

# LOUIS RIVOIRE

**Postdoctoral Associate**  
Massachusetts Institute of Technology

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lrivoire.github.io

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## EDUCATION

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<b>Ph.D., Atmospheric Science</b> Colorado State University, <i>Fort Collins, CO</i>	2020
<b>M.S., Ocean, Atmosphere, Climate, and Remote Sensing</b> Sorbonne University, <i>Paris, France</i>	2015
<b>Diplôme de l'Ecole Normale Supérieure</b> Advanced interdisciplinary research training, <i>Paris, France</i>	2015
<b>B.S., Earth Sciences</b> Ecole Normale Supérieure, <i>Paris, France</i>	2013
<b>Classes Préparatoires aux Grandes Ecoles</b> Intensive program in mathematics, physics, life sciences, and humanities, <i>Lyon, France</i>	2010-2012

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## PROFESSIONAL EXPERIENCE

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<b>Postdoctoral Associate</b> Massachusetts Institute of Technology, <i>Cambridge, MA</i> Department of Earth, Atmospheric, and Planetary Sciences	since Jan 2024
<b>Flight Mission Contributor</b> Jet Propulsion Laboratory, California Institute of Technology, <i>Pasadena, CA</i> Providing expertise for the development of a satellite mission	Dec 2021 - Nov 2023
<b>Postdoctoral Fellow</b> Harvard University, <i>Cambridge, MA</i> Department of Earth and Planetary Sciences Note: significant disruptions in employment due to covid-19 and U.S. visa processing issues	Jul 2020 - Dec 2023
<b>Graduate Research and Teaching Assistant</b> Colorado State University, <i>Fort Collins, CO</i> Department of Atmospheric Sciences	Aug 2015 - May 2020
<b>Climate Dynamics Intern</b> Colorado State University, <i>Fort Collins, CO</i>	Mar - Jul 2015
<b>Atmospheric Chemistry Intern</b> National Center for Atmospheric Research, <i>Boulder, CO</i>	Mar - Jul 2014

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## PUBLICATIONS

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### Published

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.

#### **In review/accepted for publication**

**L. Rivoire**, M. Linz, P. Lin, J.N. Neu, co-authors, Detectability of trends in stratospheric ozone, *Atmos Chem and Phys*, 2024.

#### **Nearing submission**

**L. Rivoire**, J. Curbelo, M. Linz, Tracking the jets as Lagrangian objects, *in prep for PNAS*.

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### **AWARDS, HONORS, AND GRANTS**

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#### **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*

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### **TEACHING AND MENTORING**

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#### **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*

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### **CONFERENCE PRESENTATIONS**

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#### **Orals**

European Geosciences Union General Assembly, *Vienna, Austria*

2022, 2023, 2024

102nd Annual Meeting of the American Meteorological Society, <i>online</i>	2022
34th AMS Conference on Hurricanes and Tropical Meteorology, <i>online</i>	2021
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
32nd AMS Conference on Hurricanes and Tropical Meteorology, <i>San Juan, PR</i>	2016

## Posters

Stratospheric Processes And their Role in the Climate (SPARC) General Assembly, <i>Boulder, CO</i>	2022
33rd AMS Conference on Hurricanes and Tropical Meteorology, <i>Ponte Vedra, FL</i>	2018
49th Fall Meeting of the American Geophysical Union, <i>San Francisco, CA</i>	2016
Young Scientist Symposium on Atmospheric Research, <i>Fort Collins, CO</i>	2015

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## INVITED LECTURES AND SEMINARS

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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

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## SERVICE AND LEADERSHIP

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### Peer review

Reviewer for Research Opportunities in Space and Earth Science (ROSES) panels 2017, 2019  
 NASA Headquarters, *Washington, D.C.*

Student Proposal Reviewer for Harvard College Research Program 2022, 2023, 2024  
 Harvard University, *Cambridge, MA*

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 2023, 2024  
 European Geosciences Union General Assembly, *Vienna, Austria*

Student Poster Award Judge 2023  
 European Geosciences Union General Assembly, *Vienna, Austria*