

# Cristian Martinez-Villalobos

## CONTACT INFORMATION

Universidad Adolfo Ibáñez  
Faculty of Engineering and Science  
Diagonal Las Torres 2640, Peñalolén  
Región Metropolitana, Chile

*E-mail:* cristian.martinez.v@uai.cl  
*Website:* cristianmartinezvillalobos.com  
*Google Scholar:* bit.ly/3XNBK6g  
(h-index: 10)

## RESEARCH INTERESTS

Precipitation statistics, extreme precipitation under global warming, tropical dynamics, air-sea coupling, El Niño Southern Oscillation, Coastal El Niño, inverse modeling, climate stochastic modeling, data-driven modeling, nonlinear processes, extratropical-tropical interactions, atmospheric and marine heat waves, global climate model evaluation, dry spells.

## EMPLOYMENT

**Universidad Adolfo Ibáñez, Faculty of Engineering and Science (Chile)**

- Assistant Professor, Mar 2021-Current

**Data Observatory Foundation (Chile)**

- Researcher, Aug 2021-Current

**Centro de Estudios Avanzados en Zonas Áridas (Chile)**

Postdoctoral Researcher, Apr 2020-Feb 2021

- Mentor: Dr. Boris Dewitte. Co-mentor: Dr. René Garreaud

**University of California, Los Angeles** Dept. of Atmospheric and Oceanic Sciences (USA)

Postdoctoral Researcher, Nov 2016-Oct 2019

Staff Research Associate III, Dec 2019-Mar 2020

- Mentor: Dr. J. David Neelin

**University of Wisconsin-Madison, Dept. of Atmospheric and Oceanic Sciences (USA)**

Research Assistant, May 2011-Nov 2016

**University of Wisconsin-Madison, Department of Physics (USA)**

Teaching Assistant, August 2010-May 2011

**Universidad Católica de Chile, Departamento de Física (Chile)**

Teaching Assistant, August 2005-July 2009

## EDUCATION

**University of Wisconsin-Madison, Madison, Wisconsin 2010-2016**

Ph.D., Atmospheric and Oceanic Sciences, May 2011-October 2016

- Dissertation Topic: “Deterministic and Stochastic Models of Tropical Climate Variability”
- Advisor: Dr. Daniel J. Vimont

Physics Graduate Student, August 2010-May 2011

**Universidad Católica de Chile, Santiago, Chile 2003-2010**

M.Sc., Physics, June 2010

- Dissertation Topic: “Uncertainties in the calculation of the tau lepton semi-hadronic decay, and a new perturbative expansion”
- Advisor: Dr. Marcelo Loewe, Co-advisor: Dr. Cristián Valenzuela

Licentiate, Physics, August 2007

- Dissertation Topic: “Thermal corrections to pion-pion scattering lengths in the linear sigma model”
- Advisor: Dr. Marcelo Loewe.

Licentiate Student, Astronomy, 2003-2006

## PUBLICATIONS

Antonietta Capotondi, Shayne McGregor, Michael J. McPhaden, Sophie Cravatte, Neil J. Holbrook, Yukiko Imada, Sara C. Sanchez, Janet Sprintall, Malte F. Stuecker, Caroline C. Ummerhofer, Mathias Zeller, Riccardo Farneti, Giorgio Graffino, Shijian Hu, Kristopher B. Karnauskas, Yu Kosaka, Fred Kucharski, Michael Mayer, Bo Qiu, Agus Santoso, Andréa S. Taschetto, Fan Wang, Xuebin Zhang, Ryan M. Holmes, Jing-Jia Luo, Nicola Maher, Cristian Martinez-Villalobos, Rajashree Naha, Samantha Stevenson, Arnold Sullivan, Peter van Rensch, Tongtong Xu: **Mechanisms of Tropical Pacific Decadal Variability**. Submitted

Cristian Martinez-Villalobos and J. David Neelin: **Regionally high risk increase for precipitation extreme events under global warming**. *Sci. Rep.* In press. 10.1038/s41598-023-32372-3

