

Katinka Bellomo

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Education

Ph.D., Meteorology and Physical Oceanography, 2015

University of Miami, Rosenstiel School of Marine and Atmospheric Science, Miami, FL, USA

M.S., Physics, 2010

Università degli studi di Torino, Turin, Italy

B.S., Physics, 2008

Università degli studi di Torino, Turin, Italy

Employment

Parental leaves: (1-4/2016; 2-4/2019 and 7-12/2019)

06/2021 - present: Research scientist, Marie Skłodowska-Curie Individual Fellowship

Polytechnic University of Turin, Department of Environment, Land and Infrastructure, Turin, Italy

12/2019 - 05/2021: Senior postdoctoral research scientist

National Research Council of Italy, Institute of Atmospheric Sciences and Climate, Turin, Italy

04/2018 - 06/2019: Data scientist

Foursquare, New York, NY, USA

09/2015 - 01/2018: Postdoctoral research scientist

Columbia University, Lamont Doherty Earth Observatory, Palisades, NY, USA

03/2013 - 04/2013: Oceanographic cruise (Clivar A20, P02 Leg1 Yokohama-Honolulu)

Scripps Institution of Oceanography, UC San Diego, La Jolla, CA, USA

09/2010 - 08/2015: Graduate research assistant

University of Miami, Rosenstiel School of Marine and Atmospheric Science, Miami, FL, USA

Funded proposals

2021 - 2023: Marie Skłodowska-Curie Individual Fellowship, project: CliMOC ('Climate Impacts of the Atlantic Meridional Overturning Circulation'), €183,473.28

2021 - 2013: ECMWF Special project, project: 'Impacts of AMOC decline on European climate', HPC resources

2015 - 2017: Lamont-Doherty postdoctoral fellowship, Columbia University, project: 'Model experiments and observations to investigate mechanisms of Atlantic Multidecadal Variability', \$129,000

2014: Career development fund, Rosenstiel School of Marine and Atmospheric Sciences, project: 'Post-graduate career skills development workshop', \$1,000

2012: Alumni fellowship, Rosenstiel School of Marine and Atmospheric Sciences & Max Planck Institute for Meteorology, project: 'Predictability of tropical sea surface temperature anomalies on decadal timescales', \$4,000 and HPC resources

Awards

2013: Best student publication, Meteorology and Physical Oceanography Division. Awarded by Rosenstiel School of Marine and Atmospheric Sciences, University of Miami.

2012: First place in poster presentation competition, AMS Annual Meeting. Awarded by the American Meteorological Society.

2010: Best M.S. thesis, Environmental Physics track. Awarded by Università degli studi di Torino.

Professional activities

2021 - present: Member of the Communication Committee of the Institute of Atmospheric Sciences and Climate, Italy

2016: Session chair, AGU Fall Meeting "Beyond the Interannual: Multidecadal and Centennial Modes of Climate Variability"

2014 - 2015: Co-founder and committee member of the SLED (Student Led Evaluation & Development) Committee, Rosenstiel School of Marine and Atmospheric Sciences, Miami, FL, USA

2013 - 2014: Committee member of the DEI (Diversity Equity Inclusion) Committee, Rosenstiel School of Marine and Atmospheric Sciences, Miami, FL, USA

2012 - 2014: Student representative of the Meteorology and Physical Oceanography division, Rosenstiel School of Marine and Atmospheric Sciences, Miami, FL, USA

Teaching and mentorship

05/2013 - 08/2013: Mentor, summer internship of two high school students, University of Miami, Miami, FL, USA

09/2012 - 05/2013: Teaching assistant for 3 undergraduate level courses (Atmospheric Thermodynamics, Physical Oceanography, Global Climate Change), University of Miami, Miami, FL, USA

Publications

Bellomo K., V. Meccia, R. D'Agostino, F. Fabiano, P. Davini, J. von Hardenberg, and S. Corti: Weather impacts of an AMOC decline in the EC-Earth climate model. In prep.

Angeloni M., **K. Bellomo**, C. Pasquero, and J. von Hardenberg: Salinity driven oscillations of the oceanic thermohaline circulation in an earth system model of intermediate complexity. In prep.

Larson S., Y. Okumura, **K. Bellomo**, and M. Breeden: The PDO pattern and teleconnections: a delicate balance of forcings from the tropics and extratropics. In prep.

