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EDUCATION

2004	Ph.D.	<i>Applied Physics</i>	University of Michigan, Ann Arbor, MI
2000	M.S.	<i>Physics</i>	University of Michigan, Ann Arbor, MI
1998	B.A.	<i>Physics Major</i>	Gustavus Adolphus Coll., St. Peter, MN

PROFESSIONAL APPOINTMENTS

2026-	<i>Vice Dean for Academic Planning</i>	Columbia Climate School, Columbia University, New York, NY
2023-	<i>Professor of Climate</i>	Columbia Climate School, Columbia University, New York, NY
2024-25	<i>Co-Director, Master of Climate Program</i>	Columbia Climate School, Columbia University, New York, NY
2022-25	<i>Co-Senior Director for Education</i>	Columbia Climate School, Columbia University, New York, NY
2014-23	<i>Earth Institute Faculty</i>	Earth Institute, Columbia University, New York, NY
2017-23	<i>Lamont Research Professor</i>	Lamont-Doherty Earth Observatory, Columbia University, New York, NY
2014-17	<i>Lamont Associate Research Professor (Senior Staff)</i>	Lamont-Doherty Earth Observatory, Columbia University, New York, NY
2012-14	<i>Lamont Associate Research Professor (Junior Staff)</i>	Lamont-Doherty Earth Observatory, Columbia University, New York, NY
2012-14	<i>Earth Institute Faculty, Junior Member</i>	Earth Institute, Columbia University, New York, NY
2011-24	<i>Co-Director, Undergraduate Program in Sustainable Development</i>	Earth Institute/Climate School, Columbia University, New York, NY
2010-12	<i>Lamont Assistant Research Professor</i>	Lamont-Doherty Earth Observatory, Columbia University, New York, NY
2008-15	<i>Adjunct Assistant Professor</i>	School of International and Public Affairs, Columbia University, New York, NY
2008-10	<i>Doherty Associate Research Scientist</i>	Lamont-Doherty Earth Observatory, Columbia University, New York, NY
2008-12	<i>Storke-Doherty Lecturer</i>	LDEO and Dept. of Earth and Env. Sci., Columbia University, New York, NY
2007-08	<i>Barnard Environmental Science/Mellon Postdoctoral Fellow</i>	Department of Environmental Science, Barnard College, New York, NY

2005-07 *Lamont Postdoctoral Fellow*
Lamont-Doherty Earth Observatory, Columbia University, Palisades, NY

HONORS AND AWARDS

2024 *Columbia University Faculty Mentoring Award*
Graduate School of Arts and Sciences, Columbia University, New York, NY

2018 *LDEO Excellence in Mentoring Award*
Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY

2013 *Editors' Citation for Excellence in Refereeing*
Geophysical Research Letters

2009 *Distinguished Visiting Researcher at the UCM-Grupo Santander*
Universidad Complutense de Madrid, Madrid, Spain

2008 *James Chair Visiting Professor*
St. Francis Xavier University, Antigonish, Canada

2008 *First Decade Award for Early Professional Achievement*
Gustavus Adolphus College, St. Peter, MN

2007 *Storke-Doherty Lectureship Award*
LDEO and Dept. of Earth and Env. Sci., Columbia University, New York, NY

2007 *Barnard Environmental Science/Mellon Postdoctoral Fellowship*
Department of Environmental Science, Barnard College, New York, NY

2005 *Lamont-Doherty Postdoctoral Fellowship*
Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY

2005 *John Dorr Graduate Academic Achievement Award*
Department of Geological Sciences, University of Michigan, Ann Arbor, MI

1998-2001 *GAANN Fellowship*
Applied Physics Program, University of Michigan, Ann Arbor, MI

1997 *Julian A. Crawford Memorial Prize in Physics*
Department of Physics, Gustavus Adolphus College, St. Peter, MN

PROFESSIONAL ACTIVITIES

Intergovernmental Panel on Climate Change

2011-13 Contributing Author, Working Group I, Assessment Report 5, *Chapter 5: Information from Paleoclimate Archives*.

Conference and Workshop Convening

2021-23 Co-Organizer (with Rhiannon Stephens), *History and Climate Change: Africa, Indigenous and Latin America, and South Asia*, Columbia University, NY

2010-19 Co-Convener (with K.J. Anchukaitis, E.R. Cook, J. Emile-Geay and K. Cobb), *The Climate of the Common Era*, AGU Fall Meeting

2017 Co-Covener (with E. Cook), *Large-scale hydroclimate variability and change of the Common Era: Patterns, Impacts, and Processes*, PAGES Open Science Meeting, Zaragoza, Spain

2016 Chair, PAGES 2k-PMIP3 Workshop: *Comparing data and model estimates of hydroclimate variability and change over the Common Era*, Lamont-Doherty Earth Observatory, NY

2013 Co-Chair, *Third International Workshop on Climate Informatics*, National Center for Atmospheric Research, Boulder, CO

2012 Program Committee Chair, *Second International Workshop on Climate*

- 2012 Organizer, *Decadal-to-Centennial Tropical Pacific Climate Variability: Perspectives from Proxies and Multi-Century Model Simulations*, Lamont-Doherty Earth Observatory, New York, NY
- 2008 Co-Convener (with C. Ammann, N. Graham, and M. Evans): *Advancing Process Understanding in Proxy Climate Records*, AGU Fall Mtg., San Francisco, CA

