# Nathan Steiger

Senior Lecturer (Assistant Professor) The Fredy  $\mathring{\sigma}$  Nadin Herrman Institute of Earth Sciences The Hebrew University of Jerusalem

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### **Research Interests**

Paleoclimate • Hydroclimate • Climate Dynamics • Planetary Climates

# **Appointments**

### 2020-Now Hebrew University

Senior Lecturer (Assistant Professor)

Institute of Earth Sciences

### 2019-2024 Columbia University

Associate Research Scientist

Lamont-Doherty Earth Observatory

#### 2018 Columbia University

Postdoctoral Research Scientist *Lamont-Doherty Earth Observatory* 

#### 2016-2017 Columbia University

NOAA Climate and Global Change Postdoctoral Fellow

Lamont-Doherty Earth Observatory

### Education

### 2013-2015 PHD in Atmospheric Sciences

University of Washington

Dissertation Research: Multi-time-scale Data Assimilation, Arctic and Antarctic

Climate Reconstruction.

Advisors: David Battisti, Greg Hakim, Gerard Roe, and Eric Steig

### 2010-2013 MS in Atmospheric Sciences

University of Washington

Thesis Research: Climate Reconstruction via Data Assimilation. Advisors: David Battisti, Greg Hakim, Gerard Roe, and Eric Steig

### 2007-2010 BS in Physics, Minor in Mathematics, with Honors

Brigham Young University

Honors Thesis Research: Quantum Measurement Theory and Quantum Information.

Advisor: Jean-François Van Huele

#### 2009 Pembroke-Kings Programme

Cambridge University

Visiting student on academic scholarship at King's College. Obtained first class marks in all coursework. Conducted research in theoretical quantum information at the Department of Applied Mathematics and Theoretical Physics.

ADVISOR: Peter Pemberton-Ross

# Grants, Honors & Awards

2020-2025 ISF (#2654/20) 'Diagnosing the dynamical causes of megadroughts and megapluvials in North and South America' (PI)

Hebrew University

ISF (#3067/20-Equipment) 'High performance computing cluster for modeling past global climate' (PI)

Hebrew University

NSF-AGS (#1903465) 'Collaborative research: Quantifying Holocene climate variations through data assimilation using proxies and GCM output' (co-PI; Lead PI M. Erb, co-PIs N. McKay, S. Dee)

Columbia University

NSF-AGS (#1805490) 'Diagnosing the dynamics of past and future North American megadroughts' (Lead PI; co-PI J. Smerdon)

Columbia University

2016-2017 NOAA Climate and Global Change Postdoctoral Fellowship (2 Years)

Columbia University

Top Scholar Award (Academic Scholarship, 1 Year) *University of Washington* 

Robert K. Thomas Scholarship (Academic Honors Scholarship, 1 Semester)

Brigham Young University

Mae Covey Gardner and University Honors Scholarships (For Study at Cambridge University, 1 Semester)

Brigham Young University

<sup>2007-2010</sup> Heritage Scholarship (Academic Full Tuition Scholarship, 8 Semesters)

\*\*Brigham Young University\*\*

# **Publications**

In Preparation or in Review

**Steiger**, N.J., J.E. Smerdon, E.R. Cook, E. Tejedor, R. Orrison, M. Vuille, 'The Paleo Hydrodynamics Data Assimilation product (PHYDA) version 2', *In Preparation*.

Markovitz, E., N.J. Steiger. 'Contemporary Decadal Drought on Easter Island (Rapa Nui) since 2010', *In Revision*.

2025

[36] Tierney, J.E., E.J. Judd, M.B. Osman, J.M. King, O.J. Truax, N.J. Steiger, D. Amrhein, K.J. Anchukaitis. 'Advances in paleoclimate data assimilation'. *In press*, Annual Review of Earth and Planetary Sciences.

