Colorado Boulder, and CIRES scientists are world leaders engaged in all aspects of environmental science that spans physical, chemical, biological, and social sciences. I directly supervise 22 tenured/tenure-track faculty, four research scientists, and eight administrative personnel. In addition, I carry out my own research on changes of the glaciers, ice caps, and ice sheets of the world, the mechanisms that drive these changes, and the resulting contributions to sea level through a combination of remote sensing observations,

in situ data collection, and modeling efforts. I also continue to teach advanced classes in remote sensing.

1/11 - 12/12: *National Aeronautics and Space Administration (Detailed from Univ. of CO)*

- Chief Scientist: Served as an advisor to the NASA Administrator on NASA science matters and as the key NASA scientific interface between NASA and White House, Congress, other federal agencies, international space and science organizations, and industry. In this capacity, I represented NASA science interests to the highest level of government as well as to the scientific community. This involved meeting with congressional staff, providing congressional testimony, evaluating NASA science programs and policies and implementing processes to maximize NASA's scientific capabilities within available budgets and ensure their alignment with priorities of the White House and the scientific community.

7/08 - 6/13: *University of Colorado Boulder*

- Director, Earth Science and Observation Center and Associate Professor/Professor, Department of Geography: Responsible for developing a research organization that works with satellite and aircraft data to study all aspects of the Earth system and for teaching classes and developing a curriculum in remote sensing and Earth System Science. Also conducted my own research on glaciers, ice sheets, sea level, and remote sensing.

1/04 - 6/08: *NASA Goddard Space Flight Center*

- Head, Cryospheric Sciences Branch (Formerly Oceans and Ice Branch): Supervisor of a research group of 10-14 civil servants and approximately 40 contractors and post-doctoral scientists. I provided leadership to the group: a) ensuring that they effectively served the mission of NASA and Goddard Space Flight Center, b) identifying opportunities for funding and working to position branch members to compete for that funding, c) creating a productive environment in which they could thrive, d) promoting satellite and research missions that exploited the interests and expertise of the branch, division and center, e) ensuring growth opportunities for all employees and recognition for individual and group achievements. In addition, I also carried out my own research on changes of the glaciers, ice caps, and ice sheets through analysis of remote sensing data, field measurements and modeling.

11/00 - 1/06: *NASA Headquarters*, Office of Earth Science / Science Mission Directorate

- Manager, Cryospheric Sciences Program: Responsible for managing NASA's program in cryospheric research, in particular the polar regions. This involved (1) defining and implementing the research agenda for the program, (2) representing cryospheric science community's interests in dealings with NASA management, other agencies, the Hill, and the White House, (3) representing NASA's interests to the scientific community and (4) supporting the research of more than 100 investigators.

- Program Scientist for NASA's Ice Cloud and Land Elevation Satellite (ICESat) mission: responsible for ensuring consistency among the mission objectives, instrument capabilities, and NASA research objectives within engineering, science, and budget constraints. This involved serving as the scientific interface for the ICESat science team, NASA Headquarters, and the scientific community for the world's first satellite mission designed specifically for polar research.
- Program Scientist for NASA's involvement with the RADARSAT mission, serving as the scientific interface between NASA, the Canadian Space Agency, and the scientific community across a full range of geophysical disciplines: geology, ecology, oceanography, hydrology, land cover/land use, cryospheric sciences, applications, etc.

4/98 - 11/00: *NASA Goddard Space Flight Center*, Laboratory for Hydrospheric Processes

- Deputy Project Scientist for Ice Cloud and Land Elevation Satellite (ICESat) contributing to the scientific development of ICESat algorithms and mission activities.
- Scientific analysis of airborne laser altimetry data, satellite imagery, and in situ data on Arctic glaciers for climatological/glaciological interpretation.
- Analysis of ice-penetrating radar data to study and interpret the history and dynamics of the Greenland ice sheet.

11/96 - 4/98: *Universities Space Research Association* (Visiting Fellow)
NASA/Goddard Space Flight Center, Greenbelt, MD

- Scientific analysis of airborne laser altimetry data over Arctic glaciers for climatological/glaciological interpretation, and for application to development of the Geoscience Laser Altimetry System (GLAS)
- Deployment of weather stations and Global Positioning System (GPS) receivers on the Greenland ice sheet for climatological and glaciological applications

5/92 - 11/96: *Cooperative Institute for Research in Environmental Sciences (CIRES)*,
University of Colorado at Boulder
Graduate Student/Research Associate

- Analysis of satellite data to infer ice sheet energy and mass exchanges with the atmosphere
- Development of an algorithm for assessing melt characteristics of the Greenland ice sheet using passive microwave satellite data
- Development of a radiative transfer model to examine the impacts of snow processes on satellite observations of microwave emission from polar firn
- Teaching classes in remote sensing, climatology, and environmental systems

8/90 - 5/92: *Colorado Center for Astrodynamics Research,* Univ. of Colorado - Boulder, CO.
Graduate Student/Research Associate

- Assimilation of satellite derived data into global and mesoscale climate models

2/88 - 6/90: *General Electric Company*: Ocean Systems Division - Syracuse, NY.
Mechanical Engineer - Product Development

- Design, analysis, and testing of submersible ocean equipment

6/86 - 8/87: *General Electric Company*: AstroSpace Division - East Windsor, NJ.
Mechanical Engineer - Spacecraft Analysis
- Design, analysis and environmental testing of space satellites and their components

Consulting and Advisory Activities

- Member of the NASA Advisory Council – external body providing advice to the NASA Administrator and NASA leadership on the execution of their programs, particularly how they align with priorities of the President of the United States; my role is to examine and make recommendations on NASA's climate change portfolio.
- Member of the Board of Directors for the International Space Station National Laboratory
- Member, Science Advisory Board, WorldView LLC, providing scientific advice on applications of high-altitude balloon observing platforms, and identifying opportunities for their use.
- Member of committee to determine causes and solutions to cost-overruns on NASA's Flagship science missions, identifying causes of and recommending solutions for avoiding cost-overruns on NASA's large science missions, which sometimes have run in the billions of dollars. Results reported to NASA's Science Mission Directorate Leadership.
- Consultant on proposal for support contract at NASA's Goddard Space Flight Center (on the order of $100M over five years), provided consulting services to inform the scientific and administrative content for on bidder's support contract proposal.