Workshop Participation

- 2025 *Attribution Science and Climate Law* (Invited Panelist)
Columbia University, New York, NY
- 2024 *Human-Environment Interaction in Early China: Archaeological and Paleoenvironmental Research Trends and Future Trajectories* (Invited Speaker),
Columbia University, New York, NY
- 2016 *Sixth International Workshop on Climate Informatics* (Keynote Speaker), National
Center for Atmospheric Research, Boulder, CO
- 2014 *PAGES 2k Climate Field Reconstruction Workshop* (Speaker), Woods Hole
Oceanographic Institution, Woods Hole, MA
- 2013 *PAGES2k/PMIP3 Workshop on Integrated Analysis of Reconstructions and Multi-
Model Simulations for the Past Two Millennia* (Speaker), Madrid, Spain
- 2013 *CICAR Symposium, Climate Change: Recent Discoveries and Future
Challenges* (Participant), Lamont-Doherty Earth Observatory, Palisades, NY
- 2013 *PAGES EuroMed2k Hydroclimate Workshop* (Speaker), Univ. of Reading, UK
- 2012 *PAGES EuroMed2k Workshop* (Speaker), Max Plank Institute for Meteorology,
Hamburg, Germany
- 2012 *Workshop on using paleo-climate model/data comparisons to constrain future
projections* (Participant), The Bishop Museum, Honolulu, Hawaii
- 2011 *First International Workshop on Climate Informatics* (Breakout Session Leader)
New York Academy of Sciences, New York, NY
- 2011 *Bayesian Hierarchical Models for High-Resolution Climate Reconstructions*
(Invited Speaker) National Center for Atmospheric Research, Boulder, CO
- 2011 *Bayesian Hierarchical Models (BHMs) for Climate Field Reconstruction (CFR) and
Comparison to Existing CFR Methods* (Participant), Lamont-Doherty Earth
Observatory, Palisades, NY
- 2010 *Climate Sensitivity Extremes: Assessing the Risk* (Participant), Goddard Institute for
Space Studies, New York, NY
- 2010 *Climate of the Last Millennium: Natural and Forced Climate Variability from the
Medieval Period to the Greenhouse Future* (Invited talk), Goddard Institute for
Space Studies, New York, NY
- 2009 *Abrupt Climate Change in a Warming World* (Invited talk), Lamont-Doherty Earth
Observatory, Palisades, NY

Editorial Positions and Reviewer Service

- 2004- Reviewer: *Science, Science Advances, Nature, Nature Geosciences, Nature Climate Change, Nature Communications, Journal of Climate, Geophysical Research Letters, Climate Dynamics, Journal of Geophysical Research (Atmospheres and Earth Surface), Earth and Planetary Science Letters, Climate of the Past, International Journal of Climatology, Climatic Change, Environmental Modeling and Software, Hydrology and Earth System Science, Earth and Space Science, Columbia University Press, National Science Foundation, Department of Energy, National Oceanographic and Atmospheric Administration*

2006-08 Guest Editor (with V. Rath): *Climate of the Past*, Interpreting subsurface Temperature signals of climate change – Special Issue, http://www.clim-past.net/special_issue8.html

Invited Lectures and Panels (Last 5 Years)

2026 Invited Speaker, Taste of Science, New York, NY
2026 Invited Speaker, Climate Day, Hunter College High School, New York, NY
2026 Keynote Speaker, Climate Change Education Symposium, High School of Fashion Industries, New York, NY
2026 Invited Speaker, Climate of the Past 20th Anniversary Webinar Series, Virtual
2026 Keynote Lecture, Midwinter Climate Institute 2026, Teacher’s College, New York, NY
2025 Workshop Lecture, Integrating Climate Education in N.Y.C. Public Schools, New York, NY
2025 Keynote Lecture, Midwinter Climate Institute 2025, Teacher’s College, New York, NY
2024 Invited Seminar Leader, Summer Research Program for Secondary Science Teachers, Columbia University Medical School, New York, NY
2024 Workshop Lecture, Integrating Climate Education in N.Y.C. Public Schools, New York, NY
2024 Keynote Lecture, 2024 Columbia Youth Climate Summit, NY
2024 Guest Lecture, Himan Brown Senior Program, 92 Street Y, NY
2023 Workshop Lecture, Integrating Climate Education in N.Y.C. Public Schools, New York, NY
2023 Keynote Lecture, 2023 Columbia Youth Climate Summit, Virtual
2022 Lecture, Woods Hole Oceanographic Institution, Falmouth, MA
2022 Keynote Speaker, Columbia Alumni Association, Washington D.C., Virtual
2022 Lecture, Climate Change: A Primer, Trumbull Library, Dinner Disrupted Series, Virtual
2022 Lecture, Salty Shorts, Great Salt Lake Institute, Westminster College, Virtual
2022 Keynote Speaker, Desert Tortoise Council, 47th Symposium, Virtual

