Lucas J. Sterzinger
Curriculum Vitae

Personal contact info removed for publication on GitHub
https://github.com/lsterzinger

INTEREST STATEMENT

I am an Atmospheric Science PhD candidate at UC Davis in my final year of studies. My research thus far has focused on numerical modelling of clouds and precipitation processes. I am passionate about open source and open science, and I have recently been involved in the development of Kerchunk, a software package aimed to make existing cloud-hosted datasets more accessible.

EDUCATION

PhD, Atmospheric Science   2017 - Present
University of California, Davis, Davis, CA
Anticipated Graduation: Fall 2022

Bachelor of Science, Atmospheric Sciences   2012 - 2017
University of North Dakota, Grand Forks, ND
Minor: Mathematics

Bachelor of Science, Aeronautics   2012 - 2017
University of North Dakota, Grand Forks, ND

TECHNICAL

Languages & Software: Python, Julia, Fortran
Operating Systems: Unix/Linux, MacOS, Windows
Software Packages:

- PyRAMS (maintainer) - Package for working with RAMS model data
- Kerchunk (contributor) - Cloud performant access to NetCDF4 data

PUBLICATIONS

Do arctic mixed-phase clouds sometimes dissipate due to insufficient aerosol?
Evidence from comparisons between observations and idealized simulations   (In Review)
Sterzinger, L. J., Sedlar, J., Guy, H., Neely III, R., & Igel, A. L.
Atmospheric Chemistry and Physics
https://doi.org/10.5194/acp-2022-36

The Effects of Ice Habit on Simulated Orographic Snowfall   2021
Sterzinger, L. J., & Igel, A. L. - *Journal of Hydrometeorology*
https://doi.org/10.1175/JHM-D-20-0253.1

Models in the Cloud: A Cost Exploration
of Cloud Computing for the Atmospheric Sciences   Nov. 2017
News@Unidata Blog
https://www.unidata.ucar.edu/blogs/news/entry/models-in-the-cloud-a

WORK EXPERIENCE

Graduate Student Researcher
2017 - Present

Atmospheric Science Graduate Group, UC Davis
Dr. Adele Igel, Faculty Advisor

- Works on various research related to cloud and precipitation physics. Projects include:
  - Effect of ice crystal habit (shape) on orographic snowfall in the Sierra Nevada Mountains. (Funding: Internal)
  - Examining the relationship between mixed-phase Arctic cloud dissipation and aerosol properties. (Funding: DOE ASR; A. Igel, PI)
  - Assessing relative impacts on aerosol contained within the boundary layer and free troposphere on the microphysics and other properties of Arctic mixed-phase clouds. (Funding: DOE ASR; A. Igel, PI)

Intern
Summer 2021

Summer Internship in Parallel Computational Science (SIParCS)
National Center for Atmospheric Research (NCAR), Boulder, CO

- Worked with Chelle Gentemann (Farallon Inst.), Kevin Paul (NCAR), Julia Kent (NCAR), Rich Signell (USGS) and Martin Durant (Anaconda Inc.) on the development of the Kerchunk software library and its applicability and performance accessing cloud-hosted NOAA/NASA satellite data.
- Wrote documentation, blog posts, and example code on how to get started using Kerchunk - published open-source on GitHub.

Undergraduate Research Assistant
2016 - 2017

Dept. of Atmospheric Sciences, University of N. Dakota
Dr. Gretchen Mullendore, Faculty Advisor

- Worked on the "Big Weather Web" project examining potential uses for cloud computing infrastructure for numerical weather prediction.

Undergraduate Teaching Assistant
2015 - 2017

Dept. of Atmospheric Sciences, University of N. Dakota

- Independently taught Introduction to Meteorology lab, complete with weekly lectures and laboratory experiments.

Technical Support Specialist
2012 - 2017

Univ. of N. Dakota School of Medicine and Health Sciences

- Responsible for direct technology support to faculty, staff, and students. Also worked on managing video conference sytems, networks, and servers.

SERVICE

UC Davis Graduate Student Association

- General Assembly Representative — 2019-2022
- Elections Committee — 2019-2020

UC Davis Academic Senate
Committee on Information Technology

Graduate Student Representative — 2020-2021

MEMBERSHIPS
    American Meteorological Society
    American Geophysics Union
    European Geosciences Union

LANGUAGES
    English
    French (Bilingual Fluency)
    German (2 years of courses)