Classes Taught

- Remote Sensing of the Environment (seniors and graduate students)
- Advanced Remote Sensing/Digital Image Analysis: New Class (seniors and graduate students)
- Readings in Climatology (graduate students)
- Environmental Systems I: Climate and Vegetation (introductory freshman class)
- Various guest lectures in a range of engineering, geology, physics, and meteorology classes
- Provided several days of lectures to the Astronaut Candidate Classes of 2016 and 2018 on Earth Science as part of their astronaut training.

Mentoring/Supervising of Students, Postdocs, and Research Associates

Primary Advisor/Mentor

- Thomas Hermann, Masters Adviser, Fall 2021 - TBD
- Tasha Snow, Postdoctoral Supervisor, 2021, Ph.D. Adviser, Fall 2015 – Fall 2020
- Alison Banwell, Postdoctoral Supervisor, 2018-2019
- Mahsa Moussavi, Postdoctoral supervisor 2015-2020, Ph.D. Adviser, Summer 2010 – 2014
- Chris Amante, Ph.D. Adviser, Fall 2012 – May, 2018; Master's Student Fall 2010-Spring 2012

- Mike MacFerrin Postdoctoral Supervisor 2018 – 2020, Ph.D. Adviser, Spring, 2010 – December, 2017
- Jessica Bobeck, Masters Student, Fall 2015 – Summer 2017
- Shane Grigsby, Ph.D. Student, Fall, 2014 – Spring, 2020, Undergraduate Honors Program advisor, 2010 - 2011
- Jennifer Bloom, Undergraduate Honors Program Advisor, 2014 - 2015
- William Colgan, Postdoctoral Supervisor, 2014
- Khalid Hussein: Research Associate Supervisor, Spring, 2009 – Spring, 2014
- Jason Reimuller: Ph.D. (Aerospace Engineering Sciences), co-advisor, Spring 2010 – Spring 2012, Ph.D. received Spring, 2012 (co-advised with Jeff Thayer in Aerospace)
- Ursula Rick: NASA Graduate Mentor for her NASA Goddard Space Flight Center Student Fellowship (2004-2007), Ph.D. Committee Member (Fall, 2008), and Postdoctoral supervisor (Spring, 2009 – Fall 2010).
- Anthony Arendt: Postdoctoral Supervisor for his Oak Ridge National Laboratory Fellowship at NASA Goddard Space Flight Center (2006-2008)
- Gabrielle Inglis: NASA mentor for her NASA Undergraduate Student Fellowship (2004)

Committee Member

- Aleah Sommers: Ph.D., Civil Environmental and Architectural Engineering, Degree received 2018
- Nick Lewis: M.A. Geography, Degree received 2018
- Alexander Stum: Ph.D., Geography, Degree Received 2018
- Alice Hill: Ph.D. Geography, Degree received 2017
- Kristy Weber, M.A. Geography, Degree received 2017
- Cameron Naficy: Ph.D., Geography, Degree received 2016
- Kathy Kelsey: Ph.D., Ecology and Evolutionary Biology, Degree received 2015
- Galen MacLauren, Ph.D. Geography, Degree received 2015
- Sitthisak Moukomla, Ph.D. Geography, Degree received 2015
- Pakorn Petchprayoon, Ph.D., Geography, Degree received 2014
- John Mischler: Ph.D., Ecology and Evolutionary Biology, Degree received 2014
- Zhibin Yu, Ph.D. Aerospace Engineering Sciences, Degree received 2014
- John Smith: Ph.D., Aerospace Engineering Sciences, Degree received 2014
- Dan McGrath: Ph.D., Geography, Degree received 2013
- Brian MacPherson: Ph.D., Civil, Environmental, and Archictectural Engineering, Degree received 2013
- Steve Mitchell: Ph.D., Aerospace Engineering, Degree received 2013
- Yuli Lang: Ph.D., Computer Science, Degree received 2012
- Liam Colgan: Ph.D., Geography, Degree received 2011
- Thomas Phillips: Ph.D., Geography, Degree received 2010
- David Korn: MA, Geography, Degree received 2010
- Lin Liu: Ph.D., Physics, Degree received 2011
- Errin Weller, Ph.D. Anthropology, Degree received 2009

Select Past and Current Key Leadership Activities

- Member of the NASA Agency Review Team as part of President Biden's Transition Team (Foreign Policy and National Security), reviewing NASA priorities and activities, identifying challenges, and making policy and management recommendations in order to equip the incoming administration to move NASA forward in alignment with Administration priorities.
- Director, Cooperative Institute for Research in Environmental Sciences, comprised of approximately 900 faculty, research scientists and students, focused on all aspects of environmental research (physical, biological, chemical, social, etc.).
- Chair of the Cooperative Institute Directors Committee. NOAA supports 15 cooperative institutes, and I chair the committee of directors of all 15 institutes, serving as the primary interface between the institutes and NOAA leadership, coordinating multi-institute activities, organizing annual meetings, representing the institute interests to members of Congress and their staff, leading visits to Capitol Hill, etc.
- Co-Chair National Academies Earth Science and Applications from Space 2017 Decadal Survey, developing "consensus recommendations from the environmental monitoring and Earth science and applications community on an integrated and sustainable approach to the conduct of the U.S. government's civilian space-based Earth-system science programs." (from the statement of task). The committee and supporting panels are comprised of nearly 100 prominent members of the Earth science community.
- Leader of The University of Colorado Boulder (CU) Grand Challenge, leading a university-wide effort to identify and develop a set of initiatives to inform investments that will advance the stature of CU in the national and international communities.
- Director, Earth Science and Observation Center, comprised of 37 faculty, research scientists, and graduate students focused on expanding capabilities in Earth remote sensing on campus and in Boulder.
- NASA Chief Scientist and Member of NASA Executive Council, which was comprised of seven members of the NASA Administrator's leadership team and was responsible for decisions on NASA's overall direction (Under Administrator Charles Bolden and the Obama Administration)
- ICESat-2 Laser Altimetry Mission Science Definition Team Leader
- Lead Scientist for development of the ICESat-2 mission implementation.
- Study Scientist on four mission concepts for future Cryospheric science satellite missions
- Leader of a group of 20 laser remote sensing scientists and engineers to assess laser measurement requirements for multidisciplinary satellite mission applications
- Mission leader for airborne laser surveys of ice caps in the Canadian High Arctic
- Member of Goddard's laser science working group to make recommendations to Goddard's leadership for maximizing GSFC's strategic position for securing future satellite laser missions
- Member of Goddard's Earth-Sun Science and Management Strategy development team
- Regularly provided briefings on NASA's Earth Science activities to VIPs including Senators, Congressmen, their staff, representatives from the Office of Management and Budget, The NASA Advisory Committee, etc.
- Critical involvement in NASA-related planning activities for the White House and the Office of Science and Technology Policy

