

Education	University of California, Davis M.S. in Physics — Dec 2013 Ph.D in Physics — June 2016	2012 → 2016
	University of Miami , Coral Gables, FL B.S. in Physics, Applied Mathematics. <i>Cum Laude</i>	2008 → 2012
Research	Department of Physics, University of California, Davis <i>Graduate Student Researcher</i> Advisor: Prof. John Rundle	June 2013 → Present
	<ul style="list-style-type: none">• Lead programmer and technical lead on the NASA-funded Virtual Quake project, a high performance earthquake simulator used for seismic hazard assessment github.com/geodynamics/vq• Developed computational infrastructure for generating catalogs of observable seismic surface patterns as well as earthquake and tsunami scenario catalogs: Tsunami Squares• Developed and implemented computational tools for simulation data analysis, diagnostic tools and visualization using Python: PyVQ, Intro to Virtual Quake Webinar on YouTube• Added over 18,000 lines to the Virtual Quake source code: github.com/geodynamics/vq/graphs• Creative problem solving example: Re-indexing and re-aligning a fault model using Python	
	Department of Astronomy, California Institute of Technology , Pasadena, CA <i>Summer Undergraduate Research Fellow</i> Advisor: Dr. Brendan Crill, NASA JPL	Summer 2011
	<ul style="list-style-type: none">• Updated and expanded the data analysis pipeline for the Planck collaboration• Identified correlations between detector model parameters using the D.O.E.'s supercomputing center NERSC	
	Department of Physics, University of Miami <i>Research Assistant</i> Advisor: Prof. Kevin Huffenberger	2009 → 2012
	<ul style="list-style-type: none">• Reconstructed the optical properties of a Cosmic Microwave Background telescope (WMAP) from observational data; identified a selection bias in the WMAP point source catalog	
Programming	Languages: Python, C++, R, L ^A T _E X, Bash. Experience with: SQL, HTML, SWIG, Java Modules & Libraries: GitHub source control, Matplotlib, Numpy, Scipy, Shapely, OpenMPI	
Published Research	K. W. Schultz , M. R. Yoder, J. M. Wilson, E. M. Heien, M. K. Sachs, J. B. Rundle, and D. L. Turcotte. Parametrizing Physics-Based Earthquake Simulations , Pure and Applied Geophysics, <i>under review</i> 2016	
	A. Khodaverdian, H. Zafarani, K. W. Schultz , M. Rahimian. Recurrence Time Distributions of Large Earthquakes in Eastern Iran , Seismological Research Letters, <i>under review</i> 2016	
	J. M. Wilson, M. R. Yoder, J. B. Rundle, D. L. Turcotte, and K. W. Schultz , Spatial Evaluation and Verification of Earthquake Simulators , Pure and Applied Geophysics, <i>accepted</i> (2016)	
	K. W. Schultz , E. M. Heien, M. K. Sachs, J. M. Wilson, M. R. Yoder, J. B. Rundle, and D. L. Turcotte. Virtual Quake User Manual, Version 2.1.2 . Computational Infrastructure for Geodynamics, Davis, California, USA, 2016. https://geodynamics.org/cig/software/vq/vq_manual.2.1.2.pdf	
	K. W. Schultz , M. K. Sachs, E. M. Heien, M. R. Yoder, J. B. Rundle, D. L. Turcotte, and A. Donnellan, Virtual Quake: Statistics, Co-Seismic Deformations and Gravity Changes for Driven Earthquake Fault Systems , International Association of Geodesy Symposia, <i>in press</i> (2015), DOI: 10.1007/1345-2015-134	