2024

- [35] Cheung, A.H., J.E. Smerdon, L. Cuihua, N.J. Steiger. 'Proxy and Model-Estimated Coupled Megadroughts in the Southwestern Regions of North and South America', *Journal of Climate*, (2024). [HTML]
- [34] Sinha, A., N.J. Steiger, L. Tan, H. Li, G. Kathayat, H. Cheng, 'On Indian Summer Monsoon Droughts and Teleconnections Over the Past Millennium', *Innovation Geoscience*, (2024). [HTML]
- [33] Choblet, M.A., J.C. Bühler, V.F. Novello, **N.J. Steiger**, K. Rehfeld. 'A continental reconstruction of hydroclimatic variability in South America during the past 2000 years', *Climate of the Past*, (2024). [HTML]
- [32] Tejedor, E., L. Polvani, N.J. Steiger, M. Vuille, J.E. Smerdon, 'No evidence of winter warming in Eurasia following large, low-latitude volcanic eruptions during the Last Millennium', *Journal of Climate*, (2024). [HTML]
- [31] Wang, N., S.G. Dee, J. Hu, N.J. Steiger, K. Thirumalai, 'PDO and AMO modulation of the ENSO–Asian summer monsoon teleconnection during the Last Millennium', *Journal of Geophysical Research: Atmospheres*, (2024). [HTML]

2023

[30] Dagan, G., J.T. Seeley, **N.J. Steiger**, 'Convection and convective-organization in hothouse climates', *Journal of Advances in Modeling Earth Systems*, (2023). [HTML]

- [29] Smerdon, J.E., E.R. Cook, N.J. Steiger, 'The Historical Development of Large-Scale Paleoclimate Field Reconstructions over the Common Era', *Reviews of Geophysics*, (2023). [HTML]
- Luo, X., S.G. Dee, T. Lavenhouse, S. Muñoz, N.J. Steiger, 'Tropical Pacific and North Atlantic Sea Surface Temperature Patterns Modulate Mississippi Basin Hydroclimate Extremes Over the Last Millennium', *Geophysical Research Letters*, (2023).

  [HTML]

2022

- [27] Erb, M.P., N.P. McKay, N.J. Steiger, S.G. Dee, C. Hancock, R.F. Ivanovic, L.J. Gregoire, P. Valdes, 'Reconstructing Holocene temperatures in time and space using paleoclimate data assimilation', *Climate of the Past*, (2022). [HTML]
- Neukom, R., N.J. Steiger, D. Kaufman, M. Grosjean, 'Inconsistent comparison of temperature reconstructions over the Common Era', *Dendrochronologia*, (2022).

  [HTML]
- [25] Luo, X., S.G. Dee, S. Stevenson, Y. Okumura, N.J. Steiger, L. Parsons, 'Last millennium ENSO diversity and North American teleconnections: new insights from paleoclimate data assimilation', *Paleoceanography and Paleoclimatology*, (2022). [HTML]
- Dee, S.G., N.J. Steiger, 'ENSO's response to volcanism in a data assimilation-based paleoclimate reconstruction over the Common Era', *Paleoceanography and Paleoclimatology*, (2022). [HTML]
- Steiger, N.J., W.J. D'Andrea, J.E. Smerdon, R.S. Bradley, 'Large infrequent rain events dominate the hydroclimate of Rapa Nui (Easter Island)', *Climate Dynamics*, (2022). [HTML]

2021

- [22] Steiger, N.J., J.E. Smerdon, A.P. Williams, R. Seager, A. Varuolo-Clarke, 'ENSO-driven coupled megadroughts in North and South America over the last millennium', *Nature Geoscience*, (2021). [HTML][Selected press: Science]
- Tejedor, E., N.J. Steiger, J.E. Smerdon, R. Serrano-Notivoli, M. Vuille, 'Global temperature responses to large tropical volcanic eruptions in paleo data assimilation products and climate model simulations over the last millennium', *Paleoceanogra-phy and Paleoclimatology*, (2021). [HTML]

- [20] Huston, A., N. Siler, G.H. Roe, E. Pettit, N.J. Steiger, 'Understanding drivers of glacier length variability over the last millennium', *The Cryosphere*, (2021). [HTML]
- [19] Tejedor, E., **N.J. Steiger**, J.E. Smerdon, R. Serrano-Notivoli, M. Vuille, 'Global hydroclimatic response to tropical volcanic eruptions over the last millennium', *PNAS*, (2021). [HTML]