[15] **Bellomo K.**, M. Angeloni, S. Corti, and J. von Hardenberg, 2021: Future climate change scenarios shaped by inter-model differences in Atlantic Meridional Overturning Circulation response. *Nature Communications* 12, 3659.

[14] Polvani L.M. and **K. Bellomo**, 2019: The key role of ozone depleting substances in weakening the Walker circulation in the second half of the 20th century, *J. Climate*, 32, 1411-1418.

[13] **Bellomo K.**, L. N. Murphy, M. A. Cane, A. C. Clement, L. M. Polvani, 2018: Historical forcings as main drivers of the Atlantic Multidecadal Oscillation in the CESM Large Ensemble. *Climate Dynamics*, 50 (9-10), 3687-3698.

[12] Cane M. A., A. C. Clement, L. N. Murphy, and **K. Bellomo**, 2017: Low-pass filtering, heat flux and the Atlantic Multidecadal Variability, *J. Climate*, 30 (18), 7529-7553.

[11] Murphy L., **K. Bellomo**, M. A. Cane, A. C. Clement, 2017: The Role of Historical Forcings in Simulating the Atlantic Multidecadal Oscillation, *Geophys. Res. Lett.*, 44 (5), 2472-2480.

[10] **Bellomo K.**, A. Clement, L. Murphy, L. Polvani, M. Cane, 2016: New Observational Evidence for Cloud Feedbacks Amplifying the Atlantic Multidecadal Oscillation. *Geophys. Res. Lett.*, 43 (18), 9852-9859.

[9] Zuidema P., and **Coauthors**, 2016: Challenges and Prospects for Reducing Coupled Climate Model Biases in the Eastern Tropical Atlantic and Pacific Oceans: the US Clivar Eastern Tropical Oceans Synthesis Working Group. *Bull. Am. Met. Soc.*, 97 (12), 2305-2328.

[8] Clement A. C., M. A. Cane, L. N. Murphy, **K. Bellomo**, T. Mauritsen, B. Stevens, 2016: Response to Comment on "The Atlantic Multidecadal Oscillation without a role for ocean circulation". *Science*, 352, 1527.

- [7] Radel G., T. Mauritsen, B. Stevens, D. Dommenges, D. Matei, **K. Bellomo**, and A. C. Clement, 2016: Amplification of El Niño by Cloud Longwave Coupling to Atmospheric Circulation. *Nature Geoscience*, 9(2), 106-110.
- [6] Clement A.C., **K. Bellomo**, L. Murphy, M. Cane, T. Mauritsen, G. Radel, and B. Stevens, 2015: The Atlantic Multidecadal Oscillation without a Role for Ocean Circulation. *Science*, 350, 320-324.
- [5] **Bellomo K.** and A.C. Clement, 2015: Evidence for Weakening of the Walker Circulation from Cloud Observations. *Geophys. Res. Lett.*, 42 (18), 7758-7766.
- [4] **Bellomo K.**, A.C. Clement, T. Mauritsen, G. Radel, and B. Stevens, 2015: The Influence of Cloud Feedbacks on Equatorial Atlantic Variability. *J. Climate*, 28, 2725-2744.
- [3] **Bellomo K.**, A.C. Clement, T. Mauritsen, G. Radel, and B. Stevens, 2014: Simulating the Role of Subtropical Stratocumulus Clouds in Driving Pacific Climate Variability. *J. Climate*, 27, 5119-5131.
- [2] **Bellomo K.**, A.C. Clement, J.R. Norris, and B.J. Soden, 2014: Observational and Model Estimates of Cloud Amount Feedback over the Indian and Pacific Oceans. *J. Climate*, 27, 925-940.
- [1] Costa A., A.R. Osborne, D.T. Resio, S. Alessio, E. Chirivi, E. Saggese, **K. Bellomo**, and C.E. Long, 2014: Soliton Turbulence in Shallow Water Ocean Surface waves. *Phys. Rev. Lett.* 113, 108501.