UNIVERSITY SERVICE

Committees, Coordinating and Administration

2026 Chair: *Lecturer in Discipline Search Committee*
Columbia Climate School, Columbia University, New York, NY
2026- Vice Dean of Academic Planning
Columbia Climate School, Columbia University, New York, NY
2024- Co-Director: *MS in Climate Program*
Columbia Climate School, Columbia University, New York, NY
2024- Member: *Administrative Leadership Team*
Columbia Climate School, Columbia University, New York, NY
2024- Member: *Executive Committee*
Center for Science and Society, Columbia University, New York, NY
2023- Co-Lead: *Environmental Sciences and Humanities Research Cluster*
Center for Science and Society, Columbia University
2022-25 Co-Senior Director for Education
Columbia Climate School, Columbia University, New York, NY
2016- Member: *Senior Sustainability Advisory Committee*
Columbia University Sustainability Planning Team, New York, NY
2011-24 Co-Director: *Undergraduate Program in Sustainable Development*
Earth Institute/Columbia Climate School, Columbia University, New York, NY
2023-24 Member: *Administrative Advisory Group*
Columbia Climate School, Columbia University, New York, NY

- 2023-24 Member: *Interim Steering Committee*
Columbia Climate School, Columbia University, New York, NY
- 2022 Member: *Lecturer in Discipline Search Committee (Climate Justice)*
Columbia Climate School, Columbia University, New York, NY
- 2022 Member: *Postdoctoral Research Scholar Search Committee (Climate Justice)*
Columbia Climate School, Columbia University, New York, NY
- 2021-23 Member: *Executive Group for Education*
Climate School, Columbia University, New York, NY
- 2021-22 Member: *Salary Equity Committee for Staff Officers of Research*
Vice Provost Office for Faculty Affairs, Columbia University, New York, NY
- 2021-22 Chair: *Undergraduate Programs Design Committee*
Climate School, Columbia University, New York, NY
- 2021-22 Co-Chair: *Masters Programs Design Committee*
Columbia Climate School, Columbia University, New York, NY
- 2019-23 Representative: *Executive Committee (Ocean and Climate Physics Division)*
Lamont-Doherty Earth Observatory, Columbia University, Palisades, NY
- 2018-22 Member: *Executive and Leadership Committee*
Earth Institute/Columbia Climate School, Columbia University, New York, NY
- 2018-21 Chair: *Earth Institute Education Committee*
Earth Institute, Columbia University, New York, NY
- 2020-21 Member: *Programming Working Group for Diversity, Equity and Inclusion*
Earth Institute, Columbia University, New York, NY
- 2020-21 Co-Chair: *Education Working Group*
Columbia Climate School, Columbia University, New York, NY
- 2016-19 Member: *Promotions and Careers Committee*
Lamont-Doherty Earth Observatory, Columbia University, Palisades, NY
- 2018-19 Member: *Faculty Search Committee (Environmental Sustainability – Successful)*
Department of Environmental Science, Barnard College, New York, NY
- 2018-19 Chair: *Education Task Force*
Earth Institute, Columbia University, New York, NY
- 2018 Member: *LARP Search Committee (Atmospheric Science – Successful)*
Lamont-Doherty Earth Observatory, Columbia University, Palisades, NY
- 2016-18 Member: *GHG/Energy Focus Team Member*
Columbia University Sustainability Planning Team, New York, NY
- 2016-17 Chair: *LARP Search Committee (Atmospheric Science – Successful)*
Lamont-Doherty Earth Observatory, Columbia University, Palisades, NY
- 2016-17 Chair: *Lecturer in Discipline Search Committee (Successful)*
Earth Institute, Columbia University, New York, NY
- 2014-15 Chair: *LARP Search Committee (Climate/Paleoclimate – Successful)*
Lamont-Doherty Earth Observatory, Columbia University, Palisades, NY
- 2011-14, 2016-17 Member: *Education Committee*
Earth Institute, Columbia University, New York, NY
- 2011-12 Member: *Faculty Search Committee (Physical Oceanography – Successful)*
Dept. of Earth and Env. Sciences, Columbia University, New York, NY
- 2010-15 Executive Advisor: *NSERC CREATE Training Program in Climate Science*
St. Francis Xavier University, Antigonish, Nova Scotia, Canada
- 2010-12 Chair: *Website Advisory Committee*
Dept. of Earth and Env. Sciences, Columbia University, New York, NY

- 2009-12 Member: *Advisory Committee to the Office of Academic Affairs and Diversity*
Lamont-Doherty Earth Observatory, Columbia University, Palisades, NY
- 2008-11 Chair: *Campus Life Committee*
Lamont-Doherty Earth Observatory, Columbia University, Palisades, NY
- 2010 Member: *Search Committee for Junior Science Writer*
Lamont-Doherty Earth Observatory, Columbia University, Palisades, NY
- 2008-10 Member: *Website Advisory Committee*
Dept. of Earth and Env. Sciences, Columbia University, New York, NY
- 2008 Member: *Search Committee for Junior Science Writer*
Lamont-Doherty Earth Observatory, Columbia University, Palisades, NY
- 2007-08 Coordinator: *The Earth Science Colloquium at the LDEO*
Lamont-Doherty Earth Observatory, Columbia University, Palisades, NY
- 2006-08 Member: *Campus Life Committee*
Lamont-Doherty Earth Observatory, Columbia University, Palisades, NY
- 2007 Co-Coordinator (with H.-P. Huang): *Summer reading seminar on the IPCC AR4*
Lamont-Doherty Earth Observatory, Columbia University