Yangruixue Chen, Bo Liu, Yali Luo, Cristian Martinez-Villalobos, Guoyu Ren, Yong Sun, and Zhongshi Zhang: **Relative contribution of moisture transport during TC active and inactive periods to the precipitation in Henan Province of North China: mean state and an extreme event**. *J. Climate*. In press. 10.1175/JCLI-D-22-0582.1

Boris Dewitte, Emilio Concha, Diego Sepúlveda, Óscar Pizarro, Cristian Martinez-Villalobos, Dacha Gushchina, Marcel Ramos, and Aldo Montecinos, 2023: **The ENSO-induced South Pacific Meridional Mode**. *Front. Clim*, **4**, 247. 10.3389/fclim.2022.1080978

Cristian Martinez-Villalobos, J. David Neelin, and Angeline G. Pendergrass, 2022: **Metrics for evaluating CMIP6 representation of daily precipitation probability distributions**. *J. Climate*, **35**, 5719-5743, 10.1175/JCLI-D-21-0617.1

L. Ruby Leung, William R. Boos, Jennifer L. Catto, Charlotte DeMott, Gill M. Martin, J. David Neelin, Travis A. O'Brien, Shaocheng Xie, Zhe Feng, Nicholas P. Klingaman, Yi-Hung Kuo, Robert W. Lee, Cristian Martinez-Villalobos, S. Vishnu, Matthew Priestley, Cheng Tao, and Yang Zhou, 2022: **Exploratory precipitation metrics: spatiotemporal characteristics, process-oriented, and phenomena-based**. *J. Climate*, **35**, 3659-3686, 10.1175/JCLI-D-21-0590.1

Sihan Zhang, Yangruixue Chen, Yali Luo, Bo Liu, Guoyu Ren, Tianjun Zhou, Cristian Martinez-Villalobos, and Meiyu Chang, 2022: **Revealing the circulation pattern most conducive to precipitation extremes in Henan Province of North China**. *Geophys. Res. Lett.* **49**, e2022GL098034, 10.1029/2022GL098034

Meiyu Chang, Bo Liu, Bin Wang, Cristian Martinez-Villalobos, Guoyu Ren and Tianjun Zhou, 2022: **Understanding future increases in precipitation extremes in global land monsoon regions**. *J. Climate*, **35**, 1839-1851, 10.1175/JCLI-D-21-0409.1

J. David Neelin, Cristian Martinez-Villalobos, Samuel N. Stechmann, Fiaz Ahmed, Gang Chen, Jesse M. Norris, Yi-Hung Kuo and Geert Lenderink, 2022: **Precipitation extremes and water vapor: Relationships in current climate and implications for climate change**. *Curr Clim Change Rep*, **8**, 17-33, <https://doi.org/10.1007/s40641-021-00177-z>

Cristian Martinez-Villalobos and J. David Neelin, 2021: **Climate models capture key features of extreme precipitation probabilities across regions.** *Environ. Res. Lett.*, **16**, 024017, 10.1088/1748-9326/abd351

Meiyu Chang, Bo Liu, Cristian Martinez-Villalobos, Guoyu Ren, Shangfeng Li and Tianjun Zhou, 2020: **Changes in extreme precipitation accumulations during the warm season over continental China.** *J. Climate*, **33**, 10799-10811, 10.1175/JCLI-D-20-0616.1

Cristian Martinez-Villalobos and J. David Neelin, 2019: **Why Do precipitation Intensities Tend to Follow Gamma Distributions?** *J. Atmos. Sci.*, **76**, 3611-3631, 10.1175/JAS-D-18-0343.1

Cristian Martinez-Villalobos, Matthew Newman, Daniel J. Vimont, Cécile Penland, and J. David Neelin, 2019: **Observed El Niño-La Niña Asymmetry in a Linear Model.** *Geophys. Res. Lett.*, **46**, 10.1029/2019GL082922

