

University of Miami
Curriculum Vitae

1. January 26, 2021

PERSONAL

2. Name: Shane Elipot
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5. Home Address: 750 Española Way, Apt 6, Miami Beach, FL 33139
6. Current Academic Rank: Research Assistant Professor
7. Primary Department: Ocean Sciences (OCE), Rosenstiel School of Marine and Atmospheric Science
8. Secondary or Joint Appointments: NA
9. Citizenship: US citizen
10. Visa Type: NA

HIGHER EDUCATION

11. Institutional:

- Scripps Institution of Oceanography, University of California, San Diego, La Jolla, California, USA; Ph.D., Oceanography; 2006.
- Université de Bretagne Occidentale, Brest, France; Master of Advanced Studies (*Diplôme d'Études Approfondies*) in Meteorology, Oceanology and Environment; 2001.
- ENSTA Bretagne, graduate school in electrical and mechanical engineering, Brest, France; Master (*Diplôme d'Ingénieur*), Oceanography and Hydrography; 2001
- Lycée Henri Poincaré, Nancy, France; Undergraduate preparation in advanced mathematics, physics and chemistry for the competition entrance examination to French graduate engineering schools; 1998.

12. Non-Institutional: NA

13. Certification, licensure: NA

EXPERIENCE:

14. Academic:

- University of Miami, Rosenstiel School of Marine and Atmospheric Science; Research Assistant Professor; since August 2019.
- Carnegie Museum of Natural History, Pittsburgh, Pennsylvania, USA; Research Associate; since October 2016.

- University of Miami, Rosenstiel School of Marine and Atmospheric Science; Associate Scientist; April 2014 - July 2019.
- University of Miami, Rosenstiel School of Marine and Atmospheric Science; Assistant Scientist; April 2013 – March 2014.
- National Oceanography Centre, Natural Environment Research Council, Liverpool, UK; Physical Oceanographer; 2009-2013
- University of Liverpool, School of Environmental Sciences, Liverpool, UK; Honorary Research Fellow; 2009-2013.
- Cooperative Institute for Marine and Atmospheric Studies, University of Miami, Miami, Florida, USA; Postdoctoral Associate; 2008.
- Atlantic Oceanographic and Meteorological Laboratory, Miami, FL, USA; National Research Council Postdoctoral Research Fellow; 2007.

15. Non-Academic: NA.

16. Military: NA.

PUBLICATIONS:

17. Books and monographs published: NA.

18. Juried or refereed journal articles and exhibitions:

- 27. Erik van Sebille, Erik Zettler, Nicolas Wienders, Linda Amaral-Zettler, Shane Elipot, and Rick Lumpkin (2021), *Dispersion of surface drifters in the Tropical Atlantic*, *Frontiers in Marine Science*, 7, doi:10.3389/fmars.2020.607426.
- 26. Edward Zaron and Elipot, S. (2021), *An Assessment of Global Ocean Barotropic Tide Models Using Geodetic Mission Altimetry and Surface Drifters*, *Journal of Physical Oceanography*, doi:10.1175/JPO-D-20-0089.1.
- 25. Elipot, S. (2020), *Measuring global mean sea level changes with surface drifting buoys*, *Geophysical Research Letters*, 47, e2020GL091078, doi:10.1029/2020GL091078.
- 24. Kathryn L. Gunn, Lisa M. Beal, Shane Elipot, K. McMonigal, and Adam Houk (2020), *Mixing of Subtropical, Central and Intermediate Waters Driven by Shifting and Pulsing of the Agulhas Current*, *Journal of Physical Oceanography*, doi:10.1175/JPO-D-20-0093.1.
- 23. K. McMonigal, Lisa M. Beal, Shane Elipot, and Kathryn L. Gunn (2020), *The Impact of Meanders, Deepening and Broadening, and Seasonality on Agulhas Current Temperature Variability*, *Journal of Physical Oceanography*, doi:10.1175/JPO-D-20-0018.1
- 22. Yu, X. A. L. Ponte, S. Elipot, D. Menemenlis, E. D. Zaron, R. Abernathey (2019), *Surface kinetic energy distributions in the global oceans from a high-resolution numerical model and surface drifter observations*, *Geophys. Res. Lett.*, in press, doi:10.1029/2019GL083074.