2020

- [18] Erb, M.P., J. Emile-Geay, G.J. Hakim, N.J. Steiger, E.J. Steig, 'Atmospheric dynamics drive most interannual U.S. droughts over the last millennium', *Science Advances*, (2020). [HTML]
- [17] Harris, T., B. Li, N.J. Steiger, J.E. Smerdon, N. Narisetty, J.D. Tucker, 'Testing exchangeability of two spatiotemporal processes with applications to data assimilation methods', *Journal of the American Statistical Association*, (2020). [HTML]
- Dätwyler, C., M. Grosjean, N.J. Steiger, R. Neukom, 'Teleconnections and relationship between ENSO and SAM in reconstructions and models over the past millennium', *Climate of the Past*, (2020). [HTML]

2019

- [15] Neukom, R., N.J. Steiger, J.J. Gómez-Navarro, J. Wang, J. Werner, 'No evidence for globally coherent warm and cold periods over the pre-industrial Common Era', *Nature*, (2019). [html] [News & Views] [Editorial] [Selected press (over 1000 outlets): BBC, The Guardian, Reuters, USA Today, New York Times, LA Times, The Atlantic, Axios, FiveThirtyEight, NBC, CBC, Smithsonian, Science, EOS, Scientific American, Discover Magazine, Haaretz, Le Monde, Der Spiegel, El País]
- Steiger, N.J., J.E. Smerdon, B.I. Cook, R. Seager, A.P. Williams, E.R. Cook, 'Oceanic and radiative forcing of Medieval megadroughts in the American Southwest', *Science Advances*, (2019). [html] [Selected Press: BBC, National Geographic, USA Today, Mashable, Newsweek, The Weather Channel, Live Science, Phys.org, Vice, The Hill]
- [13] Baek, S.H., **N.J. Steiger**, J.E. Smerdon, R. Seager, 'Oceanic drivers of widespread drought in the United States over the Common Era', *Geophysical Research Letters*, (2019). [HTML]
- [12] Klein, F., N.J. Abram, M.A.J. Curran, H. Goosse, S. Goursaud, V. Masson-Delmotte, A. Moy, R. Neukom, A. Orsi, J. Sjolte, N.J. Steiger, B. Stenni, M. Werner, 'Assessing the robustness of Antarctic temperature reconstructions over the past two

millennia using pseudoproxy and data assimilation experiments', *Climate of the Past*, (2019). [HTML]

2018

- [11] Steiger, N.J., J.E. Smerdon, E.R. Cook, B.I. Cook, 'A reconstruction of global hydroclimate and dynamical variables over the Common Era', *Scientific Data*, (2018).

  [HTML]
- [10] Neukom, R., A.P. Schurer, N.J. Steiger, G.C. Hegerl, 'Possible causes of data model discrepancy in the temperature history of the last Millennium', *Scientific Reports*, (2018). [HTML]

2017

- [9] Hydro2k Consortium: Smerdon, J.E., J. Luterbacher, S. Phipps, K.J. Anchukaitis, T.R. Ault, S. Coats, K.M. Cobb, B.I. Cook, C. Colose, T. Felis, A. Gallant, J.H. Jungclaus, B. Konecky, A. LeGrande, S. Lewis, A.S. Lopatka, W. Man, J.S. Mankin, J.T. Maxwell, B.L. Otto-Bliesner, J.W. Partin, D. Singh, N.J. Steiger, S. Stevenson, J.E. Tierney, D. Zanchettin, H. Zhang, A. Atwood, L. Andreu-Hayles, S.H. Baek, B. Buckley, E.R. Cook, R. D'Arrigo, S.G. Dee, M. Griffiths, C. Kulkarni, Y. Kushnir, F. Lehner, C. Leland, H.W. Linderholm, A. Okazaki, J. Palmer, E. Piovano, C.C. Raible, M.P. Rao, J. Scheff, G.A. Schmidt, R. Seager, M. Widmann, A.P. Williams, E. Xoplaki, 'Comparing proxy and model estimates of hydroclimate variability and change over the Common Era', Climate of the Past, (2017). [httml]
- [8] **Steiger**, N.J., J.E. Smerdon, 'A pseudoproxy assessment of data assimilation for reconstructing the atmosphere-ocean dynamics of hydroclimate extremes', *Climate of the Past*, (2017). [HTML]
- [7] **Steiger**, N.J., E.J. Steig, S.G. Dee, G.H. Roe, G.J. Hakim, 'Climate reconstruction using data assimilation of water-isotope ratios from ice cores', *Journal of Geophysical Research: Atmospheres*, (2017). [httml]