Erin E. Thomas, Daniel J. Vimont, Matthew Newman, Cécile Penland, and Cristian Martínez-Villalobos, 2018: **The Role of Stochastic Forcing in Generating ENSO Diversity.** *J. Climate*, **31**, 9125-9150, 10.1175/JCLI-D-17-0582.1

Cristian Martinez-Villalobos and J. David Neelin, 2018: **Shifts in Precipitation Accumulation Extremes during the Warm Season over the United States.** *Geophys. Res. Lett.*, **45**, 8586-8595, 10.1029/2018GL078465

Cristian Martinez-Villalobos, Daniel J. Vimont, Cécile Penland, Matthew Newman, and J. David Neelin, 2018: **Calculating State-Dependent Noise in a Linear Inverse Model Framework.** *J. Atmos. Sci.*, **75**, 479-496, 10.1175/JAS-D-17-0235.1

Cristian Martinez-Villalobos and Daniel J. Vimont, 2017: **An Analytical Framework for Understanding Tropical Meridional Modes.** *J. Climate*, **30**, 3303-3323, 10.1175/JCLI-D-16-0450.1

Cristian Martinez-Villalobos and Daniel J. Vimont, 2016: **The Role of the Mean State in Meridional Mode Structure and Growth.** *J. Climate*, **29**, 3907-3921, 10.1175/JCLI-D-15-0542.1

Goradz Cvetic, Marcelo Loewe, Cristian Martinez, and Cristián Valenzuela, 2010: **Modified contour-improved perturbation theory.** *Phys. Rev. D*, **82**(9), 093007. 10.1103/PhysRevD.82.093007

Marcelo Loewe and Cristian Martinez-Villalobos, 2008: **Thermal corrections to pi-pi scattering lengths in the linear sigma model.** *Phys. Rev. D*, **77**(10), 105006. 10.1103/PhysRevD.77.105006

## AWARDS & GRANTS

**ANID Fondecyt Regular** (2023-2026). Grant #1231174: Chile El Niño: processes, predictability and evolution in a warmer climate. **Co-Investigator** (PI: Boris Dewitte).

**Concurso de Equipamiento Científico y Tecnológico Mediano Fondecyt** (2023-2027) EQM220152: Plataforma de Cómputo para Deep Learning basada en NVIDIA DGX A100. **Co-Investigador.**

**US Department of Energy, Regional & Global Model Analysis Program** (2022-2025). Award Number DE-SC0023244: Extreme Precipitation Features and their Large-Scale Environments. **Collaborator** (PI: J. David Neelin).

**Postdoctoral Fellowship Fondecyt 2020** (Apr 2020-Apr 2023). Grant #3200621: Dynamical Mechanisms of Coastal El Niño Events. Amount awarded: 81.334.000 Chilean Pesos (Total) (106,097 USD, Nov 30, 2020 exchange rate). **Principal Investigator.**

**Fulbright-Conicyt Scholarship**, 2010-2014. Funding PhD studies at the University of Wisconsin-Madison, Madison, WI, United States.

## TEACHING EXPERIENCE

**Universidad Adolfo Ibáñez, Facultad de Ingeniería y Ciencias (Mar 2021-present)**  
**(Assistant Professor)**

Research and Development Workshop ("Taller de I+D"), Data Science for Climate Change Analysis, Climate Change (undergraduate, 5<sup>th</sup> year), Climate Change (Diploma in Hydrology and Climate Change Impacts), Multivariable Calculus, Differential Equations, Algebra II

**The Wisconsin Center for Academically Talented Youth. Accelerated Learning Program. (Jun-Jul 2014)**

Physics of the Impossible

**University of Wisconsin-Madison Department of Physics (Sep 2010-May 2011)**  
**(Teaching Assistant)**

Physics 103: Introduction to physics at the non-calculus level

Physics 201: Calculus-based introduction to physics for engineering students

**Universidad Católica de Chile. Physics Department (Aug 2005-Jul 2009)**  
**(Teaching Assistant)**

Statistical Mechanics, Quantum Physics I, Quantum Physics II, Electromagnetic Theory, Heat and Optics, Heat and Waves, Physics for Sciences, Electromagnetism, Contemporary Physics, Classical Mechanics Laboratory

## SELECTED CONFERENCE AND INVITED TALKS

**Two types of Coastal El Niño events**

Cristian Martínez-Villalobos, Boris Dewitte, René Garreaud, Leandra Loyola, Emilio Concha.