- Member of Strategic Roadmapping Committee for the "Earth Science and Applications from Space Roadmap" to develop a path for NASA's future in Earth Science and Applications. Also chair of its "Discovery and Exploration" subcommittee (this operated under the Federal Advisory Committee Act)
- Co-lead of Goddard Earth and Space Sciences Directorate reorganization team (reporting to the Center Director)
- One of five scientists, and the only Earth scientist, on the NASA Administrator's team to review the science in what became NASA's Vision for Space Exploration in support of deliberations prior to the President's announcement of the Vision (under the G.W. Bush Administration)
- Participation in the NASA Administrator's *Critical Review Panel for Future Space Exploration* May, 2003
- Helped develop a restructuring plan for the former Earth Science Enterprise management structure at the 2004 Wye-River management retreat.
- First leader of the NASA Headquarters Climate Variability and Change science focus area, and led the early stages of the research roadmap development in this area.
- Established international project with a Chilean research institute and the Chilean Navy to deploy NASA airborne instrumentation to perform the first such surveys of critical areas of the Antarctic ice sheet, which later formed the foundation and proof of viability for NASA's Operation IceBridge Antarctic operations.

Miscellaneous Training

- Goddard Space Flight Center's Leadership Alchemy Program, February, 2006 – November, 2006: a rigorous award-winning 9-month training program in leadership development
- Brookings Institution Course, *Science and Public Policy Debate: A Leadership Forum*, June 16-20, 2003
- NASA Training Course, *Earth Science Mission Development*, February, 2002
- Various media training.

Honors, and Awards

- ***Fellow of the American Association for the Advancement of Science (AAAS)***
- Tyndall Lecture at the Fall meeting of the American Geophysical Union, 2016
- Outstanding Contributions Award in Remote Sensing, Association of American Geographers, 2015.
- Provided multi-day lectures the 2014, 2016, and 2020 class of NASA Astronauts on Earth Science and Climate Change as part of their Astronaut training curriculum.
- NASA GSFC Center Director's Team Recognition Award, 2007
- American Institute of Aeronautics and Astronautics Space Systems Award, 2006
- National Science Foundation and the journal *Science:* Science and Engineering Visualization Challenge: Honorable Mention – Non-Interactive Media, 2006
- ***National Aeronautics and Space Administration Exceptional Service Medal, 2004***
- NASA Group Achievement Award, ICESat Science Team, 2004
- NASA Goddard Space Flight Center Special Act Award 2004, 2005, 2006
- NASA Office of Earth Science Award, 2003
- NASA Group Achievement Award, Honor Award Team 2003

- NASA Office of Earth Science Terra Peer Award, 2002
- NASA Office of Earth Science Award, 2002
- NASA Fast Award, 2002
- NASA Office of Earth Science Award, 2001
- ***Presidential Early Career Award for Scientists and Engineers, 1999***
- NASA/GSFC Performance Award (2), 1999
- Tau Beta Pi National Engineering Honor Society (since 1985)
- Pi Tau Sigma Mechanical Engineering Honor Society (since 1985)

Professional Society Memberships

- American Geophysical Union (since 1993)
- International Glaciological Society (since 1996)
- American Meteorological Society (since 2014)
- Association of American Geographers (since 2014)
- American Association for the Advancement of Science (since 2015)

Outreach

National/International

- Host and science editor of *The Crowd and the Cloud,* an NSF-sponsored 4-part series on citizen science, broadcast on PBS
- Featured scientist on NOVA program *Earth from Space* on PBS (http://video.pbs.org/video/2334144059/)
- Appearance on NOVA program *Decoding the Weather Machine* on PBS (http://www.pbs.org/wgbh/nova/earth/decoding-weather-machine.html)
- Featured in National Geographic's *Earth Report: State of our Planet* (2009)
- Over 150 public and professional lectures on various science topics
- Featured scientist on the Arctic episode of "Science Uncut" a NASA science television program
- Twenty-minute feature segment on Dan Rather Reports, on Arctic Change (can be viewed at http://cires.colorado.edu/esoc)
- Various Newspaper and Magazine interviews *(Washington Post, New York Times*, *Discover Magazine*, *Time Magazine*, *Associated Press*, etc.) on changes in the polar regions.
- ABC, NBC, CNN, BBC network television news (e.g. Good Morning America, ABC Nightly News, NBC Nightly News, etc.), and various local news channels nationwide: Live and recorded interviews on changes in the Greenland and Antarctic ice sheets
- Provided a lecture on polar ice in the changing climate for multiple national broadcasts on NASA Television.
- Hosted two televised NASA Science Updates for the media: one on changing sea ice cover and one on sea level rise
- Led several press conferences at the Fall Meeting of the American Geophysical Union
- Numerous national and local live and recorded radio interviews nationwide
- Guest on *Public Interest* with Kojo Nnamdi on National Public Radio: 1-hour talk show on Glaciers, Icebergs, and Antarctica, July, 2002

- *National Geographic Today Show*: Ten-minute segment on the Changing Greenland Ice Sheet, October, 2002

Other Outreach

- Various meetings and briefings with members of Congress and congressional staff
- Featured Speaker at the National Air and Space Museum's Public Science Lecture series at the NASM IMAX Theater in May, 2006. Event was targeted at general public and congressional staffers
- Provided Earth Science Training to the 2015 Astronaut class at Johnson Space Center
- Keynote speaker at the evening event honoring the 50th Anniversary of the first Earth observing satellite (TIROS).
- Organized and was one of two presenters at Goddard Night at the National Air and Space Museum in September, 2006; Event was hosted by NASA Administrator Mike Griffin, and General Jack Daly (Retired), Director of the National Air and Space Museum. Attendees included congressional and White House representatives
- Science adviser of the Tour of the Cryosphere Video and Science Contributor to *Frozen* video for Science on a Sphere
- Invited lecture to teacher workshop in Earth science education at the 2003 Fall meeting of the American Geophysical Union
- Goddard Teacher Ambassador Program: Adviser to a team of secondary school teachers for development of Glaciers and Ice Sheets curriculum for grades 5-12, 1999
- Various lectures at community events, in schools, to citizen groups, etc. several times a year

