

KEVIN DALLASANTA

Curriculum Vitæ

- RESEARCH** **Atmospheric dynamics and climate**
- Tropical stratosphere: QBO, volcanoes
 - Annular modes: tropical and extratropical
 - Model development and model hierarchies
- EXPERIENCE** **NASA Goddard Institute for Space Sciences (present)**
NPP Postdoctoral Fellow
- Courant Institute, New York University, 2019**
Ph.D. Atmosphere–Ocean Science and Mathematics
- St. Olaf College, 2014**
B.A. Mathematics, B.A. Music, B.A. Physics; summa cum laude
- TEACHING** – Substitute lecturer: Calculus, Dynamics of the Atmosphere & Ocean
- TA: Fluid Dynamics, Dynamics of the Atmosphere & Ocean
 - Frequent grader and tutor
- HONORS** – Recipient of Moses A. Greenfield Prize, institute-wide award for best interdisciplinary research (2017)
- Early Career Scientist award at the 2018 SPARC General Assembly
 - Best joint oral presentation award at the 2017 AMS Conference on Atmospheric and Oceanic Fluid Dynamics
 - MacCracken Fellow at New York University
- SERVICE** – Reviewer for DOE proposals, *Atmospheric Chemistry and Physics*, *Journal of Geophysical Research: Atmospheres*, *Nature Climate Change*
- President, Courant Students Organization (2016–2017)
 - Student host for guest colloquium lunches (2017–2019)
 - Organizer of weekly student lunch seminar series (2014–2015)

Peer-reviewed journal articles

12. Kevin DallaSanta, Clara Orbe, and Lorenzo Polvani. Impact of ENSO on climate response to volcanic eruptions. In preparation.
11. Zachary McGraw, Kevin DallaSanta, Lorenzo Polvani, Kostas Tsigaridis, Clara Orbe, and Susanne Bauer. Supervolcanoes may cause widespread warming, not cooling. In review.
10. Kevin DallaSanta and Lorenzo Polvani. Volcanic stratospheric injections up to 160 Tg S yield a Eurasian winter warming indistinguishable from natural variability. *Atmospheric Chemistry and Physics*, 2022. [PDF](#)
9. Zachary Espinosa, Aditi Sheshadri, Gerald Cain, Edwin P. Gerber, and Kevin DallaSanta. A machine learning parameterization of gravity wave momentum fluxes coupled to an atmospheric global climate model. *Geophysical Research Letters*, 2022. [PDF](#)
8. Kevin DallaSanta, Clara Orbe, David Rind, Larissa Nazarenko, and Jeffrey Jonas. Response of the Quasi-Biennial Oscillation to historical volcanic eruptions. *Geophysical Research Letters*, 2021. [PDF](#)
7. Tiehan Zhou, Kevin DallaSanta, Larissa Nazarenko, Gavin Schmidt, and Zhonghai Jin. The impact of increasing stratospheric radiative damping on the QBO period. *Atmos. Chem. and Phys.*, 2021. [PDF](#)
6. Kevin DallaSanta, Clara Orbe, David Rind, Larissa Nazarenko, and Jeffrey Jonas. Dynamical and trace gas responses of the Quasi-Biennial Oscillation to increased CO₂. *J. Geophys. Res. Atmos.*, 2021. [PDF](#)
5. Kevin DallaSanta and Edwin P. Gerber. Downward propagation of equatorial geopotential anomalies. *Geophys. Res. Lett.*, 2020. [PDF](#)
4. Edwin P. Gerber, Kevin DallaSanta, and Aman Gupta. Imagining simpler worlds to understand the complexity of our own. *J. of Advances in Modeling Earth Systems*, 2019. [PDF](#)
3. Kevin DallaSanta, Edwin P. Gerber, and Matthew Toohey. The circulation response to volcanic forcing: the importance of stratospheric warming. *J. Clim.*, 2019. [PDF](#)
2. Knut Christianson, Robert Jacobel, Huw Horgan, Richard Alley, Sridhar Anandakrishnan, David Holland, and Kevin DallaSanta. Basal conditions at the grounding zone of Whillans Ice Stream, West Antarctica, from ice-penetrating radar. *J. Geophys. Res.*, 2016. [PDF](#)
1. Robert Jacobel, Knut Christianson, Adam Wood, Kevin DallaSanta, and Rebecca Gobel. Morphology of basal crevasses at the grounding zone of Whillans Ice Stream, West Antarctica. *Ann. Glac.*, 2014. [PDF](#)

Conference talks

6. Simulated disruptions of the Quasi-Biennial Oscillation. EGU 2021 (virtual), 27 April 2021.

5. The Response of the QBO to Increases in CO₂ Using Three Atmospheric Chemistry Configurations. EGU 2020 (virtual), 15 April 2020.
4. Predictability of the zonal-mean circulation on S2S timescales. DynVarMIP workshop, Madrid, 24 October 2019.
3. The circulation response to volcanic eruptions: the importance of tropical stratospheric warming. Joint session of the American Meteorological Society's 21st Conference on Atmospheric and Oceanic Fluid Dynamics and the 19th Conference on Middle Atmosphere, Portland, Oregon, 27 June 2017.
2. Understanding the tropospheric jet response to volcanic forcing. SPARC DynVar Workshop & S-RIP Meeting, Helsinki, 6 June 2016.
1. Morphology of basal crevasses at the grounding zone of Whillans Ice Stream, West Antarctica. IGS International Symposium on Radioglaciology, University of Kansas, 10 September 2013.

Conference posters

5. Zonally Symmetric Variability in the Tropics: A Tropical Annular Mode? American Meteorological Society's 22nd Conference on Atmospheric and Oceanic Fluid Dynamics, Portland, Maine, 24–28 June 2019.
4. Downward propagation of tropical geopotential anomalies. SPARC General Assembly, Kyoto, Japan, 4 October 2018.
3. The circulation response to volcanic eruptions: the key roles of stratospheric warming and eddy interactions. SPARC General Assembly, Kyoto, Japan, 4 October 2018.
2. The circulation response to volcanic eruptions: the key roles of stratospheric warming and eddy interactions. EGU General Assembly, Vienna, Austria, 11 April 2018.
1. Spatial variation of englacial attenuation rate across the grounding zone of Whillans Ice Stream, West Antarctica. IGS International Symposium on Radioglaciology, University of Kansas, 10 September 2013.

Seminars

5. NCAR ACOM, 30 August 2021.
4. NASA Goddard Institute for Space Studies, 27 January 2021.
3. École Normale Supérieure, 20 June 2019.
2. NASA Goddard Institute for Space Studies, 27 March 2019.
1. Columbia University, Applied Mathematics Colloquium, 21 February 2019.