- 2023 CLIVAR workshop on the tropical Pacific and its interbasin interactions. Monash University, Melbourne, Australia. **February 2023**
- American Meteorological Society 103rd Annual Meeting. Session: El Niño Southern Oscillation: Dynamics, Prediction and Projection. Denver, Colorado, USA. **January 2023**
- 6to. Congreso de Oceanografía Física, Meteorología y Clima del Pacífico Sur Oriental Puerto Montt, Chile. **Noviembre 2022**
- European Geosciences Union General Assembly 2022. Sesión: ENSO and Tropical Basins Interactions: Dynamics, Predictability and Modelling. Vienna, Austria. **May 2022.**

- 13<sup>th</sup> International Conference on Southern Hemisphere Meteorology and Oceanography  
Tropical Climate Variability: Dynamics, Teleconnections, and Impacts 3.  
Christchurch, New Zealand (virtual meeting). **February 2022.**

**Precipitation extremes probabilities: GCM evaluation, theory, and its implications under global warming**

Séminaire CNRM

Centre National de Recherches Météorologiques (CNRM)  
Toulouse, France. **May 2022.**

**What sets the probability distribution of precipitation?**

Cristian Martinez-Villalobos and J. David Neelin.

2018 American Geophysical Union Fall Meeting. Section: Nonlinear Geophysics. Session: Stochastic Modeling and Nonlinear Waves in Atmosphere, Ocean, Climate Dynamics, and Space Physics I. Washington D.C., United States. **December 2018.**

**Stochastic Modeling in the Climate Sciences: Applications to modeling of precipitation distributions, and El Niño Southern Oscillation.**

Colloquium Series, Department of Atmospheric and Oceanic Sciences.  
University of Wisconsin-Madison.

Madison, Wisconsin, United States. **November 2018.**

**Why do Precipitation Intensities Tend to Obey a Gamma Distribution?**

Cristian Martinez-Villalobos and J. David Neelin.

2018 American Physical Society March Meeting. Session: Coalescence, Fragmentation, Mixing and Anomalous Diffusion.

Los Angeles, California, United States. **March 2018.**

**Shifts in Precipitation Accumulation Distributions During the Warm Season over the United States.**

Cristian Martinez-Villalobos and J. David Neelin.

2017 American Geophysical Union Fall Meeting. Section: Atmospheric Sciences. Session: Extreme Precipitation in Past, Present and Future Climates I. New Orleans, Louisiana, United States. **December 2017.**

**An Analytical Framework for Understanding Tropical Meridional Modes.**

Cristian Martinez-Villalobos and Daniel J. Vimont.

97<sup>th</sup> American Meteorological Society Meeting. 29<sup>th</sup> Conference on Climate Variability and Change. Seattle, Washington, United States. **January 2017.**

**An analytical framework for understanding meridional mode dynamics.**

Cristian Martinez-Villalobos and Daniel J. Vimont.

Meridional Mode Workshop.

Madison, Wisconsin, United States. **October 2016.**

**An observational study of the South Pacific Meridional Mode.**

Cristian Martinez-Villalobos and Daniel J. Vimont.