- 21. Frajka-Williams, E. [. . .], Elipot, S., [. . .] (2019), Atlantic Meridional Overturning Circulation: Observed Transport and Variability, *Front. Mar. Sci.*, 6:260. doi:10.3389/fmars.2019.00260.
- 20. Howe, B. M., [...], Elipot, S., [...] (2019), SMART Cables for Observing the Global Ocean: Science and Implementation, *Front. Mar. Sci.*, 6:424, doi:10.3389/fmars.2019.00424.
- 19. Vermeulen E., B. Backeberg, J. Hermes, and S. Elipot (2019), Investigating the relation- ship between volume transport and sea surface height in a numerical ocean model, *Ocean Sci.*, 15, 513-526, doi:10.5194/os-15-513-2019.
- 18. L'Hégaret, P., L. M. Beal, S. Elipot, and L. Laurindo (2018), Shallow cross-equatorial gyres of the Indian Ocean driven by seasonally reversing monsoon winds, *J. Geophys. Res.- Oceans*, 123, doi:10.1029/2018JC014553.
- 17. Elipot, S., and L. M. Beal (2018), Observed Agulhas Current sensitivity to interannual and long-term trend atmospheric forcings, *J. Clim.*, 31, 3077-3098, doi: 10.1175/JCLI-D-17- 0597.1. This publication is a Research Highlights item for the March 2018 issue of *Nature Climate Change*.
- 16. Elipot, S., E. Frajka-Williams, C. Hughes, S. Olhede, and M. Lankhorst (2017), Observed basin-scale response of the Atlantic Meridional Overturning Circulation to wind stress forcing, *J. Climate*, 30, 2029-2054, doi:10.1175/JCLI-D-16-0664.1.
- 15. Beal, L. M., and S. Elipot (2016), Broadening not strengthening of the Agulhas Current since the 1990s, *Nature*, 540, 570–573, doi:10.1038/nature19853.
- 14. Leber, G. M, L. M. Beal, and S. Elipot (2016), Wind and current forcing combine to drive strong upwelling in the Agulhas Current, *J. Phys. Oceanogr.*, 47, 123-134, doi:10.1175/JPO-D- 16-0079.1.
- 13. Elipot, S., R. Lumpkin, R. C. Perez, J. M. Lilly, J. J. Early, A. M. Sykulski (2016), A global surface drifter dataset at hourly resolution, *J. Geophys. Res. Oceans*, 121, doi: 10.1002/2016JC011716
- 12. Elipot, S., and L. M. Beal (2015), Characteristics, Energetics, and Origins of Agulhas Current Meanders and their Limited Influence on Ring Shedding, *J. Phys. Oceanogr.*, 45, 2294–2314, doi:10.1175/JPO-D-14-0254.1
- 11. Beal, L. M., S. Elipot, A. Houk, and G. Leber (2015), Capturing the Transport Variability of a Western Boundary Jet: Results from the Agulhas Current Time-series experiment (ACT), *J. Phys. Oceanogr.*, 45, 1302-1324 doi:10.1175/JPO-D-14-0119.1
- 10. Elipot, S., E. Frajka-Williams, C. Hughes, and J. Willis (2014), The Observed North At- lantic Meridional Overturning Circulation, its Meridional Coherence and Ocean Bottom Pres- sure, *J. Phys. Oceanogr.*, 44, 517-537, doi:10.1175/JPO-D-13-026.1
- 9. Polton, J., Y.-D. Lenn, S. Elipot, T. K. Chereskin, and J. Sprintall (2013), Can Drake Passage observations match Ekman's classic theory? *J. Phys. Oceanogr.*, 43, 1733-1740, doi:10.1175/JPO-D-13-034.1
- 8. Elipot, S., C. Hughes, S. Olhede, and J. Toole (2013), Coherence of western boundary pressure at the RAPID WAVE array: boundary wave adjustments or

deep western boundary current advection?, *J. Phys. Oceanogr.*, 43, 744-765, doi:10.1175/JPO-D-12-067.1

- 7. Hughes, C., S. Elipot, M.A. Morales Maqueda, and J. Loder (2013) Test of a Method for Monitoring the Geostrophic Meridional Overturning Circulation Using Only Boundary Measurements, *J. Atmosph. Ocean. Techn.*, 30, 789–809, doi:10.1175/JTECH-D-12-00149.1
- 6. Lumpkin, R., and S. Elipot, (2010), Surface Drifter Pair Spreading in the North Atlantic, *J. Geophys. Res. Oceans*, 115, C12017, doi:10.1029/2010JC006338.
- 5. Elipot, S., R. Lumpkin, and G. A. Prieto (2010), Modification of inertial oscillations by the mesoscale eddy field, *J. Geophys. Res. Oceans*, 115, C09010, doi:10.1029/2009JC005679.
- 4. Elipot, S., and S. T. Gille (2009), Estimates of wind energy input to the Ekman layer in the Southern Ocean from surface drifter data, *J. Geophys. Res. Oceans*, 114, C06003, doi:10.1029/2008JC-005170.
- 3. Elipot, S., and S. T. Gille (2009), Ekman layers in the Southern Ocean: spectral models and observations, vertical viscosity and boundary layer depth, *Ocean Sci.*, 5, 115-139, doi:10.5194/os-5-115-2009.
- 2. Elipot, S., and R. Lumpkin (2008), Spectral description of oceanic near-surface variability, *Geophys. Res. Lett.*, 35, L05606, doi:10.1029/2007GL032589.
- 1. Beal, L. M. , T. K. Chereskin, Y.-D. Lenn , and S. Elipot (2006), The sources and mixing characteristics of the Agulhas Current, *J. Phys. Oceanogr.*, 36, 2060-2074, doi:10.1175/JPO2964.1.