2016

- [6] Dee, S.G., N.J. Steiger, J. Emile-Geay, G.J. Hakim, 'On the utility of proxy system models for estimating climate states over the Common Era', *Journal of Advances in Modeling Earth Systems*, (2016). [HTML] [JAMES COMMENTARY]
- [5] **Steiger**, **N.J.**, G.J. Hakim, 'Multi-time scale data assimilation for atmosphere-ocean state estimates', *Climate of the Past*, (2016). [HTML]

[4] Hakim, G.J., J. Emile-Geay, E.J. Steig, D. Noone, D.M. Anderson, R. Tardif, N.J. Steiger, W.A. Perkins, 'The last millennium climate reanalysis project: Framework and first results', *Journal of Geophysical Research: Atmospheres*, (2016). [HTML]

### 2015 AND PRIOR

- [3] Steig, E.J., K. Huybers, H.A. Singh, N.J. Steiger, Q. Ding, D.M.W. Frierson, T. Popp, J.W.C. White, 'Influence of West Antarctic ice sheet collapse on Antarctic surface climate', *Geophysical Research Letters*, (2015). [HTML]
- Steiger, N.J., G.J. Hakim, E.J. Steig, D.S. Battisti, G.H. Roe, 'Assimilation of time-averaged pseudoproxies for climate reconstruction', *Journal of Climate*, (2014).

  [HTML]
- [1] Steiger, N.J., J.F. Van Huele, 'Quantifying incompatibility: The ramifications of extending angular momentum uncertainty relations', *Utah Academy of Sciences, Arts, and Letters*, 86, 197-209, (2010).

### Presentations

- Jan 2024 [Poster] 'Convection and convective-organization in hothouse climates', *Rocky Worlds III* (Zürich, Switzerland).
- Aug 2023 [Invited] 'How Paleo Data Assimilation Works', *Paleoclimate Data Assimilation Workshop and Hackathon* (University of Northern Arizona, Flagstaff, AZ).
- Mar 2023 [Invited] 'What caused megadroughts in North and South America?', *Departmental Seminar, Vrije Universiteit Amsterdam* (Amsterdam, Netherlands).
- Mar 2023 [Invited] 'Paleoclimate Data Assimilation and Challenges in Reconstructing Climate Variability', *Climate Variability Across Scales (CVAS) Workshop* (Alfred Wegener Institute, Potsdam, Germany).
- Mar 2023 [Invited] 'Paleo Data and its Assimilation', *Past Global Changes (PAGES) 2k Workshop* (Alfred Wegener Institute, Potsdam, Germany).
- Oct 2022 [Invited] 'Current Challenges in Paleoclimate Data Assimilation', Paleoclimate Data Assimilation: Challenges, Innovations, and Opportunities (Workshop) (University of Arizona, Tucson, AZ).
- Aug 2022 [Invited] 'How Paleo Data Assimilation Works', *Paleoclimate Data Assimilation Workshop and Hackathon* (University of Northern Arizona, Flagstaff, AZ).
- [Invited] 'Global climate reconstruction through the fusion of climate models and proxy data', *PAGES Speleothem Isotopes Synthesis & Analysis Workshop* (The Hebrew University, Jerusalem, Israel).

