Haiyang Liam Kehoe

Contact

Department of Geosciences
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Education

University of Arizona — Tucson, AZ
Ph.D. Geosciences — Expected Spring 2022
Advisor: Eric Kiser

University of California, San Diego — La Jolla, CA
B.S. Physics — Spring 2017
Advisors: Subrata Chakraborty and Mark Thiemens

Research Appointments

U.S. Geological Survey — Golden, CO
Student Trainee (Physical Science) — 2021–Present
Supervisors: Sean Ahdi and Morgan Moschetti

Publications

4. Kiser, E. D. & **H. L. Kehoe** (2021). The hazard of coseismic gaps: the 2021 Fukushima earthquake. *Geophysical Journal International*, 227 (1), 54-57. https://doi.org/10.1093/gji/ggab208
3. Kiser, E. D., **H. L. Kehoe**, M. Chen, & A. N. Hughes (2021). Lower Mantle Seismicity Following the 2015 M_w 7.9 Bonin Islands Deep-Focus Earthquake. *Geophysical Research Letters*, 48 (13), e2021GL093111. https://doi.org/10.1029/2021GL093111
2. **Kehoe, H. L.** & E. D. Kiser (2020). Evidence of a Supershear Transition Across a Fault Stepover. *Geophysical Research Letters*, 47 (10), e2020GL087400. https://doi.org/10.1029/2020GL087400
1. **Kehoe, H. L.**, E. D. Kiser, & P. G. Okubo (2019). The rupture process of the 2018 M_w 6.9 Hawai'i earthquake as imaged by a genetic algorithm-based back-projection technique. *Geophysical Research Letters*, 46 (5), 2467–2474. https://doi.org/10.1029/2018GL080397

Presentations

14. **Kehoe, H. L.**, E. D. Kiser (2021). Source Imaging Constraints on Deep Earthquake Mechanisms. Poster presentation at the *American Geophysical Union Fall Meeting*, New Orleans, LA.
13. **Kehoe, H. L.**, E. D. Kiser (2021). Source Imaging Constraints on Deep-Focus Earthquake Mechanisms. Oral presentation at the *University of Arizona Virtual Geosciences Symposium*, Tucson, AZ.
12. Kiser, E. D., **H. L. Kehoe**, M. Chen, A. N. Hughes (2020). Conjugate Faulting, Lower Mantle Seismicity, and Slab Settling Associated with the 2015 Bonin Islands Deep-Focus Earthquake. Poster presentation at the *American Geophysical Union Fall Meeting*, Virtual.
11. **Kehoe, H. L.**, E. D. Kiser, M. Chen (2020). Four-Dimensional Rupture Processes of Deep-Focus Earthquakes Near Japan. Poster presentation at the *American Geophysical Union Fall Meeting*, Virtual.
10. Chen, M., Z. Xi, E. D. Kiser, **H. L. Kehoe** (2020). Slab morphology at the source region of the 2015 Mw 7.9 Bonin earthquake imaged by full waveform inversion Poster presentation at the *American Geophysical Union Fall Meeting*, Virtual.
9. **Kehoe, H. L.** & E. D. Kiser (2020). Supershear Transition Across a Fault Stepover Observed During the 2017 Magnitude 7.7 Komandorsky Islands Earthquake. Oral presentation at the *University of Arizona Virtual Geosciences Symposium*, Tucson, AZ.

8. **Kehoe, H. L.** & E. D. Kiser (2019). A Genetic Algorithm-Based Back-Projection Method Reveals the Bilateral and Supershear Rupture of the 2017 Mw 7.8 Komandorsky Islands Earthquake. Poster presentation at the *American Geophysical Union Fall Meeting*, San Francisco, CA.
7. **Kehoe, H. L.**, E. D. Kiser, & P. G. Okubo (2019). Complex Rupture Properties of the 2018 Mw 6.9 Hawai'i Earthquake as Imaged by a Genetic Algorithm-Based Back-Projection Technique. Oral presentation at the *University of Arizona Geosciences Symposium*, Tucson, AZ.
6. **Kehoe, H. L.**, E. D. Kiser, & P. G. Okubo (2018). The Rupture Process of the 2018 Mw 6.9 Hawai'i Earthquake as Revealed by a Genetic Algorithm-Based Source Imaging Technique. Oral presentation at the *American Geophysical Union Fall Meeting*, Washington, DC.
5. **Kehoe, H. L.** & E. D. Kiser (2018). Back-Projection Results of the 4 May 2018 Hawai'i Earthquake using a Genetically Optimized Sub-Array Selection Scheme. Poster presentation at the *IRIS Workshop*, Albuquerque, NM.
4. **Kehoe, H. L.** & E. D. Kiser (2018). Genetic Algorithm Optimization Applied to Back-Projection Sub-Array Selection. Poster presentation at the *University of Arizona Geosciences Symposium*, Tucson, AZ.
3. **Kehoe, H. L.**, S. Chakraborty, T. L. C. Pham, E. Alvarado, & M. H. Thiemens (2016). $\Delta^{17}O$ Trends of Collected Atmospheric CO_2 Resulting from Seasonal Changes in the Biosphere. Poster presentation at the *American Geophysical Union Fall Meeting*, San Francisco, CA.
2. **Kehoe, H. L.** & S. Chakraborty (2016). Synthesis of Oxides over a Dust Surface Analog. Oral presentation at the *29th UC San Diego Undergraduate Research Conference*, La Jolla, CA.
1. Chakraborty S., **H. L. Kehoe**, & M. H. Thiemens (2016). New Experimental Evidence of Silicate Formation with Meteorite Like Oxygen Isotopes on a Dust Surface Analog. Oral Presentation at the *Lunar Planetary Science Conference XXXXVII*, Houston, TX.

Awards

James D. and Stella M. Robertson Scholarship, SEG	2021
Best Overall Presentation, UA Geosciences Symposium	2020
UA GPSC Travel Grant	2018, 2019
Best Geophysics Talk, UA Geosciences Symposium	2019
IRIS Workshop Student Scholarship	2018
Best Overall Poster, UA Geosciences Symposium	2018
UA Graduate Access Fellowship	2017
Lee Davis Family and Sulzer Scholarship, UA	2017
Provost Honors, UC San Diego	2015, 2016, 2017
UC San Diego Physics Chair's Challenge	2016
Excellence in Research and Presentation, UC San Diego	2016

Teaching Experience

Teaching Assistant (UA):	
GEOS 322: Introduction to Geophysics	Spring 2018
GEOS 212: Introduction to Oceanography	Fall 2018

Field Experience

Lassen Volcanic National Park Nodal Experiment	2019
White Wolf Fault Active Source Nodal Experiment	2019
Grand Teton National Park Nodal Experiment	2018
Raton, New Mexico Nodal Experiment	2018
Joshua Tree National Monument Nodal Experiment	2017

Service

UA GPSC Grant Judge	2019–Present
AGU Fall Meeting Primary Convener	2020

	UA GeoClub President	2019–2021
	UA GPSC Student Showcase Judge	2020
	UA WiSSC Grant Judge	2020
Technical Skills	**Languages:** Python, MATLAB, Fortran, R **Other:** Bash, Git, ObsPy, Generic Mapping Tools (GMT), Seismic Analysis Code (SAC), High Performance Computing (HPC), HTML/CSS/JavaScript, LaTeX	

(Current as of 13 January 2022)