

# K McMonigal

## Contact information

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## Education

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

- Ph.D. program in Meteorology and Physical Oceanography August 2015-present  
Advisor: Prof. Lisa Beal  
Proposed dissertation title: *Estimating the heat transport of the South Indian Ocean*

**Northwestern University**, Evanston, IL

- Bachelor of Arts with majors in Mathematics, Integrated Science Program, and Earth and Planetary Science, graduated with departmental honors June 2015

## Research Presentations

- McMonigal, K., L.M. Beal, J.K. Willis, *The seasonal cycle of the South Indian Ocean subtropical gyre as revealed by Argo and satellite data*, National Oceanography Centre, UK, July 2018.
- McMonigal, K., L.M. Beal, J.K. Willis, *The seasonal cycle of the South Indian Ocean subtropical gyre as revealed by Argo and satellite data*, University of Cape Town, June 2018.
- McMonigal, K., L.M. Beal, J.K. Willis, *Seasonality of the South Indian Ocean subtropical gyre*, Conference of Florida Graduate Schools, Tallahassee, Florida, April 2018 (poster).
- McMonigal, K. and L.M. Beal, *Meridional heat transport of the Indian Ocean across 34°S based on high resolution Agulhas Current hydrography, satellite, and Argo data*, IAPSO-IAMAS-IAGA Joint Assembly, August 2017.
- McMonigal, K. and P.A. Beddows, *Calcite Rafts – Rapid deposition of transgressive infill cave sequences as a new paleo sea level proxy*, GSA Annual Meeting, Vancouver, Canada, October 2014.

## Publications

- McMonigal, K.T., L.M. Beal, J.K. Willis (2018), *The seasonal cycle of the south Indian Ocean subtropical gyre circulation as revealed by Argo and satellite data*, Geophysical Research Letters, doi:10.1029/2018GL078420.
- McMonigal, K.T., P.A. Beddows, G.O. Lehn, *Formation and sedimentation of calcite rafts: A new paleo sea level record*, in prep.

## Research Experience

Meteorology and Physical Oceanography Program, University of Miami, Miami, FL

**Graduate Research Assistant**, advisor: Prof. Lisa Beal August 2015-present

- Taking core classes in ocean and atmospheric sciences
- Learning statistical and data analysis skills
- Investigating the meridional heat transport of the Indian Ocean basin using hydrographic, Argo float, and satellite data

Earth and Planetary Science Department, Northwestern University, Evanston, IL

**Undergraduate Research Assistant**, Dr. Patricia Beddows December 2012- June 2015

- Evaluated the feasibility of a new high resolution method of recreating past sea level

- Conducted six weeks of field work in Quintana Roo, Mexico, including caving, surveying, and diving

### **Sea Experience**

- June 2018: Mooring recovery, CTD operations, salinity sampling and processing, drifter and float deployment, *SA Agulhas*, Agulhas System Climate Array cruise 2018, Indian Ocean, 14 days, Chief Scientists: Prof. Lisa Beal, Tamaryn Morris.
- April 2016: Mooring deployment, CTD operations, *RV Algoa*, Agulhas System Climate Array cruise 2016, Indian Ocean, 14 days, Chief Scientist: Prof. Lisa Beal

### **Teaching Experience**

- Teaching assistant for undergraduate course: *Environmental Oceanography*, Prof. R. Pamela Reid, lecture topics: *Intro to Atmosphere and Ocean Circulation*
- Teaching assistant for undergraduate course: *Climate and Global Change*, Prof. Igor Kamenkovich, lecture topics: *Methods of measuring the climate system, The future of clean energy* Fall 2016

### **Leadership**

Student-Led Evaluations and Development, University of Miami August 2017-present

#### **Committee member**

- Developing surveys on professional development and mentoring for graduate students
- Presenting results to students, staff, faculty with aim of improving graduate student support

oSTEM, University of Miami 2015-2016

**Founding member, vice president**, advisor: Dr. Ryan Woosley

- Assisted in founding of undergraduate student group for LGBTQ+ students in science, technology, engineering, and math

### **Awards, Honors, and Skills**

- UM Graduate Student Research Symposium awardee (Physical Sciences) April 2018
- Graduate Career Development fund awardee (\$2500) December 2017
- University of Miami Fellowship March 2015-present
- First place winner, best poster in Science and Engineering category, Northwestern University Undergraduate Research Exposition June 2015
- Seymour Schlanger Undergraduate Earth Science Award June 2015
- Departmental honors, Earth and Planetary Sciences June 2015
- Academic All Big Ten Student Athlete 2011-2012
- Programming experience in Matlab, Python, C++, Ruby
- Advanced SCUBA certified