- M. R. Yoder, **K. W. Schultz**, E. M. Heien, J. B. Rundle, D. L. Turcotte, J. W. Parker and A. Donnellan. **The Virtual Quake earthquake simulator: A simulation based forecast of the El Mayor-Cucapah region and evidence of earthquake predictability**, *Geophysical Journal International*, 2015 203 (3): 1587-1604, DOI: [10.1093/gji/ggv320](https://doi.org/10.1093/gji/ggv320)
- M. R. Yoder, **K. W. Schultz**, E. M. Heien, J. B. Rundle, D. L. Turcotte, J. W. Parker and A. Donnellan. **Forecasting earthquakes with the Virtual Quake simulator: Regional and fault-partitioned catalogs**, *International Association of Geodesy Symposia*, *under review* (2015)
- K.W. Schultz**, M.K. Sachs, J.B. Rundle, D.L. Turcotte
Simulating Gravity Changes in Topologically Realistic Driven Earthquake Fault Systems, *Pure and Applied Geophysics*, DOI: [10.1007/s00024-014-0926-4](https://doi.org/10.1007/s00024-014-0926-4), *in press* (2014)
- K. W. Schultz** and K. M. Hufenberger,
Stacking catalogue sources in WMAP data. *Monthly Notices of the Royal Astronomical Society*, **Volume 424, Issue 4, pp. 3028-3036** (2012)

Conferences & Talks

- K. W. Schultz**, M. K. Sachs, E. M. Heien, M.R. Yoder, J. B. Rundle, D. L. Turcotte, A. Donnellan. **oral**: *Scenario Earthquake and Tsunami Simulations for a Pacific Rim GNSS Tsunami Early Warning System: First Results*
9th Meeting of the APEC Cooperation for Earthquake Simulation, **Chengdu, China**. 2015
- K. W. Schultz**, M. K. Sachs, E. M. Heien, M.R. Yoder, J. B. Rundle, D. L. Turcotte, A. Donnellan. **poster**: *Virtual Quake: The Software Formerly Known as Virtual California*
Seismological Society of America (SSA) Meeting 2015, Pasadena, CA. 2015
- K. W. Schultz**, M. K. Sachs, E. M. Heien, J. B. Rundle, J. Fernandez, D. L. Turcotte, A. Donnellan. **talk**: *Virtual Quake: Earthquake Statistics, Surface Deformation Patterns, Surface Gravity Changes and In-SAR Interferograms for Arbitrary Fault Geometries (won an Outstanding Student Presentation Award)*, American Geophysical Union (AGU) Fall Meeting 2014, San Francisco, CA, 2014
- K. W. Schultz**, J. B. Rundle, M. K. Sachs, K. F. Tiampo, T. J. Hayes, J. Fernandez, D. L. Turcotte, A. Donnellan. **talk**: *Monitoring Major Fault Systems from Space: Modeling Implications for Dedicated Gravity Missions*. GENAH Conference. **Matsushima, Japan**. 2014
- Multi-Hazards Summer School**: 1 week workshop on disaster prediction, preparedness, and response hosted by IRIDeS at Tohoku University and by the Association of Pacific Rim Universities (APRU). **Sendai, Japan**. 2014

Teaching & Tutoring

- Teaching Assistant, Department of Physics, **University of California, Davis** 2012 → 2013
- Physics & Math tutor, Department of Biology, **Barry University**, Miami Shores, FL 2012
- Physics tutor, Department of Physics, **University of Miami** 2011 → 2012

Honors & Awards

- UC Davis Graduate Student Travel Award (\$1000) 2015
- Winner of an Outstanding Student Paper Award in Natural Hazards: <http://ospa.agu.org> 2014
Awarded to top 3-5% of presenters in each section at the American Geophysical Union 2014 meeting
- Member, Omicron Delta Kappa 2011
One of the highest collegiate honors along with Phi Kappa Phi and Phi Beta Kappa
- Isaac Bashevis Singer Scholarship 2008 → 2012
Full academic scholarship to the University of Miami (UM), 30 annually.
- Foote Fellow 2008 → 2012
Highest academic honor at UM, fellows freely design their curriculum, 50 annually
- NSF CSMS Scholarship 2010
NSF Computer Science and Mathematics for Scientists, 5 annually at UM
- Beyond the Book Scholarship 2010
Supported summer research, UM College of Arts and Sciences, 12 annually
- National Ocean Scholarship 2008 → 2010
Awarded by the Consortium for Ocean Leadership, 4 in the U.S. annually

Hobbies

- Surfing** Surf stats provided by my RipCurl GPS surf watch: searchgps.ripcurl.com/Kasey-Schultz
- Snowboarding** Favorite ski resort: Heavenly at Lake Tahoe
- Others**: Baseball, Softball, Tennis, Ping Pong (played on University of Miami competition team)