Scientific Community Service

- Member of the Executive Committee for the Cryospheric Section of the American Geophysical Union.
- Co-Chair of the Earth Science and Applications from Space 2017 National Academy of Sciences Committee. The committee and supporting panels are comprised of nearly 100 Earth scientists.
- Served as a member of the Committee on Geoengineering at the National Research Council.
- National Academy of Sciences Polar Research Board member.
- Served as lead of World Climate Research Programme's Climate and Cryosphere Sea Level Rise theme.
- Served on NSF committee to develop recommendations for research priorities on land-ice contributions to sea level rise.
- Panel Member for the Congressionally mandated committee on America's Climate Choices at the National Research Council.
- Provided Consultation to White House Office of Science and Technology Policy on matters related to ice sheets and climate change including briefing former OSTP Associate Director for Science
- Briefed members of Congress and Congressional staffers on Changes in the Greenland ice sheet

- Provided testimony to the Senate Committee on Environment and Public Works on NASA Studies of Antarctic Change
- Reviewer of 2007 IPCC Working Group II Report
- Associate Editor of the *Annals of Glaciology*, 2006
- Reviewer of "Sea Level" Chapter for the 2001 IPCC Working Group I Report
- Contributor to the Strategic Plan for the George W. Bush Administration's Climate Change Science Program (Climate Change Research Initiative)
- Various review panels for proposals submitted to NASA Research announcements and cooperative agreement Notices
- Organized and hosted the 1996 and 1998 Program for Arctic Regional Climate Assessment (PARCA) Greenland Science and Planning Meetings for ~50 NASA and NSF investigators.
- Member of the Polar DAAC (Distributed Active Archive Center) Advisory Group (PoDAG)
- Manuscript reviews for *Science, Journal of Geophysical Research*, *Journal of Applied Meteorology*, *Remote Sensing of Environment, IEEE Transactions in Geoscience and Remote Sensing, Journal of Glaciology, Geophysical Research Letters, Proceedings of the IEEE, etc.*

Field Experience

8 field seasons making in situ measurements on the Greenland ice sheet, two of which included acquisition and analysis of airborne laser altimetry data

1 field season in the Canadian Arctic conducting airborne elevation surveys of the major Canadian ice caps

Programmatic lead for first airborne laser altimetry surveys over the Amundsen Embayment in Antarctica and the Patagonian Ice Fields out of Punta Arenas, Chile (participated in inaugural survey)

Research Support History: (with a 4-year and 2-year restriction against proposing during periods as program manager and Chief Scientist). More than of $540M as Principal Investigator.

NOAA (PI): *Cooperative Institute for Research in Environmental Sciences Cooperative Agreement*, September, 2017 – August 2022, $330,000,000.

NOAA (PI): *Cooperative Institute for Research in Environmental Sciences Cooperative Agreement*, September, 2012 – December 2017, $206,000,000.

NASA (PI): *Quantifying Firn Compaction and its Implications for Altimetry-based Mass Balance Estimates of the Greenland Ice Sheet,* January, 2015 – December, 2017, $732,849.

NASA (PI): *Assessing Greenland crevasse extent and characteristics using historical ICESat and ATM data: a baseline for assessing changes with ICESat-2,* August, 2013 – July 2016, $565,654.

NSF (Co-I) *THE CROWD & THE CLOUD: Citizen Science, Big Data and the Democratization of Research* November, 2014 – October, 2017, $2,985,610.

NASA (PI): *Comprehensive Assessment of Ice Sheet Contributions to Sea Level Based on Integrated Remote Sensing Observations*, August, 2010 – July 2014, $1,658,060.

DOE (Co-I): *Identifying and delineating thermally active areas in Colorado as a potential source for geothermal energy* $5M, PI, Lee Robinson, Flint Geothermal.

NASA (PI): *A proposal to lead the ICESat-II Science Definition Team and evaluate mission observational approaches:* March, 2009 - March, 2012, $370,162.

NASA (Co-I): *Quantifying recent mass changes of mountain glaciers in the Canadian High Arctic, the Patagonian Ice Fields, and eastern Greenland: An integrated approach using GRACE, airborne and field observations:* PI, Anthony Arendt, U. of AK, $1.2M. September, 2008 - September, 2011.

NASA (PI): *A Proposal to Lead the Ice Cloud and land Elevation Satellite-II (ICESat-II) Science Definition Team; Transfer of funding from activities while at Goddard to Univ. of Colorado,* July, 2008 - July, 2009, $59,971.

NASA (PI)*: Comprehensive Assessment of Ice Sheet Contributions to Sea Level Based on Integrated Remote Sensing Observations, June,* 2007 - June, 2010, $1.2M

NASA (PI): *Summer Melt Contributions of the Greenland ice sheet to the High-Latitude Water Budget: A Multi-Sensor Investigation*, January, 2006 – December, 2010, $690,000

NASA (PI): *Support of Cryospheric Sciences Program,* January, 2004 – January, 2006, $300,000

NASA (PI): *Presidential Early Career Award for Scientists and Engineers (PECASE)*, June 1999 – May, 2004, $200,000

NASA (PI)*: Investigation of Mass Balance Characteristics of Canadian Ice Caps and Their Relationship to Climate*, September, 1999 – September 2002. $315,000.

NASA (PI): *Comprehensive Analysis of Internal layering Structure: A window into the Greenland Ice Sheet Flow and History*. October, 1997 - September, 2000. $165,000.

NASA (Co-I): *Analysis of Airborne Laser/GPS Data for the Study of Ice Sheet Mass Balance Parameters*, PI: W.B. Krabill, October, 1997 - September, 2000. $500,000.

Publications

(Thomson-Reuters Web of Science h-index of 34; and average of 80 citations per article; Google Scholar h-index of 42)

PEER-REVIEWED PUBLICATIONS IN REVIEW

Snow, T., W. Zhang, E. Schreiber, W. Abdalati, and T. Scambos, Alongshore winds force warm Atlantic Water toward Helheim Glacier in southeast Greenland, *Geophysical Research Letters*, in review

PEER-REVIEWED PUBLICATIONS PUBLISHED OR IN PRESS (64)

Abdalati, W. and T Scambos, How Fast is sea level rising, *Arctic, Antarctic, and Alpine Research*, in press.

Snow, T., F. Straneo, J. Holte, S. Grigsby, **W. Abdalati**, T. Scambos, More than skin deep: Sea surface temperature as a means of inferring Atlantic Water variability on the Southeast Greenland continental shelf near Helheim Glacier, *Journal of Geophysical Research – Oceans*, in press.

