

Postdoctoral Opportunities in Tropical Convection

The Department of Earth, Ocean and Atmospheric Science (EOAS) at Florida State University seeks two highly motivated postdoctoral research associates to conduct research in the area of atmospheric convection and climate in the tropics. The successful applicants will contribute to PICCOLO, an NSF-funded project to investigate the nature, governing mechanisms, and impact of mesoscale organization of precipitation deep convective organization in the context of the Atlantic Inter-Tropical Convergence Zone (ITCZ). Field observations from the ORCESTRA campaign (<https://orcestra-campaign.org/intro.html>), in particular advanced polarimetric retrievals from the SEA-POL radar (<https://seapol.colostate.edu/>), and numerical simulations will be used as part of this project.

Both successful candidates will work under the direction of Dr. Allison Wing to conduct original research, write manuscripts for publication, participate in professional meetings, and collaborate with faculty and graduate students at Florida State University, University of Toronto, Colorado State University, University of Oklahoma, and other collaborating institutions. The candidate will also be encouraged to develop and pursue their own areas of research interest. Research in the group involves a combination of analysis of observations, theory, and numerical modeling, which the successful candidates will be encouraged to incorporate into their own research based on interest. **There may also be an opportunity for the successful candidates to participate in the ORCESTRA field campaign, to be held August-September 2024.** Trainees are mentored to gain professional skills such as research design and communication, grantsmanship, leadership training, networking, and navigating the faculty job market.

POSITION 1 – Convective Organization: The initial appointment is for 12 months with the possibility of renewal (up to a total of two years in the position). The anticipated start date is June 2024, although some flexibility is possible.

The successful candidate will work under the direction of Dr. Allison Wing to analyze radar data and other field observations, and conduct and analyze cloud-resolving model simulations to investigate the importance of radiative processes to mesoscale convective organization, process relationships between precipitation, humidity, and convective organization, and/or other topics of mutual interest related to organization of convection and utilizing the ORCESTRA data. Strong candidates will have experience studying tropical convection using models and/or observations.

POSITION 2 – Moist Thermodynamics: The initial appointment is for 12 months with the possibility of renewal (up to a total of two years in the position). The anticipated start date is May 2024, although some flexibility is possible.

The successful candidate will be supervised by Dr. Allison Wing in EOAS at FSU and will work jointly with Dr. Wing and Dr. Morgan O'Neill in the Department of Physics at the University of Toronto. They will develop and apply novel observational approaches to study the entropy budget of the tropical atmosphere, by combining SEA-POL radar observations of the three-dimensional precipitation field with radiosonde data and high-resolution idealized simulations. Strong candidates will have experience running and analyzing high-resolution output of moist-convective atmospheric models using python and packages like xarray. The successful candidate will have an

opportunity to learn how to analyze radar data through collaboration with CSU and FSU partners during the project.

SALARY

Each position covers an annual stipend of \$60,000 with a benefits package.

QUALIFICATIONS

A PhD in atmospheric science, climate science, or a related field is required for both positions. Experience in studying tropical convection using numerical models and/or analysis of observations is strongly preferred, as are strong oral and written communication skills. Experience in working with radar observations is a plus.

APPLICATION INSTRUCTIONS

To apply, please send a single PDF file by March 1, 2024 to Dr. Allison Wing (awing@fsu.edu) containing the following: 1) a cover letter indicating which position you are applying for and describing your interest in the position and qualifications, 2) a CV, 3) the name and contact information for 3-5 professional references, and 4) (optional) a 1-2 page statement describing your research interests. Potential applicants are welcome to contact Dr. Wing with questions prior to applying.

RECRUITMENT PERIOD

Applications for both positions will be accepted until March 1, 2024.

The EOAS Department at Florida State University is highly interdisciplinary, comprising of ~40 faculty with expertise in meteorology, oceanography, geology, and environmental science. For more information about the position and department, please visit the group website and the department website at <https://myweb.fsu.edu/awing/index.html> and <https://www.eoas.fsu.edu/>.

FSU is a Top 25 national public research university located in Tallahassee, Florida. Situated in the Big Bend region of northern Florida, it has a four-season climate with over 230 days of sunshine per year. Characterized by rolling hills, forests, karst springs, and nearby beaches, there are ample opportunities for hiking, biking, kayaking, and fishing. As the capital city of Florida and home to two major public universities, the city enjoys a vibrant arts scene, collegiate sports, and lots of outdoor and family-friendly activities. Florida residents do not pay State of Florida income taxes and the cost of living is low relative to many parts of the country.

Florida State University is an Equal Opportunity/Access/Affirmative Action/Pro Disabled & Veteran Employer. FSU's Equal Opportunity Statement can be viewed at: www.hr.fsu.edu/PDF/Publications/diversity/EEO_Statement.pdf.