11<sup>th</sup> International Conference on Southern Hemisphere Meteorology and Oceanography. Santiago, Chile. **October 2015.**

**How do Meridional Modes Structure and Growth Depend on Mean State**

**Asymmetry?** Cristian Martinez-Villalobos and Daniel J. Vimont.

95<sup>th</sup> American Meteorological Society Meeting, 27<sup>th</sup> Conference on Climate Variability and Change. Phoenix, Arizona, United States. **January 2015.**

OTHER  
PRESENTATIONS  
(SELECTED)

\* denotes presenter

**The ENSO-induced South Pacific Meridional Mode**

Boris Dewitte\*, Emilio Concha, Diego Sepúlveda, Óscar Pizarro, Cristian Martinez-Villalobos, Marcel Ramos, and Aldo Montecinos.

European Geosciences Union General Assembly 2022. Session: ENSO and Tropical Basins Interactions: Dynamics, Predictability and Modelling. Vienna, Austria. **May 2022.**

**Changes in Extreme Precipitation Accumulations During the Warm Season Over Continental China.**

Bo Liu\*, Meiyu Chang, Cristian Martinez-Villalobos, Guoyu Ren, Shangfeng Li, Tianjun Zhou

Asia Oceania Geosciences Society 18<sup>th</sup> Annual Meeting. **August 2021.**

**Metrics for Evaluating CMIP6 Simulation of Daily Precipitation Probability Distributions.** (Poster)

Cristian Martinez-Villalobos\*, J. David Neelin and Angeline G. Pendergrass  
2020 American Geophysical Union Fall Meeting. **December 2020.**

**Changes in probability of large precipitation events under global warming: Using theory to understand projections in the CMIP6 ensemble.**

J. David Neelin\* and Cristian Martinez-Villalobos

2020 American Geophysical Union Fall Meeting. **December 2020.**

**ENSO Asymmetry in Amplitude and Duration in a Linear Model with State Dependent Noise.**

Cristian Martinez-Villalobos, Daniel J. Vimont\*, Matthew Newman, Cécile Penland and J. David Neelin.

100<sup>th</sup> American Meteorological Society Annual Meeting. Boston, Massachusetts, United States. **January 2020.**

**Precipitation probability distributions in CMIP6 models: relationship to the thermodynamic environment and of daily to sub-daily timescales.**

J. David Neelin\*, Cristian Martinez-Villalobos, Yi-Hung Kuo, Fiaz Ahmed and Angeline G. Pendergrass.

2019 American Geophysical Union Fall Meeting. San Francisco, California, United States. **December 2019.**

**Why daily precipitation intensities tend to follow Gamma distributions —theory and applications.** (Poster)

Cristian Martinez-Villalobos\*, J. David Neelin and Angeline G. Pendergrass

12<sup>th</sup> International Precipitation Conference. Irvine, California, United States. **June 2019.**

**Controls on Deep-Convective Precipitation and the Dialogue with the Mesoscale**  
J. David Neelin\*, Fiaz Ahmed, Kathleen A. Schiro, Yi-Hung Kuo and Cristian Martinez-Villalobos.

99<sup>th</sup> American Meteorological Society Meeting. Phoenix, Arizona, United States. **January 2019.**

**The dialogue between fast-process diagnostics and stochastic process models for precipitation**

J. David Neelin\*, Yi-Hung Kuo, Fiaz Ahmed, Cristian Martinez-Villalobos, Xianan Jiang, Eric D. Maloney, Andrew Gettleman and Yi Ming.

2018 American Geophysical Union Fall Meeting. Washington D.C., United States.

**December 2018.**

**El Niño-La Niña Asymmetry in a Linear Inverse Model Framework.** (Poster)

Cristian Martinez-Villalobos\*, Matthew Newman, Cécile Penland, Daniel J. Vimont, and J. David Neelin.

