

LOUIS RIVOIRE

Postdoctoral Associate
Massachusetts Institute of Technology

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EDUCATION

Ph.D., Atmospheric Science 2020
Colorado State University, *Fort Collins, CO*

M.S., Ocean, Atmosphere, Climate, and Remote Sensing 2015
Sorbonne University, *Paris, France*

Diplôme de l'Ecole Normale Supérieure 2015
Advanced interdisciplinary research training, *Paris, France*

B.S., Earth Sciences 2013
Ecole Normale Supérieure, *Paris, France*

Classes Préparatoires aux Grandes Ecoles 2010-2012
Intensive program in mathematics, physics, life sciences, and humanities, *Lyon, France*

PROFESSIONAL EXPERIENCE

Postdoctoral Associate since Jan 2024
Massachusetts Institute of Technology, *Cambridge, MA*
Department of Earth, Atmospheric, and Planetary Sciences

Flight Mission Contributor Dec 2021 - Nov 2023
Jet Propulsion Laboratory, California Institute of Technology, *Pasadena, CA*
Providing expertise for the development of a satellite mission

Postdoctoral Fellow Jul 2020 - Dec 2023
Harvard University, *Cambridge, MA*
Department of Earth and Planetary Sciences
Note: significant disruptions in employment due to covid-19 and U.S. visa processing issues

Graduate Research and Teaching Assistant Aug 2015 - May 2020
Colorado State University, *Fort Collins, CO*
Department of Atmospheric Sciences

Climate Dynamics Intern Mar - Jul 2015
Colorado State University, *Fort Collins, CO*

Atmospheric Chemistry Intern Mar - Jul 2014
National Center for Atmospheric Research, *Boulder, CO*

PUBLICATIONS

Published

6. **L. Rivoire**, M. Linz, P. Lin, J.N. Neu, M.L. Santee, Satellite nadir-viewing geometry affects the magnitude and detectability of long-term trends in stratospheric ozone, *Atmos Chem and Phys*, 2025.

5. H. Garny and co-authors including **L. Rivoire**, Age of stratospheric air: Progress on processes, observations and long-term trends, *Reviews of Geophysics*, 2024.
4. **L. Rivoire**, M. Linz, J. Li, Observational limitations to the emergence of climate signals, *Geophys. Res. Lett.*, 2024.
3. **L. Rivoire**, T. Birner, J. A. Knaff, N. Tourville, Quantifying the radiative impact of clouds on tropopause layer cooling in tropical cyclones, *Journal of Climate*, 2020.
2. W. J. Randel, **L. Rivoire**, L. L. Pan, S. Honomichl, Dry layers in the tropical troposphere observed during CONTRAST and global behavior from GFS analyses, *J. Geophys. Res.*, 2016.
1. **L. Rivoire**, T. Birner, J. A. Knaff, Evolution of the upper-level thermal structure in tropical cyclones, *Geophys. Res. Lett.*, 2016.

Submitted/In review

L. Rivoire, J. Curbelo, M. Linz, Tracking the atmospheric jets as Lagrangian objects, *Science Advances*.

AWARDS, HONORS, AND GRANTS

Visiting Scientist Grant

Sep - Oct 2023

International Programme for Research in Groups, Center for Mathematical Research
Universitat Autònoma de Barcelona, *Barcelona, Spain*

Travel Grant

2019

19th Cyclone Workshop, *Kloster Seeon, Germany*

Programs of Research and Scholarly Excellence Award

2015

Colorado State University, *Fort Collins, CO*

TEACHING AND MENTORING

Research Mentoring Training Certificate

2024

Massachusetts Institute of Technology, *Cambridge, MA*

Leadership and Professional Strategies & Skills Training Certificate

2024

Massachusetts Institute of Technology, *Cambridge, MA*

Student Research Advisor

2022

Harvard College, *Cambridge, MA*

Graduate Student Mentor

2022

Harvard University, *Cambridge, MA*

Teaching Assistant, Atmospheric Dynamics II

2016

Colorado State University, *Fort Collins, CO*

Student Intern Advisor

2016, 2019

Colorado State University, *Fort Collins, CO*

CONFERENCE PRESENTATIONS

Orals

American Meteorological Society Annual Meeting

2025 (2), 2022

European Geosciences Union General Assembly, *Vienna, Austria*

2024, 2023, 2022

American Meteorological Society Conference on Hurricanes and Tropical Meteorology	2021, 2016
19th Cyclone Workshop, <i>Kloster Seeon, Germany</i>	2019
Front Range Tropical Cyclone Workshop, <i>Fort Collins, CO</i>	2018
NOAA Center for Satellite Applications and Research Symposium, <i>Madison, WI</i>	2018

Posters

American Geophysical Union fall Meeting	2024, 2022
Stratospheric Processes And their Role in the Climate (SPARC) General Assembly, <i>Boulder, CO</i>	2022
American Meteorological Society Conf. on Hurricanes and Tropical Meteo., <i>Ponte Vedra, FL</i>	2018
American Geophysical Union Fall Meeting, <i>San Francisco, CA</i>	2016
Young Scientist Symposium on Atmospheric Research, <i>Fort Collins, CO</i>	2015

INVITED LECTURES AND SEMINARS

Universitat Autònoma de Barcelona, Center for Mathematical Research, <i>Barcelona, Spain</i>	2023
French and German Consulates, <i>Boston, MA</i>	2021
Colorado State University, Department of Atmospheric Science, <i>Fort Collins, CO</i>	2021
National Center for Atmospheric Research, <i>Boulder, CO</i>	2019
Colorado State University, Department of Atmospheric Science, <i>Fort Collins, CO</i>	2016

SERVICE AND LEADERSHIP

Peer review

Reviewer for Research Opportunities in Space and Earth Science (ROSES) panels NASA Headquarters, <i>Washington, D.C.</i>	2017, 2019
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Student Proposal Reviewer for Harvard College Research Program Harvard University, <i>Cambridge, MA</i>	2022, 2023, 2024
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Peer Reviewer for:

Nature Communications	J Geophys Res	Bull Am Meteorol Soc	Atmos Sci Lett
Q J R Meteorol Soc	Atmos Chem Phys	Int J Climatol	Ann Geophys
Marine Pollution Bulletin	Int. J. Remote Sens.		

Professional meetings

Session Lead Convener European Geosciences Union General Assembly, <i>Vienna, Austria</i>	2023, 2024, 2025
Student Poster Award Judge European Geosciences Union General Assembly, <i>Vienna, Austria</i>	2023