TEACHING AND MENTORING

Teaching and Course Development

- 2024- Co-Instructor (with Gull Island Institute): *Sustainability and the Meaning of Place on Cuttyhunk Island* (SDEV4500 Spring), Climate School, Columbia Univ., NY, NY
- 2024- Instructor: *Quantitative Methods for Climate Applications* (CLMT5002), Climate School, Columbia University, New York, NY
- 2023- Co-Instructor (with Rhiannon Stephens): *Climate and History in Africa* (HIST3712) Climate School, Columbia University, New York, NY
- 2011- Instructor: *Introduction to Sustainable Development* (SDEV1900) Earth Institute/Climate School, Columbia University, New York, NY
- 2021 Guest Climate Lecture: *Environmental and Sustainability Education*, Teachers College, Columbia University, New York, NY
- 2021 Guest Climate Lecture: *Climate Change Policy*, School of International and Public Affairs, Columbia University, New York, NY
- 2020 Guest Climate Lecture: *Environmental and Sustainability Education*, Teachers College, Columbia University, New York, NY
- 2017-20 Guest Climate Lecture: *The Business of Climate Change: Investing and Managing in a Changing Environment*, Columbia Business School, New York, NY
- 2008-15 Instructor: *Climatology* (U6115 Summer; MPA in Environmental Science and Policy) School of International and Public Affairs, Columbia University, New York, NY
- 2010 Instructor (with J. McManus): *Earth's Environmental Systems: Climate* (EES2100 Fall) Dept. of Earth and Env. Science, Columbia University, New York, NY
- 2008 Guest Instructor: *Earth's Environmental Systems: Climate* (multiple lectures on climate change adaptation/mitigation), Barnard College, New York, NY
- 2007-08 Lab Developer and Instructor: *Earth's Environmental Systems: Climate* (worked to revise existing climate labs and include more hands-on exercises in the lab course, including two climate model labs), Barnard College, New York, NY
- 2007 Guest Instructor: *Data Analysis* (taught multiple 2-hour undergraduate lectures on introductory statistics), Barnard College, New York, NY

Undergraduate Students

- 2024-25 Tehreem Qureshi (CC '25), Lamont Summer Intern and Senior Thesis (recipient of DEES the Walter Pittman award) Lamont-Doherty Earth Observatory, Palisades, NY
- 2018-19 Jacob Naimark (CC '20), EI Research Intern
Columbia College, New York, NY
- 2017 George-Costin Dobrin (CC '20), Columbia College Science Fellow
Columbia College, New York, NY
- 2017 Sofia Gouin, (CC '19), EI Research Intern
Earth Institute, New York, NY
- 2015 Grant Gutierrez (CC '15), EI Research Intern
Earth Institute, New York, NY
- 2014-15 Timothy Kirby Jr. (GS '16), EI Research Intern
Earth Institute, New York, NY
- 2014 Ryan Creedon (PSU '16), Lamont Summer Intern
Lamont-Doherty Earth Observatory, Palisades, NY
- 2014 Meredith Fish (PSU '15), Lamont Summer Intern
Lamont-Doherty Earth Observatory, Palisades, NY
- 2014 Stephanie Goldstein (BC '15), Lamont Summer Intern
Lamont-Doherty Earth Observatory, Palisades, NY
- 2013-14 Seung Hun Baek (CC '14), EI Research Intern and Senior Thesis
Department of Earth and Environmental Science, New York, NY
- 2008 E.B. Tupper (BC '08), Summer Research Assistant
Department of Environmental Science, Barnard College, New York, NY
- 2007 Alison Powell (BC '09), Summer Research Assistant
Department of Environmental Science, Barnard College, New York, NY
- 2007-08 Diana Chang (BC '08), Hughes Fellow, Summer Intern and Senior Thesis
Department of Environmental Science, Barnard College, New York, NY
- 2006, 08 Amanda Rook (BC '08), Summer Research Assistant
Department of Environmental Science, Barnard College, New York, NY
- 2006 A.J. Carver (UW-Madison, '07), NOAA Hollings Fellow, Summer Intern
Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY

Research Assistants

- 2011 Hannah Aizenman (CUNY Graduate Student), Summer Code Developer
Google Summer of Code Internship, Hosted at LDEO, Palisades, NY
- 2009-10 Dan Amrhein (CC '09), Full-Time Research Assistant (*now a research scientist at NCAR*)
Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY

Graduate Students

- 2024- Shane Russett (Ph.D. student, Expected Graduation: 2029, Primary Advisor)
Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY
- 2024 Olya Skulovich (Thesis Committee)
Earth and Environmental Engineering, Columbia University, New York, NY
- 2023- Phyllis Kho (Ph.D., Advisory Committee)
Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY
- 2023- Hannah Byrne (Ph.D. student, Expected Graduation: 2028, Primary Co-Advisor)
Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY
- 2023- Miriam Neilsen (Ph.D., Advisory Committee)
Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY
- 2023 Erika Kessler (Thesis Committee)

