

# Martin A. Fernandez

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Website: <https://mafern.github.io/>

## EMPLOYMENT & EDUCATION

2023 – Postdoctoral Fellow Department of Atmospheric Science,  
Colorado State University

2023 PhD in Physics University of California Riverside

2018 M.S. in Physics University of California Riverside

2017 B.S. in Physics Western Washington University

## RESEARCH

2023 – present: Using machine learning methods to improve climate and weather forecasting.

*With Dr. Elizabeth Barnes (Colorado State University).*

2018 – 2023: Using cosmological simulations and machine learning to explore beyond-standard-model physics and constrain cosmological & astrophysical parameters.

*With Dr. Simeon Bird (University of California Riverside).*

2016 – 2017: Theory & modeling of guided wave plasmon polariton modes on novel waveguide architectures.

*With Dr. Brad Johnson (Western Washington University).*

2015 – 2017: Identifying & characterizing pre-main sequence double-lined spectroscopic binaries in young star forming environments.

*With Dr. Kevin Covey (Western Washington University).*

## RECENT PRESENTATIONS & WORKSHOPS

AMS Annual Meeting Jan/Feb 2024 (Baltimore)

*Predicting Tropical Cyclone Track Forecast Errors Using a Probabilistic Neural Network*

ForceSMIP Hackathon Aug 2023 (NCAR)

*Developing Methods for Separating the Forced Response from Internal Variability*

## OUTREACH

Organizer for CSU/CIRA Research Staff Social/Career Events 2023 –

Pen Pal for *Letters to a Pre-Scientist* program 2023 –

Panelist for Postdoc presentation to graduate students 2023

Mentor for REU student at CSU 2023

Advisor/mentor for high school student 2018 – 2020

*Went on to Stanford to study computer science.*

UCR Physics Organization for Women and the UnderRepresented 2018 – 2020

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*Served as treasurer for 2019.*

WWU Public Night Sky Observing host

2015 – 2017

WWU Women in Physics

2015 – 2017

*Volunteer/Organizer for outreach events, including: GEMS Fair (2016, 2017), GEMS Academy (2017), Compass2Campus (2015, 2016), Scouting for Science (2016, 2017), March for Science (2017), Mix it Up (2015, 2016).*

## **PROGRAMMING SKILLS**

*8+ years:* Python and L<sup>A</sup>T<sub>E</sub>X.

*6+ years:* High-performance computing (SLURM), including the use of TACC resources (Frontera, Stampede2), and the XSEDE (now ACCESS) allocation system.

*1+ years:* C, Mathematica, IDL, and HTML/CSS.

## **AWARDS**

NSF GRFP (Graduate Research Fellowship Program)

2019 – 2023

UCR Chancellor's Distinguished Fellowship

2017

WWU Alumni Association Leader Scholarship

2016