IV International Conference on El Niño Southern Oscillation: ENSO in a Warmer Climate. Guayaquil, Ecuador. **October 2018.**

**Stochastic Forcing Structures Conducive to Eastern and Central Pacific ENSO Characteristics.**

Erin Thomas\*, D.J. Vimont, M. Newman, and C. Martinez-Villalobos

97<sup>th</sup> American Meteorological Society Meeting. 29<sup>th</sup> Conference on Climate Variability and Change. Seattle, Washington, United States. **January 2017.**

**How do Meridional Modes Structure and Growth Depend on Mean State Asymmetry?** (Poster)

Cristian Martinez-Villalobos\* and Daniel J. Vimont.

5<sup>th</sup> Annual AOSS Poster Reception. Department of Atmospheric and Oceanic Sciences. University of Wisconsin-Madison. April 2015.

95<sup>th</sup> American Meteorological Society Meeting. 14<sup>th</sup> Annual Student Conference. Phoenix, Arizona, United States, **January 2015.**

**Thermal Corrections to pi-pi Scattering Lengths in the Linear Sigma Model.**

Cristian Martinez-Villalobos\* and Marcelo Loewe. Presenter: Cristian Martinez-Villalobos  
XVI Chilean Symposium of Physics. Valparaíso, Chile. **November 2008.**

**Thermal Corrections to pi-pi Scattering Lengths in the Linear Sigma Model.** (Poster)

Cristian Martinez-Villalobos\* and Marcelo Loewe.

VII Latin American Symposium on High Energy Physics. Bariloche, Argentina. **January 2009.**

Standard Model and Beyond in the LHC Era. Valparaíso, Chile. **January 2008.**

TRAVEL  
AWARDS

**NASA JPL Center for Climatic Sciences Summer School.** Aug 31-Sep 4, 2015. Keck Institute for Space Studies. Pasadena, California. Awarded by the organization.

**Intensive Summer School for Computing in Environmental Sciences.** May 27-Jun 12, 2015. University of Virginia. Charlottesville, Virginia. Awarded by the organization.

**95<sup>th</sup> American Meteorological Society Meeting.** Jan 3-Jan 8, 2015. Phoenix, Arizona. Awarded by the Atmospheric and Oceanic Sciences Department. University of Wisconsin-Madison.

**31<sup>st</sup> Conference on Hurricanes and Tropical Meteorology.** Mar 31-Apr 4, 2014. San Diego, California. American Meteorological Society Student Travel Grant.

**Summer School on Mathematical Physics.** Dec 7-Dec 11, 2009. Frutillar, Chile. Awarded by the organization.

**5<sup>th</sup> Latin American School of High Energy Physics.** Mar 15-Mar 28, 2009. Medellín, Colombia. Awarded by The European Organization for Nuclear Research (CERN).

**58<sup>th</sup> Annual Lindau Nobel Laureate Meetings with Young Scientists.** Jun 29-Jul 4, 2008. Lindau, Germany. Awarded by the Council for the Lindau Nobel Laureate Meetings.

**Quantum Gravity in the Southern Cone IV.** Punta del Este, Uruguay. Oct 22-Oct 25, 2006. Awarded by the Physics Department. Universidad Católica de Chile.

## OTHER AWARDS

**Winner of the Hivemind El Niño Prediction Market** for October 2019 (£1000 prize).

**Best Poster**, 2018. Early Career Scientists Poster Competition. IV International Conference on El Niño Southern Oscillation.

**Astronomy Department Tuition Scholarship (Matrícula de Honor)**, 2003. Universidad Católica de Chile. Given to the highest ranked applicant in the admission process to the Astronomy Major.

## ADDITIONAL RESEARCH EXPERIENCES

**Linear Inverse Modeling and Tropical Climate Stochastic Forcing.** May 29-July 9, 2016. NOAA Physical Sciences Division. Boulder, Colorado. Hosts: Dr. Cécile Penland and Dr. Matthew Newman

## PROFESSIONAL DEVELOPMENT

**Diplomado en Aprendizaje y Enseñanza en Educación Superior**

Universidad Adolfo Ibáñez, Aug 2021-Dec 2022

**Entrenamiento para el uso del DataCube**

Universidad Adolfo Ibáñez, May 11-May 13, 2021

**Extreme Science and Engineering Discovery Environment (XSEDE) Big Data Workshop**

University of California, Los Angeles, April 2019

**Intensive Summer School for Computing in Environmental Sciences.** May 27-Jun 12, 2015. University of Virginia. Charlottesville, Virginia.