- Jan 2022 [Invited] 'What controls the hydroclimate of Easter Island?', *Departmental Seminar, The Hebrew University* (Jerusalem, Israel).
- Nov 2021 [Invited] 'What caused megadroughts in North and South America?', *Departmental Seminar, Ben-Gurion University* (Be'er Sheva, Israel).
- Sep 2021 [Invited] 'What caused megadroughts in North and South America?', *Departmental Seminar, The Israel Meteorological Service* (Beit Dagan, Israel).
- Aug 2021 [Invited] 'Annual reconstructions of global hydroclimate fields over the Common Era using data assimilation', *PAGES 2k Seminar* (Online). [YOUTUBE]
- Nov 2020 [Invited] 'What caused megadroughts in North and South America?', *Departmental Seminar, The Weizmann Institute of Science* (Rehovot, Israel).
- Feb 2020 [Invited] 'How the climate has changed and why', *Colloquium, Touro College* (New York, NY).
- Feb 2020 [Invited] 'Coupled megadrought risk in North and South America', Goddard Scientific Colloquium: NASA Goddard Space Flight Center (Greenbelt, MD).
- Dec 2019 [Oral] 'Coupled megadrought risk in North and South America', *American Geophysical Union Meeting* (San Francisco, CA).
- Sept 2019 [Invited] 'What caused megadroughts in North and South America?', *Departmental Seminar, The State University of New York at Albany* (Albany, NY).
- Jan 2019 [Invited] 'What caused the Medieval megadroughts of the American Southwest?', Departmental Seminar, The Hebrew University (Jerusalem, Israel).
- Jan 2019 [Invited] 'A requiem for the Little Ice Age and the Medieval Warm Period', *Departmental Seminar, The Hebrew University* (Jerusalem, Israel).
- Dec 2018 [Oral] 'ENSO forcing of medieval megadroughts in the American Southwest', *American Geophysical Union Meeting* (Washington, DC).
- Dec 2018 [Poster] 'No evidence for globally synchronous cold and warm epochs during the pre-industrial Common Era', *American Geophysical Union Meeting* (Washington, DC).
- Jun 2018 [Invited] 'What caused the Medieval megadroughts of the southwestern US?', *Water and Climate Change Workshop* (MIT, Endicott House, Dedham, MA).
- Apr 2018 [Oral] 'No evidence for globally synchronous cold and warm periods during the pre-industrial Common Era', *European Geosciences Union Meeting* (Vienna, Austria).
- Dec 2017 [Oral] 'Indices and dynamics of global hydroclimate over the past millennium from data assimilation', *American Geophysical Union Meeting* (New Orleans, LA).
- Oct 2017 [Invited] 'What caused the Medieval megadroughts of western North America?', Departmental Seminar, Massachusetts Institute of Technology (Cambridge, MA).

- Oct 2017 [Invited] 'A global and millennial perspective on the dynamics of hydroclimate extremes', 3rd Annual Last Millennium Reanalysis Workshop (National Center for Atmospheric Research, Boulder, CO).
- May 2017 [Poster] 'Reconstructing the global atmosphere-ocean dynamics of hydroclimate extremes with data assimilation', *Past Global Changes Open Science Meeting* (Zaragoza, Spain).
- May 2017 [Oral] 'Temperature field reconstructions and method inter-comparison over the past 2000 years', *Past Global Changes Open Science Meeting* (Zaragoza, Spain).
- Apr 2017 [Invited] 'Reconstructing the global atmosphere-ocean dynamics of hydroclimate extremes with data assimilation', *Departmental Seminar, Brown University* (Providence, RI).
- Jan 2017 [Invited] 'Reconstructing the global atmosphere-ocean dynamics of hydroclimate extremes with data assimilation', *Departmental Seminar, Tel Aviv University* (Tel Aviv, Israel).
- Jan 2017 [Invited] 'Reconstructing the global atmosphere-ocean dynamics of hydroclimate extremes with data assimilation', *Departmental Seminar*, *The Weizmann Institute of Science* (Rehovot, Israel).
- Jan 2017 [Invited] 'Reconstructing the global atmosphere-ocean dynamics of hydroclimate extremes with data assimilation', *Departmental Seminar*, *The Hebrew University* (Jerusalem, Israel).
- Jan 2017 [Oral] 'Using atmosphere-ocean dynamics to make more consistent and useful reconstructions of past climate', *GFD Days 2017* (Ben Gurion University of the Negev, Sede Boqer, Israel).
- Dec 2016 [Poster] 'Global hydroclimate reconstructions over the last millennium using data assimilation', *American Geophysical Union Meeting* (San Francisco, CA).
- Oct 2016 [Invited] 'Climate reconstruction using data assimilation of water-isotope ratios from ice cores', 2nd Annual Last Millennium Reanalysis Workshop (Friday Harbor, WA).
- Jul 2016 [Oral] 'The dynamics of global hydroclimate over the past millennium', Summer Institute of the NOAA Climate and Global Change and PACE Postdoctoral Fellowship Programs (Steamboat Springs, CO).
- Jun 2016 [Invited] 'Hydroclimate reconstructions using data assimilation', *PAGES2k-PMIP3:* Comparing Data and Model Estimates of Hydroclimate Variability and Change over the Common Era (Lamont-Doherty Earth Observatory, Columbia University, Palisades, NY).
- Apr 2016 [Invited] 'What can ice cores tell us about past climate?', *Departmental Seminar, Lamont-Doherty Earth Observatory, Columbia University* (Palisades, NY).
- Nov 2015 'What can ice cores tell us about past climate?', *Dissertation Defense* (University of Washington, Seattle, WA).