Box, J.E, J. Stroeve, **W. Abdalati**, Classics Revisited —Steffen K, Abdalati W and Stroeve J (1993) Climate sensitivity studies of the Greenland ice sheet using satellite AVHRR, SMMR, SSM/I and in situ data. Meteorology and Atmospheric Physics 51(3-4), 239–258 (doi:10.1007/bf01030497), *Progress in Physical Geography*, in press.

Moon, T., T. Scambos, **W. Abdalati**, A. Ahlstrøm, R. Bindschadler, J. Gambill, P. Heimbach, R. Hock, K. Langley, I. Miller, and M. Truffer, Ending a Sea of Confusion: A scientist perspective on lessons and opportunities in sea level change communication, *Environment: Science and Policy for Sustainable Development*, 62(5), 4-15, 2020.

Moussavi, M., A. Pope, A.R.W. Halberstadt, L.D. Trusel, L. Cioffi, **W. Abdalati**, Antarctic Supraglacial lake detection using Landsat 8 and Sentinel-2 imagery: towards continental generation of lake volumes, *Remote Sensing*, 12(1), DOI: 10.3390/rs12010134, 2020.

MacFerrin, M., H. Machguth, C. van As, C. Charalampidis, C. Stevens, A. Heilig, B. Vandecrux, P. Langen, R. Mottram, X. Fettweis, M.R. Van den Broeke, W.T. Pfeffer, M. Moussavi, and **W. Abdalati**, Rapid expansion of Greenland's low-permeability ice slabs, *Nature*, 573 (7774), pp. 403+, DOI**:** 10.1038/s41586-019-1550-3, 2019.

National Academies of Sciences, Engineering, and Medicine, *Thriving on Our Changing Planet: A Decadal Strategy for Earth Observation from Space.* Washington, DC: The National Academies Press, National Academy of Sciences, Engineering, and Medicine, DOI: https://doi.org/10.17226/24938, 2018, 716 pp.

Bayram. H., A.K. Bauer, **W. Abdalati**, C.E. Pinkerton. G.D. Thurston, J.R. Balmes, and T.K. Takaro, Environment, Global Climate Change, and Cardiopulmonary Health, *American Journal of Respiratory and Critical Care Medicine,* 195(6):718-724. doi: 10.1164/rccm.201604-0687PP, 2017.

Markus, T. T. Neumann, A. Martino, **W. Abdalati**, and 21 others, The Ice, Cloud, and land Elevation Satellite-2 (ICESat-2): Science requirements, concept, and implementation, *Remote Sensing of Environment*, 190, 260-273, 2017.

Colgan, W., **W. Abdalati**, H. Rajaram, C. McCutchann, R. Mottram, M. Moussavi, and S. Grigsby, Glacier crevasses: Observations, models and influence on mass balance, *Reviews of Geophysics,* 54,119-161, 2016.

Moussavi, M. **W. Abdalati**, T. Scambos, A. Pope, M. MacFerrin, S. Grigsby, Spaceborne derivation and validation of supraglacial lake volumes along the western margin of the Greenland ice sheet, *Remote Sensing of Environment*, 183, 294-303, 2016

Colgan, W.T., **W. Abdalati,** M. Citterio, B. Csatho, X. Fettweis, S. Luthcke, G. Moholdt, M. Stober, Hybrid Glacier Inventory, Gravimetry and Altimetry (HIGA) mass balance product for Greenland and the Canadian Arctic, *Remote Sensing of Environment,*168, 24-39, 2015.

Colgan, W., H. Rajaram, **W. Abdalati**, A. Sommers, and J. Frahm, Considering viscous collapse of the Greenland ice sheet due to warming ice temperatures, *Earth's Future*, 10.1002/2015EF000301, 2015

Geoengineering Committee of the National Research Council (16 members), *Climate Intervention: Carbon Dioxide Removal and Reliable Sequestration*, 123 pp., 2015.

Geoengineering Committee of the National Research Council (16 members), *Climate Intervention: Reflecting Sunlight to Cool the Earth,* 220 pp., 2015.

Moussavi, M.S., **W. Abdalati**, T. Scambos, and A. Neuenschwander, Applicability of an automatic surface detection approach to micropulse photon-counting lidar altimetry data: implications for canopy height retrieval from future ICESat-2 data, *International Journal of Remote Sensing*, Vol. 35, No. 13, 5263-5279. DOI: 10.1080/01431161.2014.939780

McGrath, D., K. Steffen, P. Holland, T.Scambos, H. Rajaram, **W. Abdalati**, and E. Rignot, The structure and effect of suture zones in the Larsen C Ice Shelf, Antarctica, *Journal of Geophysical Research Earth Surface*, Vol. 119, No. 3, 588-602.

Painter, T.H., M.G. Flanner, G. Kaser, B. Marzeion, R.A. VanCuren, W. **Abdalati**, Was the 19th Century end of the Little Ice Age in the Alps forced by industrial black carbon?, *Proceedings of the National Academy of Sciences*, www.pnas.org/cgi/doi/10.1073/pnas.0913139107, 2013.

Colgan, W.T., S. Luthcke, and **W. Abdalati**, Constraining GRACE-derived cryosphere-attributed signal to irregularly shaped ice-covered areas, *The Cryosphere*, doi:10.5194/tcd-7-3417-2013

Arendt, A., S. Luthcke, A. Gardner, S. O'Neel, D. Hill, G. Moholdt, **W. Abdalati**, Analysis of a global mascon solution for Gulf of Alaska glaciers, *Journal of Glaciology*, Vol. 59, No. 217, 2013 doi: 10.3189/2013JoG12J197.

Phillips, T., H. Rajaram, W. Colgan, K. Steffen, and **W. Abdalati**, Evaluation of cryo-hydrologic warming as an explanation for increased ice velocities in the wet snow zone, Sermeq Avannarleq, West Greenland, *Journal of Geophysical Research – Earth Surface*, Vol. 118 No. 3, 1241-1256.

Mcgrath, D., K. Steffen, H. Rajaram, T. Scambos, **W. Abdalati**, and E. Rignot, Basal Crevasses on the Larsen C Ice Shelf, Antarctica: Implications for Meltwater Ponding and Hydrofracture, *Geophysical Research Letters*, Vol. 39, DOI: 10.1029/2012GL052413, 2012

Liang, YL., W. Colgan, Q. Lv, K. Steffen, W. Abdalati, J. Stroeve, D. Gallaher, and N. Bayou, A Decadal Investigation of Supraglacial Lakes in West Greenland Using a Fully Automatic Detection and Tracking Algorithm, *Remote Sensing of Environment*, Vol. 123, 127-138, 2012.