19. Other works, publications and abstracts:

- MacKinnon, J.A., and co-authors, (2010), Using global arrays to investigate internal-waves and mixing, in *Proceedings of the OceanObs09: Sustained Ocean Observations and Information for Society Conference (Vol. 1)*, Venice, Italy, 21-25 September 2009, Hall, J., Harrison D.E. and Stammer, D., Eds., ESA Publication WPP-306.
- Elipot, S. (2006), Spectral characterization of Ekman velocities in the Southern Ocean based on surface drifter trajectories, Ph.D. dissertation, University of California, San Diego.
- Elipot S. (2019), Measuring global mean sea level with surface drifters, *OceanObs19*, Sept. 2019.
- Elipot S. and J. M. Lilly (2018), Global Observational constraints to wind forcing, AGU Fall meeting, Dec. 2018.
- Elipot S. and L. M. Beal (2017), Observed Agulhas Current sensitivity to interannual climate forcings, keynote presentation, IAPSO General Assembly, Cape Town, South Africa, Aug. 2017.
- Elipot S., R. Lumpkin, R. C. Perez, J. M. Lilly, J. J. Early, A. M. Sykulski (2016), A new global surface drifter dataset at hourly resolution, AGU Ocean Sciences meeting, New Orleans, USA., Feb. 2016.

- Elipot S., R. Lumpkin, R. C. Perez, J. M. Lilly, A. M. Sykulski (2016), A new hourly global surface drifter dataset: methods and applications, 2015 Lagrangian Analysis and Prediction of Coastal and Ocean Dynamics (LAPCOD), Winter Harbor, USA., Jul. 2015.
- Elipot, S., Lisa M. Beal, Origins and impacts of mesoscale meanders in the Agulhas Current, AGU Fall meeting, San Francisco, USA., Dec. 2014.
- Elipot, S., Lisa M. Beal, Adam Houk, Two-dimensional structure and transport of the Agulhas Current during the Agulhas Current Time-series experiment (ACT), AGU Ocean, Sciences meeting, Honolulu, USA., Feb. 2014.
- Elipot, S., E. Frajka-Williams, C. Hughes, S. Olhede, M. Lankhorst, Basin-wide response of the North Atlantic Meridional Overturning Circulation to wind stress forcing, North Atlantic Climate Variability International Joint Conference EU-THOR, Hamburg, Germany, Sept. 2012.
- Elipot, S., E. Frajka-Williams, C. Hughes, S. Olhede, M. Lankhorst, Basin-wide response of the North Atlantic Meridional Overturning Circulation to wind stress forcing, EGU General Assembly, Vienna, Austria, Apr. 2012.
- Elipot, S., E. Frajka-Williams, and C. W. Hughes and co-authors: Observations of the latitudinal coherence of the Atlantic Meridional Overturning Circulation from deep moored arrays, IUGG General Assembly, Melbourne, Australia, Jul. 2011.
- Elipot, S., E. Frajka-Williams, and C. W. Hughes and co-authors: Observed latitudinal coherence of the North Atlantic Meridional Overturning Circulation, EGU General Assembly, Vienna, Austria, Apr. 2011.
- Elipot, S., C. W. Hughes, M. A. M. Maqueda, and R. Williams: Meridional transport estimates from the Rapid WAVE array, Challenger Society meeting, Southampton, U.K., Sep. 2010.
- Elipot, S., C. W. Hughes, and M. A. M. Maqueda: Meridional transport estimates from the Rapid WAVE array, US AMOC annual meeting, Miami, USA, Jun. 2010.
- Elipot, S., R. Lumpkin, and G. Prieto: Inertial Oscillations Modification by Mesoscale Vorticity, invited talk, AGU Ocean Sciences meeting, Portland, USA., Feb. 2010.
- Elipot, S. and R. Lumpkin: Global observations of inertial waves from Lagrangian drifters, Ocean Sciences meeting, Orlando, Florida, Mar. 2008.
- Elipot, S., S. Gille and R. Lumpkin: Polarizations of the oceanic surface flow, International Union of Geodesy and Geophysics XXIV General Assembly, Perugia, Italy, Jul. 2007.
- Elipot, S. and S. Gille: Wind energy input and vertical viscosity in the Southern Ocean, AGU Ocean Sciences meeting, Honolulu, Hawaii, Feb. 2006.
- Elipot, S.: How to obtain estimates of vertical viscosity from surface drifter data, Physical Oceanography Dissertation Symposium IV, Honolulu, Hawaii, Oct. 2006.
- Elipot, S. and S. Gille: Evidence of frequency dependent Ekman currents from drifters in the Southern Ocean, Ocean Sciences meeting, Portland, Oregon, Jan. 2004.