- May 2015 [Invited] 'Paleoclimate reconstructions with Proxy System Models', 1st Annual Last Millennium Reanalysis Workshop: Proxy System Modeling (Catalina Island, CA).
- Apr 2015 [Oral] 'What climate variables are reconstructable over the past 2000 years? A data-assimilation perspective', *European Geosciences Union Meeting* (Vienna, Austria).
- Dec 2014 [Oral] 'Reconstruction of dynamical fields of the Common Era', *American Geophysical Union Meeting* (San Francisco, CA).
- Sep 2014 [Poster] 'AMOC reconstruction for paleoclimate across multiple time scales', US AMOC Science Team Meeting (Seattle, WA).
- Apr 2014 [Invited] 'Reconstructions with data assimilation', *PAGES2k Climate Field Reconstruction Workshop* (Woods Hole Oceanographic Institution, Woods Hole, MA).
- Dec 2013 [Poster] 'A data-assimilation-based multiproxy reconstruction of the past 2000 years', *American Geophysical Union Meeting* (San Francisco, CA).
- Aug 2013 [Oral] 'A data-assimilation-based approach to climate field reconstruction', *Advanced Climate Dynamics Course* (Nyksund, Norway).
- Feb 2013 [Oral] 'Assimilation of time-averaged pseudoproxies for climate reconstruction', Past Global Changes Open Science Meeting (Goa, India).
- Dec 2012 [Oral] 'Climate field reconstruction via data assimilation', *American Geophysical Union Meeting* (San Francisco, CA).
- Oct 2012 'Climate field reconstruction via data assimilation', *Masters Thesis Presentation* (University of Washington, Seattle, WA).
- Sep 2011 'Paleoclimate reconstruction via data assimilation', *First Year Reports* (University of Washington, Seattle, WA).
- Sep 2011 [Oral] 'Initial work towards paleoclimate reconstruction via data assimilation', *Advanced Climate Dynamics Course* (Friday Harbor, WA).
- Mar 2010 [Oral] 'Fidelity of arbitrary single-qubit gates', *Brigham Young University Spring Research Conference* (Provo, UT).
- Oct 2009 [Oral] 'Fidelity of arbitrary single-qubit gates', *Meeting of the Four Corners Section of the American Physical Society* (Colorado School of Mines, Golden, CO).
- Apr 2009 [Oral] 'Quantifying incompatibility: the ramifications of extended angular momentum uncertainty relations', *Utah Academy of the Sciences, Arts, and Letters, Brigham Young University* (Provo, UT).
- Mar 2009 [Oral] 'Quantifying incompatibility: the ramifications of extended angular momentum uncertainty relations', *Brigham Young University Spring Research Conference* (Provo, UT).
- Oct 2008 [Poster] 'Explorations into the Schrödinger uncertainty relation', Meeting of the Four Corners and Texas Sections of the American Physical Society (University of

Texas at El Paso, El Paso, TX). Awarded first prize at the conference for the top poster presentation.

# Teaching

From 2025 Planetary Climates

Institute of Earth Sciences, Hebrew University

2024-Now Scientific Writing Workshop (82904)

Institute of Earth Sciences, Hebrew University

2022-Now Statistical Methods for Earth Sciences (82858)

Institute of Earth Sciences, Hebrew University

2021-Now Global Warming Science (82508)

Textbook with Mnemonic Interface

Institute of Earth Sciences, Hebrew University

2021-2023 Workshop on English Usage for Graduate Students in Science (82851)

Co-Taught

Institute of Earth Sciences, Hebrew University

2012, 2014 Global Warming (ATMS 111)