Colgan, W., W.T. Pfeffer, H. Rajaram, **W. Abdalati**, J. Balog, Monte Carlo ice flow modeling projects a new stable configuration for Columbia Glacier, Alaska, c. 2020. *Cryosphere*, Vol. 6, No. 6, 1395-1409, 2012.

Colgan, W., H. Rajaram, R. Anderson, K. Steffen, H.J. Zwally, T. Phillips, and **W. Abdalati,** The annual glaciohydrology cycle in the ablation zone of the Greenland ice sheet: Part 2. Hydrological Model, *Journal of Glaciology*, Vol. 58, No. 207, 51-64, 2012.

Phillips, T.P., S. Leyk, H. Rajarajm, W. Colgan, **W. Abdalati**, and K. Steffen, Modeling the Moulin Distribution on Sermeq Avannarleq Glacier using Fuzzy Set Theory, *Remote Sensing of Environment*, Vol. 115, No. 9, 2292-2301, 2011.

Colgan, W., K. Steffen, W. McLamb, **W. Abdalati**, H. Rajaram, R. Motyka, T. Phillips and R. Anderson. An increase in crevasse extent, West Greenland: Hydrologic implications. *Geophysical Research Letters,* Vol. 38, Article Number: L18502 DOI: 10.1029/2011GL048491, 2011.

Colgan, W., H. Rajaram, R. Anderson, K. Steffen, T. Phillips, I. Joughin, H.J. Zwally, and **W. Abdalati,** The annual glaciohydrology cycle in the ablation zone of the Greenland ice sheet: Part 1. Hydrological Model, *Journal of Glaciology*, Vol. 57, No. 204, 697-709, 2011.

Joughin, I., B.E. Smith, and **W. Abdalati,** Advances made with intereferometric synthetic aperture radar, *Journal. Glaciology*, Vol. 56, No. 200, 1026-1042, 2010.

Abdalati, W. and 16 others, ICESat-2 laser altimetry mission, *Proceedings of the IEEE*, Vol. 98, No. 5., 735-751, 2010.

Wilson, S., **W. Abdalati**, and 22 others, Observing Systems Needed to Address Sea-level Rise and Variability, in *Understanding Sea-level Rise and Variability*, J.A. Church, P.L. Woodworth, T.A. W. S. Wilson (Eds), Blackwells Publishing, London, 2010.

America's Climate Choices: Panel on Advancing the Science of Climate Change; National Research Council, *Advancing the Science of Climate Change*, 2010, 528 pp.

Swetnam, M.S., D.K. McBride, R. R. Colwell, T. Swetnam, **W. Abdalati**, W. Meier, J. Gannon, T. Sample, Global climate change and national security: the Science and Impact – A Panel Discussion, *Technology*, Vol. 11, No. 3, 78-119, 2009.

Arendt, A.A., S.B. Luthcke, C.F. Larsen, **W. Abdalati**, W.B. Krabill, and M.J. Beedle, Validation of High-Resolution GRACE mascon estimates of glacier mass changes in the St. Elias Mountains, Alaska, USA using aircraft laser altimetry, *Journal of Glaciology*, Vol 54, No. 188, 767-777, 2008.

Tedesco, M., **W. Abdalati,** H.J. Zwally, Persistent snowmelt over Antarctica (1987-2006) from 19.35 GHz brightness temperatures, *Geophysical Research Letters*, Vol. 34, No. 18, L18504. 2008.

Luthcke, S.B., H.J. Zwally, **W. Abdalati**, D.D. Rowlands, R.D. Ray, R.S., Nerem, F.G. Lemoine, J.J. McCarthy and D.S. Chinn, Recent Greenland Ice Mass Loss by Drainage System from Satellite Gravity, Observations, *Science*, Vol. 314, no. 5803, 1286-1289, 2006.

Abdalati, W. Recent changes in high-latitude glaciers and ice caps, *Weather*, Vol. 61, No. 4, 95-101, 2006.

Joughin, I., **W. Abdalati**, and M. Fahenstock, Large fluctuations in speed on Greenland's Jakobshavn Isbrae glacier, *Nature*, Vol. 432, 608-610, 2004.

Abdalati, W. W.B. Krabill, E.B. Frederick, S. Manizade, C. Martin, J. Sonntag, R. Swift, R.H. Thomas, J. Yungel, and R. Koerner, Elevation changes of ice caps in the Canadian archipelago, *Journal of Geophysical Research – Earth Surface*, Vol. 109, No. F4, F00407 2004.

Krabill, W.B., E. Hanna, P. Huybrechts, **W. Abdalati**, J. Cappelin, B. Csatho, E.B. Frederick, S. Manizade, C. Martin, J. Sonntag, R. Swift, R.H. Thomas, and J. Yungel, Greenland ice sheet: increased coastal thinning, *Geophysical Research Letters*, 31(24), L24402, 2004.

Jacka, J. **W. Abdalati**, and 19 others, Recommendations for the Collection and Synthesis of Antarctic Ice Sheet Mass Balance Data, *Global and Planetary Change*, Vol 42, 1-4, 2004.

Thomas, R.H., **W. Abdalati**, W.B. Krabill, S. Manizade, K. Steffen, Investigation of surface melting and dynamic thinning of Jakobshavn Isbrae, Greenland, *Journal of Glaciology*, Vol. 49, No. 165, 231-239, 2003.

Abdalati, W., W. Krabill, E. Frederick, S. Manizade, C. Martin, J. Sonntag, R. Swift, R. Thomas, W. Wright, J. Yungel, Aircraft laser altimetry mapping of the Greenland ice sheet: application to mass balance assessment, *Journal of Geodynamics*, Vol. 34, No. 4, 391-403, 2002.

Krabill, W., E. Frederick, C. Martin, S. Manizade, J. Sonntag, R. Swift, R. Thomas, W. Wright, J. Yungel, **W. Abdalati**. Aircraft laser altimetry measurement of elevation changes of the Greenland ice sheet: technique and accuracy assessment, *Journal of Geodynamics*, Vol. 34, No. 4, 357-376, 2002.

Zwally, H.J., R. Schutz, **W. Abdalati**, J. Abshire, C. Bentley, J. Bufton, D. Harding, T. Herring, B. Minster, S. Palm, J. Spinhirne and R. Thomas, ICESat's Laser Measurements of Polar Ice, Atmosphere, Ocean, and Land, *Journal of Geodynamics*, Vol. 34, No. 4, 405-445, 2002.