Presentations

- [invited] Oral (upcoming):** “The role of external forcing for AMV and consequences for predictability”, Workshop on Climate Predictability in the North Atlantic and Arctic Sector, September 2021, online
- Oral:** “Future climate change scenarios shaped by inter-model differences in Atlantic Meridional Overturning Circulation response”, International workshop for mid-latitude air-sea interaction, June 12-14, 2021, online
- Poster:** “Weather impacts of an AMOC decline in the EC-Earth climate model”, TiPES annual meeting, June 7-11, 2021, online
- Oral:** “Future climate change scenarios shaped by inter-model differences in Atlantic Meridional Overturning Circulation response”, European Geophysical Union General Assembly, April 19-30, 2021, online
- [invited] Oral:** “Future climate change scenarios shaped by inter-model differences in Atlantic Meridional Overturning Circulation response”, TiPES monthly meeting, February 3, 2021, online
- Poster:** “Impacts of the inter-model spread in AMOC change in projections of future climate change”, American Geophysical Union Fall meeting, December 1-17, 2020, online
- [invited] Oral:** “Leveraging data science to reduce uncertainty in predictions of future climate change”, Women in Machine Learning and Data Science Seattle, November 19, 2020, online
- [invited] Oral:** “Impacts of the inter-model spread in AMOC change in projections of future climate change”, University of Trento, October 15, 2020, online
- Oral:** “Investigating the inter-model spread in AMOC decline rates in CMIP6 model simulations”, TiPES annual meeting, July 2-4, 2020, online
- Oral:** “Observational and model estimates of cloud amount feedback over the Indian and Pacific Oceans”, ISCCP symposium for Bill Rossow, June 6, 2017, Columbia University, New York, NY, USA
- [invited] Oral:** “The influence of cloud feedbacks on leading modes of internal climate variability”, May 2017, NASA GISS, NY, New York, USA
- [invited] Oral:** “Investigating the role of external radiative forcings in driving the Atlantic Multidecadal Oscillation”, May 2017, University of Rhode Island, RI, USA

[invited] Oral: “Investigating the role of external radiative forcings in driving the Atlantic Multidecadal Oscillation”, February 22, 2017, New York University, New York, NY, USA

[invited] Oral: “The influence of cloud feedbacks on climate variability and change”, February 2017, McGill University, Montreal, Canada

Oral: Revisiting the role of external radiative forcing in driving the Atlantic Multidecadal Oscillation, American Geophysical Union Fall meeting, December 12-16, 2016, San Francisco, CA, USA

Poster: “Model hierarchies workshop”, November 2-4, 2016, Princeton University, Princeton, NJ, USA

[invited] Oral: “Remote influence of stratocumulus clouds on Pacific Decadal Variability”, September 29, 2016, Yale University, New Haven, CT, USA

Oral: “Evidence for weakening of tropical atmospheric circulation from cloud datasets”, September 15-18, 2015, Columbia University, New York, NY, USA

Oral: “The influence of cloud feedbacks on the leading modes of internal climate variability”, November 2014, NCAR, Boulder, CO, USA

Oral: “The influence of cloud feedbacks on the leading modes of internal climate variability”, September 18, 2014, Columbia University, New York, NY, USA

Oral: “The influence of cloud feedbacks on the leading modes of internal climate variability”, September 14, 2014, MIT, Boston, MA, USA

Oral: “The role of subtropical stratocumulus regions in driving Pacific climate variability”, American Geophysical Union Fall meeting, December 9-13, 2013, San Francisco, CA, USA

Poster: Gordon Research conference and seminar on Radiation and Climate, July 7-12, 2013, New London, NH, USA

[invited] Oral: “The influence of cloud feedbacks of Atlantic climate variability”, June 2013, Max Planck Institute for Meteorology, Hamburg, Germany

Oral: “Observational and model estimates of cloud amount feedback”, October 2012, Max Planck Institute for Meteorology, Hamburg, Germany

Oral: “An observational constraint on the cloud feedback”, Joint EUCLIPSE-CFMIP meeting on “The role of cloud processes and feedbacks in the climate system”, May 29-June 1, 2012, Paris, France

[invited] Poster: “Observational and model estimates of cloud amount feedback”, Workshop on the physics of weather and climate models”, March 20-23, 2012, NASA JPL, Pasadena, CA, USA

Poster: “Inter-Comparison of 20th Century Trends in Cloud Cover Data Sets and Estimate of CRF Change”, 92nd American Meteorological Society Annual Meeting, January 22, 2012, New Orleans, LA, USA

Poster: “Effects of low-level clouds on 20th century SST trends”, Workshop on “Hierarchical Modeling of Climate”, July 18-22, 2011, International Centre for Theoretical Physics, Trieste, Italy