- Teachers College, Columbia University, New York, NY
- 2022-24 Rebecca Orrison (Thesis Committee)
Department of Atmospheric and Environmental Sciences, SUNY Albany, NY
- 2022- Aandishah Samara (Ph.D. student, Expected Graduation: 2027, Primary Co-Advisor)
Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY
- 2022- Ibuki Sugiura (Ph.D. student, Expected Graduation: 2027, Primary Co-Advisor)
Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY
- 2022 Adam Massmann (Ph.D. 2022, Thesis Committee)
School of Engineering and Applied Science, Columbia University, New York, NY
- 2021 Norman Steinert (Ph.D. 2021, Thesis Committee)
Universidad Complutense de Madrid, Madrid, Spain
- 2018- Arianna Varuolo-Clarke (Ph.D., Expected Graduation: 2023, Primary Co-Advisor)
Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY
- 2016-17 Yuxin Zhou (Ph.D., Advisory Committee)
Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY
- 2015-20 Seung Hun Baek (Ph.D., 2020, Primary Advisor, *now a postdoc fellow at Yale University*)
Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY
- 2015-16 Xiaomeng Jin (Ph.D., Advisory Committee)
Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY
- 2014-19 Colin Raymond (Ph.D., 2019, Thesis Committee)
Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY
- 2014-19 Bor-Ting Jong (Ph.D., 2019, Thesis Committee)
Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY
- 2013-17 Lea Schneider (Ph.D. 2017, 2nd Reader of Doctoral Thesis)
Johannes Gutenberg University, Mainz, Germany
- 2012-14 Nandini Ramesh (Ph.D., 2017, Advisory Committee)
Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY
- 2010-15 Sloan Coats (Ph.D., 2015, Primary Advisor; *now an Assistant Professor, Univ. Hawaii*)
Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY 2008
- 2008 Miriam Jones (Ph.D. 2008, Outside Reader, Thesis Committee)
Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY

Postdoctoral Scientists

- 2025- Hunter Hughes, Lamont Postdoctoral Fellow
- 2023- Yelin Jiang, Postdoctoral Research Scientist
- 2023-25 Anson Cheung, Lamont Postdoctoral Fellow
- 2018 Gijs de Cort, BAEF Postdoctoral Fellow (*now a Research Sci. at U. of Ghent*)
- 2015-18 Justin Mankin, EI Postdoctoral Fellow (*now an Assoc. Prof. at Dartmouth*)
- 2015-18 Nathan Steiger, NOAA C&GC Postdoctoral Fellow (*now an Assist. Prof. at Hebrew U.*)

Research Scientists

- 2019-20 Nathan Steiger, Lamont-Doherty Earth Observatory of Columbia University

PENDING, FUNDED, AND COMPLETED GRANTS

Total Federal Funding Raised (since 2007): \$16,067,481

Total Federal Funding Raised as Lead PI, senior PI, or lead LDEO PI (since 2007): \$3,776,801

Pending DOE, \$650,596 (LDEO Portion), Vegetation Greening Controls on Hydrological and Energy

Drought in the U.S. Southeast, PIs: Y. Jiang (lead), J. Smerdon, R. Seager, D. Diaz (lead at EPRI), and A. Staid