Zwally, H.J., **W. Abdalati**, T. Herring, K. Larson, J. Saba, K. Steffen, Surface melt acceleration of Greenland ice sheet flow, *Science*, Vol. 297, No. 5579, 218-222, 2002.

Larson, K., J. Plumb, H.J. Zwally, **W. Abdalati**, Analysis of GPS data collected on the Greenland ice sheet, *Polar Geography*, Vol 25, No. 1, 22-40, 2002.

Fahnestock, M., **W. Abdalati**, and C. Shuman, Long melt seasons on ice shelves of the Antarctic Peninsula: an analysis using satellite-based microwave emission measurements, *Annals of Glaciology*, Vol. 34, 127-133, 2002.

Wang, W., H.J. Zwally, **W. Abdalati**, S. Luo, Modeling of ice flow and internal layers along a flow line through Swiss Camp in West Greenland, *Annals of Glaciology*, Vol. 34, 303-308, 2002.

Abdalati, W. The Greenland Ice Sheet, in *Encyclopedia of Global Environmental Change*, T. Munn, M. MacCracken, and J. Perry (eds.), John Wiley and Sons, 3000 pp. 2002.

Abdalati, W., and K. Steffen, Update on the Greenland ice sheet melt extent, *Journal of Geophysical Research Atmospheres*, Vol. 106, No. D24, pp. 33,983-33,988, 2001.

Abdalati, W., W. Krabill, E. Frederick, S. Manizade, C. Martin, J. Sonntag, R. Swift, R. Thomas, W. Wright, J. Yungel, Near-coastal thinning of the Greenland ice sheet, *Journal of Geophysical Research Atmospheres,* Vol. 106, No. D24, pp. 33,729-33,742, 2001.

Fahnestock, M., **W. Abdalati**, I. Joughin, J. Brozena, S. Gogineni, High Geothermal heat flow, basal melt, and the origin of rapid ice flow in central Greenland, *Science*, Vol. 294, 2338-2342, 2001.

Fahnestock, M., **W. Abdalati**, S. Gogineni, S. Luo, Investigation of internal layering structure of the Northern Greenland ice sheet and the links between deep ice cores. *Journal of Geophysical Research Atmospheres*, Vol. 106, No. D24, pp. 33,789-33,798, 2001.

Thomas, R.H. and PARCA investigators, Program for Arctic Regional Climate Assessment (PARCA): Overview and key findings, *Journal of Geophysical Research Atmospheres*, Vol. 106, No. D24, pp. 33,691-33,706, 2001.

Zwally, H.J. and **W. Abdalati**, Ice Sheets, in *Encyclopedia of Global Climate Change: Environmental Change and Human Society*, A. Goudie, D. Cuff, eds., Oxford University Press, New York, 1440 pp, 2001.

Krabill, W., **W. Abdalati**, E. Frederick, S. Manizade, C. Martin, J. Sonntag, R. Swift, R. Thomas, W. Wright, J. Yungel, Greenland ice sheet: high-elevation balance and peripheral thinning, *Science*, 289, 428-429, 2000.

Thomas, R.H., **W. Abdalati**, T. Akins, B. Csatho, E. Frederick, S. Gogineni, W. Krabill, S. Manizade, E. Rignot, Substantial thinning of a major east Greenland outlet glacier, *Geophysical Research Letters*, Vol 27, No. 9, pp. 1291-1294, 2000.

Abdalati, W., W.B. Krabill, Calculation of ice velocities in the Jakobshavn Isbrae area using airborne laser altimetry, *Remote Sensing of Environment*. Vol. 67, pp. 194-204, 1999.

Steffen, K., **W. Abdalati**, and I. Sherjal, Hoar development on the Greenland ice sheet. *Journal of Glaciology*, Vol. 45, No. 149, pp. 63-68, 1999.

Abdalati, W., K. Steffen, Accumulation and hoar effects on microwave emission in the Greenland ice sheet dry snow zones. *Journal of Glaciology*, Vol. 44, No. 148. pp. 523-531, 1998.

Abdalati, W., K. Steffen, Snow melt on the Greenland ice sheet as derived from passive microwave satellite data. *Journal of Climate*, Vol. 10, No. 2, pp. 165-175, 1997.

Abdalati, W., K. Steffen, The apparent effect of the Mt. Pinatubo eruptions on the Greenland ice sheet melt conditions. *Geophysical Research Letters*, Vol. 24, No. 14, pp. 1795-1797, 1997.

Abdalati, W., K. Steffen, C. Otto, and K. Jezek, Comparison of brightness temperatures from SSM/I instruments on the DMSP F8 and F11 satellites for Antarctica and the Greenland ice sheet. *International Journal of Remote Sensing*, Vol. 16, No. 7, pp.1223-1229, 1995.

Abdalati, W., K. Steffen, Passive microwave-derived snow melt regions of the Greenland ice sheet. *Geophysical Research Letters*, Vol. 22, No. 7, pp. 787-790, 1995.

Steffen, K., **W. Abdalati**, J. Stroeve, Climate sensitivity studies of the Greenland ice sheet using satellite AVHRR, SMMR, SSM/I and in situ data. *Meteorology and Atmospheric Physics*, Vol. 51, pp. 239-258, 1993.

PH.D. THESIS: **Abdalati, W***., Investigation of Mass Balance Parameters on the Greenland Ice Sheet Using Passive Microwave Satellite Data*, University of Colorado at Boulder, 1996.

OTHER PUBLICATIONS

Webb, C.E., H.J. Zwally, and **W. Abdalati**, The Ice, Cloud and land Elevation Satellite (ICESat): Summary Mission Timeline and Performance Relative to Pre-Launch Mission Success Criteria, NASA/TM-2013-217512, June 2013, 46 pp.

Abdalati, W. and 26 others, Report of the ad-Hoc Science Defninition Team for the Ice Cloud and Land Elevation Satellite-II (ICESat-II), November, 2008, 65 pp.

Valinia, A., M. Krainak, **W. Abdalati**, B. Blair, B. Gentry, P. Millar, E.J. Welton, A. Yu, and H.J. Zwally, *Final Report of the GSFC Laser Working Group*, NASA GSFC Internal Report, October, 2006, 63 pages.