Department of Atmospheric Sciences, University of Washington

# Research Advising

INSTITUTE OF EARTH SCIENCES, HEBREW UNIVERSITY OF JERUSALEM

2024-Now Namrah Habib\*, Postdoctoral Fellow

2024-Now Thomas Pliemon\*, Postdoctoral Fellow

2022-Now Niels Brall\*, Postdoctoral Fellow

2022-Now Pavel Sobolev\*, Masters Student

2022-2023 Sagi Maor\*, Undergraduate Researcher

2022-2023 Eden Markovitz\*, Undergraduate Researcher

2021-2023 Hadar Roth\*, *Undergraduate Researcher* 

2020-2021 Adam Chaikin\*, *Undergraduate Researcher* 

<sup>\*</sup> Indicates Sole or Primary Advisor

#### LAMONT-DOHERTY EARTH OBSERVATORY, COLUMBIA UNIVERSITY

2016-2019 S. Hun Baek, Doctoral Student

DEPARTMENT OF ATMOSPHERIC SCIENCES, UNIVERSITY OF WASHINGTON

2013-2015 Danielle Hyatt\*, Postgraduate Researcher

## **Professional Activities**

Workshops and Summer Schools

- Jan 2024 Rocky Worlds III, ETH Zürich, Zürich, Switzerland.
- Aug 2023 Paleoclimate Data Assimilation Workshop and Hackathon, University of Northern Arizona, Flagstaff, AZ.
- Mar 2023 Climate Variability Across Scales (CVAS) Workshop, Alfred Wegener Institute, Potsdam, Germany.
- Mar 2023 Past Global Changes (PAGES) 2k Workshop, Alfred Wegener Institute, Potsdam, Germany.
- Oct 2022 Paleoclimate Data Assimilation: Challenges, Innovations, and Opportunities Workshop, University of Arizona, Tucson, AZ.
- Aug 2022 Paleoclimate Data Assimilation Workshop and Hackathon, University of Northern Arizona, Flagstaff, AZ.
- Jul 2022 Rocky Worlds II, University of Oxford, Oxford, UK.
- Feb 2022 PAGES Speleothem Isotopes Synthesis & Analysis Workshop, The Hebrew University, Jerusalem, Israel.
- Oct 2021 Drought Risk in the Anthropocene, The Royal Society, Oxford, UK.
- Feb 2020 Disentangling the Drivers of Migration in West Africa, Columbia University, New York, NY.
- Jun 2018 Water and Climate Change: Connecting the Paleoclimate Record to Future Projections, Massachusetts Institute of Technology, Endicott House, Dedham, MA.
- Oct 2017 Third Annual Last Millennium Reanalysis Workshop: Climate Dynamics with the Last Millennium Reanalysis, National Center for Atmospheric Research, Boulder, CO.
- Feb 2017 Middle East and North Africa (MENA) Climate, Water, Livelihoods, and Governance Workshop, University of Maryland, College Park, MD.
- Jan 2017 GFD Days 2017: The Symposium on Geophysical Fluid Dynamics, Ben Gurion University of the Negev, Sede Boqer, Israel.

- Oct 2016 Second Annual Last Millennium Reanalysis Workshop: Water-Isotope Modeling for Paleoclimate Reconstruction and Data assimilation, Friday Harbor, WA.
- Jul 2016 The 2016 Summer Institute for the NOAA Climate and Global Change and PACE Postdoctoral Fellowship Programs, Steamboat Springs, CO.
- Jun 2016 PAGES2k-PMIP3: Comparing Data and Model Estimates of Hydroclimate Variability and Change over the Common Era Workshop, Lamont-Doherty Earth Observatory, Palisades, NY.
- May 2015 First Annual Last Millennium Reanalysis Workshop: Proxy System Modeling, Catalina Island, CA.
- Apr 2014 PAGES2k Climate Field Reconstruction Workshop, Woods Hole Oceanographic Institution, Woods Hole, MA.
- Aug 2013 Advanced Climate Dynamics Course: Dynamics of the Last Deglaciation, Nyksund, Vesterålen, Norway.
- Aug 2011 Advanced Climate Dynamics Course: Dynamics of Past Warm Climates, Friday Harbor, WA.

### JOURNAL REVIEWER

Nature, Nature Geoscience, Nature Communications, Scientific Data, Science Advances, Scientific Reports, Geophysical Research Letters, Journal of Climate, Journal of Geophysical Research: Atmospheres, Climate Dynamics, Climate of the Past, Quarterly Journal of the Royal Meteorological Society, International Journal of Climatology, WIREs Climate Change, Geoscientific Model Development, Earth System Science Data, Atmosphere.

#### **Memberships**

2015-Now European Geosciences Union

2012-Now American Geophysical Union