- Pending NSF, \$815,617, *Quantifying Land-Surface Controls on Heatwaves: Physical Mechanisms and Implications for Future Projections*, PIs: Y. Jiang (lead), M. Ting, J. Smerdon
- Pending NOAA, \$499,998 (LDEO Portion), *Contextualizing Drought Severity in a Changing Climate to Support Drought Monitoring and Management*, PIs: Z. Li (lead at U of Indiana), Y. Jiang, J. Smerdon, R. Seager, J. Mankin
- Pending NOAA, \$743,902, *The impact of land surface conditions on the evolution and predictability of ocean-driven hydroclimate extremes in the western U.S.*, PIs: Y. Jiang (lead), J. Smerdon, R. Seager, and J. Mankin
- 2025-26 Columbia Research Stabilization Funds, \$96,614, *Land-Surface Processes, Climate Change, and Extreme Events*, PI: J. Smerdon
- 2025 Lamont Climate Center, \$7,970, *Concurrent Heat Extremes in the Northern Hemisphere: Underlying Causes and Future Risks*, PIs: A. Cheung and J. Smerdon
- 2023- NSF, \$493,421 (LDEO Portion), *Collaborative Research: Diagnosing global climatic responses to large volcanic eruptions in climate reconstructions and model simulations*, PIs: J. Smerdon (lead), M. Vuille (SUNY-Albany) and L. Polvani
- 2021- NSF, \$871,446, *Decadal Regime Shifts in the Pacific Ocean: Mechanisms, Hydroclimatic Imprints, and Predictability*, PIs: J. Smerdon (lead) and R. Seager
- 2021-25 DOE, \$478,471 (LDEO Portion), *The Role of Vegetation in Past and Future Global Hydroclimatic Change*, PIs: J. Smerdon (lead), J. Mankin (lead, Dartmouth), R. Seager, A.P. Williams, K. Marvel, and B. Cook
- 2021-22 Columbia ISERP, \$8,882, *History and Climate Change: Africa, Indigenous & Latin America, South Asia Workshop Series*, PIs: R. Stephens (lead) and J. Smerdon
- 2020-24 NOAA, \$161,107 (LDEO Portion), *Regional influences of vegetation on complex droughts in North America*, PIs: J. Mankin (lead, Dartmouth), J. Smerdon (LDEO lead), R. Seager
- 2019-22 NSF, \$415,354, *GP-IMPACT: The Community College Compass - Mapping a Guided Pathway into Geosciences*, PIs: C. Xu (lead) and J.E. Smerdon
- 2019-23 NSF, \$371,596, *Diagnosing the dynamics of past and future North American megadroughts*, PIs: N. Steiger (lead) and J. Smerdon
- 2017-24 NSF, \$1,899,667 (LDEO Portion), *PIRE: Climate Research Education in the Americas using Tree-Ring Speleothem Examples (PIRE-CREATE)*, PIs: R. D'Arrigo (LDEO lead), Laia Andreu-Hayles, A.P. Williams, J. Smerdon, with lead PI: M. Vuille, SUNY-Albany
- 2016-20 NSF, \$157,085 (LDEO Portion), 3 years (1-yr NCE), *Collaborative Research: Derivation of Ensemble and Joint-Variable Climate Field Reconstructions of the Common Era Using New Random Field Methods*, PIs: B. Li (Lead, UIUC) and J. Smerdon (LDEO lead)
- 2016-20 NSF, \$626,108, *Reconstruction and Dynamics of Interhemispheric Hydroclimate Variability between the Americas*, PIs: J. Smerdon (lead), E. Cook, R. Seager, A.P. Williams
- 2015 PAGES, \$12,000, PMIP3/PAGES 2k Workshop: *Comparing data and model estimates of hydroclimate variability and change over the Common Era*, PI: J. Smerdon
- 2015 Lamont Climate Center, \$10,000, PMIP3/PAGES 2k Workshop: *Comparing data and model estimates of hydroclimate variability and change over the Common Era*, PI: J.

Smerdon

- 2014-18 NSF, \$776,807, *Continental scale droughts in North America: Their frequency, character and causes over the past millennium and near-term future*, PIs: R. Seager (lead), N. Henderson, D. Lee, and J. Smerdon
- 2014 Lamont Climate Center, \$5,730, Climate Center Visitor: J. Fidel Gonzalez-Rouco, PI: J. Smerdon
- 2013-19 NSF, \$3,500,000 (LDEO Portion), *Collaborative Research, EaSM2: Linking near-term future changes in weather and hydroclimate in western North America to adaptation for ecosystem and water management*, PIs: R. Seager (lead), M. Ting, Y. Kushnir, M. Biasutti, J. Smerdon, B. Cook and A. Greene
- 2011-14 NOAA, \$30,463 (LDEO Portion), *Fossil Coral Estimates of Central Tropical Pacific SST and Hydrological Variability During the Last Millennium*, PIs: K. Cobb and J. Smerdon (LDEO lead)
- 2010-14 NOAA, \$2,383,473, *Global Decadal Hydroclimate Variability, Predictability and Change: A Data-Enriched Modeling Study*, PIs: R. Seager (lead), M. Cane, M. Ting, Y. Kushnir, J. Smerdon, A. Kaplan, M. Evans, L. Polvani
- 2009-13 NSF, \$274,418 (LDEO Portion), *Collaborative Research: Locally constrained climate field reconstructions of the last millennium: Methods and application*, PIs: J. Smerdon (lead), A. Kaplan, M. Evans
- 2008-11 NOAA, \$3,315,379, *Abrupt Climate Change in a Warming World: Lessons from Holocene Paleo and Modern Instrumental Records and Model Simulations*, PIs: R. Seager (lead), M. Cane, Y. Kushnir, A. Kaplan, M. Ting, N. Naik, X. Yuan, D. Martinson, and J. Smerdon
- 2007-11 NOAA, \$312,686, *Spectral characteristics of climate proxies and their expression in climate field reconstructions*, PIs: J. Smerdon (lead), A. Kaplan, E. Cook, and M. Evans
- 2007 Barnard Mini Mellon Grant, \$4,800, 1 year, *Campus Energy Assessment and Education for Sustainable Development*, PIs: J. Smerdon and S. Pfirman
- 2007 Black Rock Forest Consortium/Stiefel Foundation, \$3,350, 1 year, *Land-Atmosphere Coupling at Black Rock Forest: The role of snow, vegetation, and soil thermodynamics*, PIs: G. Gong, J. Smerdon and J. Cherry
- 2006 Black Rock Forest Consortium/Stiefel Foundation, \$4,989, 1 year, *Long-term data management for Black Rock Forest meteorological and snow-related research*, PIs: G. Gong, J. Smerdon and J. Cherry
- 2006 Climate Center, Lamont-Doherty Earth Observatory, \$5,200, 1 year, *Monitoring Snow Characteristics and the Evolution of Ground Temperatures at Black Rock Forest: Adding Capacity to the Snow Research Station*, Co-PIs: J. Cherry and J. Smerdon