- Elipot, S. and S. Gille: Spectral response of the Southern Surface Circulation to Wind, Invited student to WOCE and Beyond Conference, San Antonio, Texas, Nov 2002.

PROFESSIONAL

20. Funded Research Performed (last 5 years):

- Jet Propulsion Laboratory, research contract, current 2020/2021. Measuring mean sea level with surface drifting, \$135,859, lead PI S. Elipot with duties of managing the project and analyzing Lagrangian data.
- National Science Foundation Physical Oceanography Program Award, current 2019/2022. Mapping the Kinematics and Dynamics of Tidal Ocean Currents with Surface Drifters, \$335,520, co-PIs Edward Zaron (PSU) and Rick Lumpkin (NOAA/AOML), lead PI S. Elipot with duties of managing the project and analyzing of Lagrangian and numerical data.
- Cooperative Institute for Marine and Atmospheric Science (NOAA/UM) 2018/2019. Hourly drifter sea surface temperature, \$35,481, lead PI S. Elipot with duties of managing the project and leading all scientific investigations.
- National Science Foundation Physical Oceanography Program Award, current 2015/2020. Agulhas System Climate Array, \$2,480,730 budget for 5-year project, lead principal investigator L. Beal, co-PI S. Elipot with duties including but not limited to scientific investigations, co-supervising of University of Miami and South African students, operations at sea, instrumentations, and contributing to capacity building/teaching program.
- National Science Foundation Physical Oceanography Program Award, 2015/2019. Global Observational Constraints on Oceanic Response to Wind Forcing, \$275,880 budget for 3-year project, co-PIs J. Lilly (NWRA), R. Harcourt (UW/APL), lead PI S. Elipot with duties of managing the project and analyzing of Lagrangian, Eulerian and numerical data.
- Office of Naval Research DRI, Northern Arabian Sea Circulation - autonomous research (NASCar); Rectified circulation of the Arabian Sea and its Seasonal Internal Wave Field, Current 2015/2019, Lead PI Lisa Beal, research staff S. Elipot with duties including scientific investigations and co-advising of postdoctoral researcher.
- Cooperative Institute for Marine and Atmospheric Science (NOAA/UM) 2015/2018. High-frequency variability of near-surface oceanic velocity from surface drifters, lead PI S. Elipot with duties of managing the project and leading all scientific investigations.

21. Editorial responsibilities: NA

22. Professional and Honorary Organizations:

- Member of the *American Geophysical Union*.

23. Honors and Awards: NA

24. Post-Doctoral Fellowships: National Research Council Postdoctoral Research Fellow; 2007

25. Other Professional Activities:

- Co-chair Oceanobs'19 breakout session on *Ocean Uncertainty Quantification*, Honolulu, Hawaii, USA, 2019.
- Co-Convener, AGU Ocean Sciences meeting 2010, session entitled *Patchy Mixing and the geography of the Ocean's energy cascade*.
- Co-Convener, AGU Ocean Sciences meeting 2014, session entitled *Frontiers of oceanographic data and methods*.

TEACHING

26. Teaching Awards Received: NA.

27. Teaching Specialization: NA.

28. Thesis and Dissertation Advising/Post-doctoral student supervision:

- Ph.D. committee member, University of Miami; *Estimating a time series of South Indian Ocean heat transport*; Kay McMonigal; 2020.
- Co-advisor of a Masters candidate at the University of Cape Town, South Africa; *Investigating the relationship between volume transport and sea surface height in the Agulhas Current System*; Estee Vermeulen; 2017.

SERVICE

29. University Committee and Administrative Responsibilities: NA.

30. Community Activities:

- Co-chair (2020-2021) of Phenomena, Observations, and Synthesis panel of U.S. Climate Variability and Predictability Program (CLIVAR), 2017-2022.
- Co-chair (2020-2023) of U.S. Climate Variability and Predictability Program (CLIVAR) Working Group on Ocean Uncertainty Quantification.