Luke Van Roekel, PhD

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Professional Preparation

- Ph.D. in Atmospheric Science, Colorado State University, August 2010.
- M.S. in Atmospheric Science, Colorado State University, August 2006.
- B.A. in Mathematics, *Summa Cum Laude*, Concordia College, May 2003.

Appointments

2017- : Scientist II, Theoretical Division
Los Alamos National Laboratory,
Los Alamos, New Mexico

2015-2017 : Post-doctoral Research Associate.
Los Alamos National Laboratory,
Los Alamos, New Mexico
Mentors: Todd Ringler and Milena Veneziani

2011 - 2015: Asst. Prof. of Atmospheric Science.
Northland College. Ashland, Wisconsin

2011 - 2015 : Visiting summer scientist
CIRES, Boulder, Colorado

2010 - 2011: Post-doctoral Research Associate.
CIRES, University of Colorado Boulder.
Mentors: Baylor Fox-Kemper and Peter Sullivan

Selected Publications

- Golaz, J. C., and coauthors (2018). The DOE E3SM coupled model version 1: Overview and evaluation at standard resolution. Journal of Advances in Modeling Earth Systems.
- Eyre, J, L.P. Van Roekel, X. Zheng, M. Brunke, An analysis of Barrier Layers in E3SMv1, *submitted to GRL*
- Petersen, M. R., and coauthors (2019). An evaluation of the ocean and sea ice climate of E3SM using MPAS and interannual CORE[U+2010]II forcing. Journal of Advances in Modeling Earth Systems.
- Van Roekel, L. P., and coauthors (2018). The KPP boundary layer scheme for the ocean: Revisiting its formulation and benchmarking one dimensional simulations relative to LES. JAMES, 10. https://doi.org/10.1029/2018MS001336
- Suzuki, N., Fox-Kemper, B., Hamlington, P. E., and Van Roekel, L. P. (2016). Surface waves affect frontogenesis. Journal of Geophysical Research: Oceans, 121(5), 3597-3624.

- Hamlington, P. E., L. P. Van Roekel, B. Fox-Kemper, K. Julien, and G. Chini (2014): Langmuir-submesoscale interactions: Descriptive analysis of multiscale frontal spindown simulations. J. Phys. Oceanogr., 44, 2249-2272.
- Belcher S.E. and co-authors (2012): A global perspective on mixing in the ocean surface boundary layer. Geophysical Research Letters, 39(18):L18605, 9pp, September 2012
- Van Roekel, L.P., B. Fox-Kemper, P.P. Sullivan, P.E. Hamlington, and S.R. Haney. (2012): The form and orientation of Langmuir cells for misaligned winds and waves. Journal of Geophysical Research, 117:C05001, 22pp, 2012

Synergistic Activities

- 2017 - Present: Deputy Lead of E3SM water cycle group; 2015-Present: MPAS-Ocean Developer; 2012-Present: National Science Foundation Proposal Review (panel and remote)
- Reviewer for: J. Climate, Geophys. Res. Letters, Ocean Sciences, J. Phys. Oceanogr., J. Geophys. Res., Dynam. and Stats. of the Climate System, JAMES, Ocean Modeling.

Collaborators:

- Todd Ringler (Post-doctoral advisor; LANL), Stephen Griffies (GFDL), Gokhan Danabasoglu (NCAR), William Large (NCAR), Martin Schmidt (Leibniz Institute of Baltic Sea Research), Brandon Reichl (GFDL), Phillip Wolfram (LANL), Juan Saenz (LANL), Baylor Fox-Kemper (Brown Univ.), Peter Hamlington (Univ. of Colorado), Nobuhiru Suzuki (Laboratorie d'Oceanographie Physice at Spatiale), Qing Li (Brown Univ.), Greg Chini (Univ of New Hampshire), Randy Lehr (Northland College), Milena Veneziani (Post-doctoral advisor; LANL), David Randall (Graduate Advisor; Colorado State University)
- Post Bachelor Advisee: Racel Robey (CU Boulder, LANL)
- Post Doctoral Advisees: Qing Li, LeAnn Conlon, Carolyn Begeman

Professional Affiliations:

- American Meteorological Society (2003-Present)
- American Geophysical Union (2003-Present)