PEER-REVIEWED PUBLICATIONS

Publications can be accessed online at: <https://smerdon.ldeo.columbia.edu/publications>
*Advised (principally or through collaborative projects) *student or **postdoctoral authors*
ISI Data (5/9/25): 139 Publications, 12,044 Citations, h-index = 49
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ADDITIONAL PUBLICATIONS

*Advised (principally or through collaborative projects) *student or **postdoctoral authors*

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*Advised (principally or through collaborative projects) *student or **postdoctoral authors*

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- 2024 *Sugiura, I., R. Seager and **J. E. Smerdon**, Observed Multidecadal and Centennial Trends in the Tropical Pacific Sea Surface Temperature Gradient Are Outside the Range of Multiple Statistical and Physical Significance Tests, *Eos Trans. AGU*, Fall Meet. Suppl., OS23C-0726
- 2024 **He, Z., E. Tejedor, **J. E. Smerdon**, M. F. Vuille, L. M. Polvani, *I. Sugiura, and Richard Seager, Comparison of Global Climatic Responses to Large Tropical Volcanic Eruptions Over the Last Millennium in Paleoclimatic Reconstructions and Model Simulations, *Eos Trans. AGU*, Fall Meet. Suppl., PP01-16
- 2024 *Byrne, H., **J. E. Smerdon**, R. Seager, and *I. Sugiura, Strengthening Trends in the Zonal Gradient of Tropical Pacific Sea Surface Temperatures Are Not Captured by CMIP6 Large Ensembles When the 21st Century Is Included, *Eos Trans. AGU*, Fall Meet. Suppl., OS23B-0708
- 2024 *Samara, A., **J. E. Smerdon**, and R. Seager, 2021 and 2022: Extreme Global Drought Across a Comprehensive Assessment of Soil-Moisture Datasets, *Eos Trans. AGU*, Fall Meet. Suppl., GC31O-0032
- 2024 **Smerdon, J. E.**, *H. Byrne, and R. Seager, Warming Trends in Three Different Surface Temperature Datasets are Strong and Statistically Significant in Almost All Intervals and Locations Since the Late 19th Century, *Eos Trans. AGU*, Fall Meet. Suppl., GC31O-0032
- 2024 †**Cheung, A. H., **J. E. Smerdon**, Decadally synchronous Pan-Pacific hydroclimate extremes over the last millennium, *Eos Trans. AGU*, Fall Meet. Suppl., PP42B-08
- 2024 †Williams, A. P., B. Livneh, K. A. McKinnon, W. Hansen, B. I. Cook, J. S. Mankin, **J. E. Smerdon**, **A. M. Varuolo-Clarke, N. R. Bjarke, C. Juang, Growing Effect of Forest Fire on Streamflow in the Western United States, *Eos Trans. AGU*, Fall Meet. Suppl., H34E-07
- 2024 **Jiang, Y., **J. E. Smerdon**, R. Seager, B. I. Cook and M. Ting, Soil Moisture in Preceding Summers Modulates La Niña-Induced Droughts in Subsequent Summers in Southwestern North America, *Eos Trans. AGU*, Fall Meet. Suppl., GC33G-0236
- 2024 *Qureshi, T., **A. H. Cheung, **Y. Jiang, **J. E. Smerdon**, Characterizing the Unprecedented Co-Occurrence of 2023 Boreal Summer Heat Extremes in Central America, Western Europe, and Central Asia, *Eos Trans. AGU*, Fall Meet. Suppl., GC13E-0228
- 2024 †**Smerdon, J.E.**, J.S. Mankin, R. Seager, A.P. Williams, B. Cook and K. Marvel, Nonlinear carbon feedbacks in CMIP6 and their impacts on future freshwater availability, *2024 DOE Earth and Environmental System Modeling PI Meeting*, Bethesda, MD.
- 2024 †**Jiang, Y., **J. E. Smerdon**, R. Seager, G. Wang, B.I. Cook, C. Zheng, J.S. Mankin, and A.P. Williams, The Influence of Land-Surface Conditions on the 2020-21 Western US Drought, *2024 DOE Earth and Environmental System Modeling PI Meeting*, Bethesda, MD.
- 2023 **Jiang, Y., **J.E. Smerdon**, R. Seager, G. Wang, B. Cook, C. Zheng and J.S. Mankin, Attribution of the 2020-21 Western US Drought, *Eos Trans. AGU*, Fall Meet. Suppl.
- 2023 **Baek, S.H., Y. Kushnir, M. Ting, **J.E. Smerdon**, J.M. Lora, Regional Signatures of Forced North Atlantic SST Variability: A Limited Role for Aerosols and Greenhouse Gases, *Eos Trans. AGU*, Fall Meet. Suppl., OS51C-1159.
- 2023 **Cheung, A.H., **J.E. Smerdon**, C. Li, N.J. Steiger, Simultaneous megadroughts in the southwestern

regions of North America and South America in last-millennium climate model simulations, *Eos Trans. AGU*, Fall Meet. Suppl., PP33E-1569.

