

Education

[Ph.D. Physics](#), University of Colorado, 2011. [Dissertation](#): “*Arctic Ocean Tides from GRACE Satellite Accelerations.*”
Advisor: [John Wahr](#)

M.S. Physics, University of Colorado, 2007.

B.S. Physics, University of Oregon, 2004.

Research interests

I’m primarily interested in computational geophysics and aerospace engineering. Most of my research has involved analysis of time-variable gravity data. For instance, my [last project at JPL](#) was applying the [Hughes and Williams 2010](#) methodology to GRACE and GLDAS data, which can display the entire global spectrum of GRACE or GLDAS data in a single map, rather than only displaying (e.g.) the RMS or annual amplitude at each location.

From 2014 to 2019 I took a hiatus to transition to female. During that time I tutored math and physics students while keeping my [programming skills](#) sharp by trying to [improve](#) on a [propellantless](#) system for [achieving](#) trans-Earth [injection](#) from Deimos, which was originally published in [Jokic and Longuski 2004](#).

Research experience

2011 - 2014: [Postdoctoral scholar](#) at the Jet Propulsion Laboratory, California Institute of Technology, Pasadena, CA.
Advisor: [Victor Zlotnicki](#)

2006 - 2011: Research assistant at the Cooperative Institute for Research In Environmental Sciences, University of Colorado, Boulder, CO.
Advisor: [John Wahr](#)

2003 - 2004: Research assistant at the University of Oregon, Eugene, OR.
Advisor: [Michael G. Raymer](#)

Publications

Wiese, David N., **Emmy Killett**, Michael M. Watkins, and Dah-Ning Yuan. "Antarctic tides from GRACE satellite accelerations." *Journal of Geophysical Research: Oceans* 121, no. 5 (2016): 2874-2886, [doi:10.1002/2015JC011488](https://doi.org/10.1002/2015JC011488).

Killett, Emmy, John Wahr, Shailen D. Desai, Dah-Ning Yuan, and Michael M. Watkins. "Arctic Ocean tides from GRACE satellite accelerations." *Journal of Geophysical Research: Oceans* 116, no. C11 (2011), [doi:10.1029/2011JC007111](https://doi.org/10.1029/2011JC007111).

Smith, Brian J., **Emmy Killett**, Michael G. Raymer, Ian A. Walmsley, and Konrad Banaszek. "Measurement of the transverse spatial quantum state of light at the single-photon level." *Optics letters* 30, no. 24 (2005): 3365-3367, [doi:10.1364/OL.30.003365](https://doi.org/10.1364/OL.30.003365).

Presentations

Killett, Emmy, Shailen D. Desai, Dah-Ning Yuan, Michael M. Watkins, David N. Wiese, and Victor Zlotnicki. "[Antarctic Ocean tides from GRACE satellite accelerations.](#)" AGU Fall Meeting, San Francisco, CA (2012).

Killett, Emmy, John Wahr, Shailen D. Desai, Dah-Ning Yuan, and Michael M. Watkins. "[Arctic Ocean tides from GRACE satellite accelerations.](#)" Western Pacific Geophysics Meeting, Taipei, Taiwan (2010).

Killett, Emmy, John Wahr, Shailen D. Desai, Dah-Ning Yuan, and Michael M. Watkins. "[Using GRACE acceleration data to recover Arctic Ocean tides.](#)" AGU Fall Meeting, San Francisco, CA (2008).

Killett, Emmy, Shailen D. Desai, Dah-Ning Yuan, Michael M. Watkins, and John Wahr. "Preliminary analysis of Arctic Ocean tides using GRACE spacecraft acceleration data." Earth Tides Symposium, Jena, Germany (2008).

Killett, Emmy, Brian J. Smith, and Michael G. Raymer. "[Interferometric measurement of spatial Wigner functions of light.](#)" [Symposium on Undergraduate Research](#), Tucson, AZ (2003).

Posters

Killett, Emmy, Victor Zlotnicki, David N. Wiese, and Michael M. Watkins. "[Time variability of GRACE data using JPL mascons.](#)" AGU Fall Meeting, San Francisco, CA (2013).

Killett, Emmy, John Wahr, Shailen D. Desai, Dah-Ning Yuan, and Michael M. Watkins. "[Global ocean tides from GRACE satellite accelerations.](#)" Ocean Sciences Meeting, Salt Lake City, UT (2012).

Killett, Emmy, John Wahr, Shailen D. Desai, Dah-Ning Yuan, Michael M. Watkins, Cecilia Peralta-Ferriz, and James Morison. "[Global ocean tides from GRACE satellite accelerations.](#)" AGU Fall Meeting, San Francisco, CA (2011).

Killett, Emmy, John Wahr, Shailen D. Desai, Dah-Ning Yuan, and Michael M. Watkins. ["Arctic Ocean tides from GRACE satellite accelerations."](#) AGU Fall Meeting, San Francisco, CA (2010).

Killett, Emmy, John Wahr, Shailen D. Desai, Dah-Ning Yuan, and Michael M. Watkins. ["Arctic Ocean tides from GRACE satellite accelerations."](#) AGU Fall Meeting, San Francisco, CA (2009).

Killett, Emmy, Shailen D. Desai, Dah-Ning Yuan, Michael M. Watkins, and John Wahr, ["Preliminary analysis of Arctic Ocean tides using GRACE spacecraft acceleration data."](#) AGU Fall Meeting, San Francisco, CA (2007).

Killett, Emmy, Sean Swenson, John Wahr, and Matthew Rodell. ["Global comparisons of GRACE with water storage products."](#) AGU Fall Meeting, San Francisco, CA (2006).

Programming skills

C++ ([example](#)), **Python** ([example](#), [PDF](#), [output A](#), [output B](#), [output C](#), [output D](#)),
R ([example 1](#), [example 2](#), [output 2](#), [example 3](#), [output 3A](#), [output 3B](#), [output 3C](#), [output 3D](#)),
GMT ([example](#)), **shell scripting** ([example](#)).

Teaching experience

2018 - 2019: Math and science tutor at Huntington Learning Center, Gonzales, LA.

2014 - 2019: Freelance math and physics tutor at Baton Rouge Community College, LA.

2004 - 2006: Physics teaching assistant at the University of Colorado, Boulder, CO.

2002 - 2003: Physics [teaching assistant](#) at the University of Oregon, Eugene, OR.

2001 - 2002: Math and science tutor at Portland Community College, Portland, OR.

Outreach

2013: [Appearance](#) in [Secrets of the Earth: Gravity](#).

2012: [Earth Science Week](#).

2012: [Op-ed: "Jumpstart a clean energy economy"](#).

2012: [Online interview about climate change and GRACE](#).

2012: [JPL open house](#).

2009: [Video conference with a fifth grade class about moons, tides, and GRACE](#).