Abdalati, W. and 9 others, *Space-based Surface Laser Altimetry: Assessment of Science Needs for Future Earth Science Missions, NASA* GSFC Internal Report, August, 2006 31 pp.

Emery, W., **W. Abdalati**, P. Hildebrand, 20,000 Leagues Under the Sea: A Journey to the Future of Observing Deep Oceans, *Proceedings from the 2003 IGARSS Symposium*, Tolouse, France, 2003.

Abdalati, W., Preface to Mass Balance of the Greenland Ice Sheet, *Journal of Geophysical Research Atmospheres,* Vol. 106, No. D24, p. 33,689, 2001.

Koblinsky, C., M. Rienecker, D. Adamec, **W. Abdalati**, and E. Lindstrom, Oceans and ice: the slow dance of a complex system, *Proceedings from the 2001 IGARSS Symposium*, Sydney Australia, 2001.

Abdalati, W., W.B. Krabill, Application of aircraft laser altimetry to glacier and ice cap mass balance studies, *Archives of the International Society for Photogrammetry and Remote Sensing*, *Proceedings of the Workshop in Mapping Surface Structure and Topography by Airborne and Spaceborne Lasers, Lajolla, CA, November 9-11, 1999*, 161-166, 2000.

Abdalati W., R. Bales, and R.H. Thomas, Program for Arctic Regional Climate Assessment: an improved understanding of the Greenland ice sheet. *Arctic Research of the United States*, vol. 12, pp. 38-54, 1998.

Steffen, K., J. Box, **W. Abdalati**, Greenland climate network: GC-Net, in *CRREL Special Report on Glaciers, Ice Sheets and Volcanoes,* Colbeck, S., ed., No. 96-27, pp. 98-103, 1996.

Anderson, M.R., T.M. Mote, **W. Abdalati**, Comparison of passive microwave techniques for detecting snowpack melt on the Greenland ice sheet. *CRREL Special Report on Glaciers, Ice Sheets, and Volcanoes*, Colbeck, S., ed., No. 96-27, 1996.

An additional 20 abstracts published in *EOS, Transactions of the American Geophysical Union* from presentations at their annual meetings.

Op-Eds

Abdalati, W., What is NASA's Role in Addressing Climate Change, *The Hill*, May 28, 2001.

Abdalati, W., Look Homeward NASA, *The Baltimore Sun*, November 19th, 2009.

Invited Scientific Lectures and Keynote Addresses

Over 150 invited lectures and keynote addresses at national and international scientific meetings, White House Office of Science and Technology Policy, Climate Change Science Program Office, Museums and Universities, Rotary Clubs, etc., as well as more than 50 presentations as a participant in various scientific conferences and workshops. Examples include:

- Agency, White House, Congressional and other briefings on the National Academy of Sciences *Earth Science and Applications from Space 2017* report findings and recommendations for the coming decade of NASA investments in Earth Science (I co-chaired the committee).
- Agency, White House, Congressional and other briefings of the two NRC Climate Intervention Reports (*Carbon Dioxide Removal and Reliable Sequestration*, and *Reflecting Sunlight to Cool the Earth*). I was a committee member.
- Closing keynote lecture at the White House Citizen Science Forum (at the White House Complex)
- Invited lecture on Environment, Climate Change, and Cardiopulmonary Health, Annual Meeting of the American Thoracic Society, May, 2015
- TEDx Mile High presentation: "Communicating Controversial Topics" September 2014
- Invited speaker, Karles Conference, Office of Naval Research, November, 2014
- Invited speaker, American Geophysical Union, December, 2013
- Featured Speaker and Panelist, along with California Governor Jerry Brown at Sustainable Silicon Valley Event, 2012
- Featured evening lecture at the Franklin Institute, Philadelphia, PA, 2012
- Keynote at the International Space Station Symposium discussing science from the Space Station, 2012
- Rothermal Foundation Lecture on Ice in the changing climate, 2011
- Featured Speaker at AIAA symposium celebrating the 50th anniversary of the launch of the TIROS satellite, June, 2010.
- Speaker the Council of Parties COP-15 climate summit in Copenhagen, Denmark at the invitation of NASA and the U.S. Dept. of State, December, 2009.
- Keynote Lecture at NASA's *Earth System Science at 20* Symposium at the National Academy of Sciences, Washington, DC, June 23, 2009.
- Invited Speaker at the Johns Hopkins Applied Physics Laboratory Colloquium Series, May 8, 2009
- Keynote Lecture at the SPIE International Society for Optical Engineering meeting in Cardiff, UK, September, 15, 2008.
- Presentation to the United States Climate Change Science Program Office on the potential instability of the Greenland ice sheet, April 18, 2008.
- Invited speaker and panelist at the National Research Council's Space Studies Board seminar, "Forging the Future of Space Sciences," in Paris, France, March, 27, 2008.
- Invited speaker and panelist at the Potomac Institute's Forum on Global Climate Change and National Security, March 6, 2008.
- Briefing to the United States Arctic Research Commission on satellite contributions to Arctic research, April 17, 2008.
- Carlson Lecture at the University of Delaware's International Polar Year Lecture Series, April 10, 2008
- Briefing on Arctic change to the White House Office of Science and Technology Policy's Associate Director for Science, March 19, 2008.
- Keck Lecture at the National Academy of Science, February 26, 2008.
- Panelist at the Potomac Institute's forum on "Climate Change and National Security: The Science and the Impact", March 6, 2008

- Presentation at the American Museum of Natural History's Polar Weekend (February, 2008) on rapid changes of polar ice cover. My presentation was ranked as the top presentation of the event in a survey of attendees at the weekend-long event.
- William Farrand Lecture at the University of Michigan's Museum of Natural History, January 18, 2008
- Featured Speaker at the United Nations Educational Scientific and Cultural Organization 34th General Assembly, UNESCO, Headquarters, Paris, France, 2007
- Gave 2007 Millennium Lecture at North Carolina State University at the invitation of the First Lady of North Carolina
- Featured speaker at National Science Teachers Association Meeting, Salt Lake City, December, 2006
- Guest speaker at the National Research Council's Forum on Abrupt Climate Change, December, 2006
- Keynote address at the Adler Planetarium's Public Symposium on Climate Change, Chicago, September, 2006
- Featured speaker at the National Air and Space Museum's Public Science Lecture series at the NASM IMAX Theater, May, 2006
- Keynote address at the International Committee on Arctic Research Programs (ICARP-II) in Copenhagen, Nov. 2005
- Frontiers of Geophysics Lecture at the AGU meeting, Spring, 2002