- 2023 **Li, Z., R. Seager, **J.E. Smerdon**, *N. Siebert, and J. Mankin, Climate trends force step changes in drought classifications, *Eos Trans. AGU*, Fall Meet. Suppl., GC41K-1237.
- 2023 †*Gottlieb, A., A.P. Williams, B. Cook, **J.E. Smerdon**, J. Mankin, Drivers of Runoff Efficiency in the Western United States, *Eos Trans. AGU*, Fall Meet. Suppl., GC34D-04.
- 2023 **Varuolo-Clarke, A.M., **J.E. Smerdon**, A.P. Williams, Jet dynamics do not explain climate model simulations of muted multidecadal summer precipitation trends in southeastern South America, *Eos Trans. AGU*, Fall Meet. Suppl., GC41I-1209.
- 2023 †King, K., E.R. Cook, K.J. Anchukaitis, B. Cook, **J.E. Smerdon**, R. Seager, G.L. Harley, B. Spei, The Increasing Prevalence of Hot Drought Across Western North America Since the 16th Century, *Eos Trans. AGU*, Fall Meet. Suppl., PP32B-03.
- 2022 †*Varuolo-Clarke, A. M., **J. E. Smerdon**, and A. P. Williams, Low-level jet dynamics simulated by CMIP6 models don't account for their muted estimates of 20th-century precipitation trends in Southeastern South America, *Eos Trans. AGU*, Fall Meet. Suppl., A52B-06
- 2022 †Mankin, J. S., N. Siebert, H. Singh, E. Martinez, **Z. Li, **J. E. Smerdon**, B. I. Cook, R. Seager, A. P. Williams, Nonlinear plant responses to carbon dioxide and climate diminish water availability, *Eos Trans. AGU*, Fall Meet. Suppl., B16C-07
- 2022 †*Li, Z., J. S. Mankin, R. Seager, **J. E. Smerdon**, N. Siebert, Static Drought Assessment in a Nonstationary Climate, *Eos Trans. AGU*, Fall Meet. Suppl., GC46B-06
- 2022 (invited) †**Smerdon, J. E.**, and K. J. Anchukaitis, Progress and uncertainties in global and hemispheric temperature reconstructions of the Common Era, *Eos Trans. AGU*, Fall Meet. Suppl., NG25A-08
- 2022 †**Smerdon, J. E.**, R. Stephens, E. R. Cook and B. I. Cook, A Climate and History Case Study of 18th- and 19th-Century Multidecadal Droughts in East Africa Using a new Tree-Ring Drought Atlas, *Eos Trans. AGU*, Fall Meet. Suppl., PP42B-02

MEDIA EXPERIENCE

I am regularly interviewed for print and broadcast media. The most up-to-date list of my media appearances and examples of my outreach efforts can be found at the following URLs:

<https://smerdon.ldeo.columbia.edu/recent-news>

<https://smerdon.ldeo.columbia.edu/content/teaching-and-outreach>

Media Interviews

- 2026 Podcast Guest, Choose your own Climate Adventure, What the Westies?
- 2026 Podcast Guest, Overshooting 1.5, Paleoclimate and Water Scarcity, Palma
- 2023 Live Interview, ABC News Channel 7, Virtual
- 2022 Live Interview, Cheddar News, Virtual
- 2022 Podcast Guest, What Next with Mary Harris, Slate, Virtual
- 2022 Video Interview, Yale Climate Connections, Virtual
- 2021 Podcast Guest, Learning for Life, Gustavus Adolphus College, Virtual
- 2021 Video Interview, Global Conscience World, Virtual
- 2021 Radio Guest, GBH Radio, Boston, MA, Virtual
- 2021 Radio Guest, ARD German Radio, Virtual
- 2020 Live Radio Guest, The Takeaway, New York Public Radio, New York, NY

2020 Live Radio Guest, The Source, Texas Public Radio, San Antonio, TX
2020 Co-Founder and Co-Host, Pod of the Planet, Earth Institute, Columbia University, NY
2020 Live Radio Guest, CT Today with Ann Karrick, WICC 600, Bridgeport, CT
2019 Live Radio Guest, The Lisa Wexler Show with Ann Karrick, WICC 600, Bridgeport, CT
2019 Podcast Guest (2 episodes), The Environmental Breakdown, New York, NY
2019 Radio Guest, KTOO Public Media, Juneau, AK
2015 Internet Action Force, Comedic Interview on Climate Change
2015 Green TV, Interview on Climate Extremes and Attribution
2015 Raw Science, Podcast Interview on Western Megadroughts
2015 Live Radio Guest (1 hour), Your Call, KALW, Local (San Francisco) Public Radio
2015 Live Radio Guest, 938LIVE Radio, Singapore
2015 Live Radio Guest, Science Friday, National Public Radio
2013 Live Radio Guest (1 hour), Kathleen Dunn Show, Wisconsin Public Radio

Research Coverage and Expert Interviews

New York Times, The Washington Post, The LA Times, CNN, ABC News, NBC News, PBS, Grist, The Christian Science Monitor, Al Jazeera, Ars Technica, Slate Magazine, Futurism, The Denver Post, The Hill, US News, Popular Science, Forbes, National Geographic, Smithsonian Magazine, PolitiFact, State of the Planet, Daily Show (Fact Checker), PBS Peril & Promise (Expert Consultant)