## OPINION ARTICLES AND OUTREACH

**January 19, 2023.** Mention on Diario El Día "¿Hasta cuándo durarán las marejadas? Olas alcanzarían los dos metros en la región" <https://tinyurl.com/26dth5c5>

**November 29, 2022.** Mention on Portal Innova "Facultad de Ingeniería y Ciencias UAI alojará Súper Computador con capacidades inéditas en la Región Metropolitana"

<https://tinyurl.com/yfek95hd>. Also reproduced at Tour Innovación

(<https://tinyurl.com/mryjzc4c>) and MV Comunicaciones (<https://tinyurl.com/mr2u4r2k>).

**September 16, 2022.** Cristian Martinez-Villalobos. "Preservación de la capa de ozono: lecciones para enfrentar el cambio climático". Revista Qué Pasa

<https://tinyurl.com/aaw67wha>



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**September 3, 2022.** Charla de Divulgación sobre el Cambio Climático. Bar Truf. La Reina, Santiago, Chile.

**June 8, 2022.** Cristian Martinez-Villalobos. "Día Mundial de los Océanos: Chile, la quinta costa más larga del mundo". Reproducida en diversos medios regionales: [Revista Tour Innovación](#), El Líder (San Antonio), El Longino (Iquique), El Insular (Castro), [Diario Chiloé](#), [DiarioPalena.cl](#), [DiarioDePuertoMontt](#), [Diario Lago Ranco](#), [Diario de Valdivia](#), [Diario Río Bueno](#), [Portal Innova](#)

**June 8, 2021.** Cristian Martinez-Villalobos. "Día Mundial de los Océanos: Chile y su Riqueza Marina". Revista Qué Pasa <http://lt.cl/a7rj21>. El Mostrador [link](#)

## LANGUAGES

**Spanish.** Native language.  
**English.** Highly proficient.

## MEMBERSHIPS

American Meteorological Society (**AMS**) Early Career Member.  
American Geophysical Union (**AGU**) Early Career Member. Sections: i) Physics, Dynamics and Climate ii) Nonlinear Geophysics iii) Hydrology iv) Ocean Sciences v) Paleooceanography and Paleoclimatology.  
European Geosciences Union (**EGU**) regular membership

## SERVICE

**Member** of the Climate and Ocean – Variability, Predictability, and Change (CLIVAR) Pacific Region Panel (2022-2024). CLIVAR is a core project of the World Climate Research Programme <https://www.clivar.org/clivar-panels/pacific>

**Member** Organizing Committee of the "ICTP/CLIVAR Summer School on Marine Heatwaves: Global Phenomena with Regional Impacts". 24-29 July, Trieste, Italy.

**Member** of the CLIVAR Research Focus Group on Marine Heatwaves (2023-2027) <https://www.clivar.org/research-foci/marine-heatwaves>

**Reviewer** for PNAS, Physical Review Letters, Environmental Research Letters(2), Journal of Climate(5), Geophysical Research Letters(4), Climate Dynamics(2), Journal of Hydrometeorology, Journal of Geophysical Research-Atmospheres(2), Monthly Weather Review, Chaos: An Interdisciplinary Journal of Nonlinear Science, Journal of Applied Meteorology and Climatology(2), Atmosphere, Pure and Applied Geophysics, Physical Review Research.

**Awards Judge** Outstanding Student Paper, 2017 American Geophysical Union Fall Meeting.

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**Co-Chair** ENSO Dynamics, Predictability, and Impacts Part II session, 29<sup>th</sup> Conference on Climate Variability and Change, 97<sup>th</sup> American Meteorological Society Meeting, 2017.

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Last updated Apr 2, 2023