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EDUCATION

University of Hawai'i at Mānoa,
Honolulu, HI

Ph.D. Geology & Geophysics, Dec 2009
Dissertation: "Magmatic processes at mid-ocean ridges:
Evidence for high-pressure crystallization and crustal
assimilation" Advisor: John Sinton

California Institute of Technology,
Pasadena, CA

B.S. (Honors) Geology, Jun 2002

TEACHING & MENTORING

- *Ike Wai Professional Development Coordinator:* mentoring & professional development for graduate students & postdocs on the 'Ike Wai Project, NSF EPSCoR (Dec 2017-current)
- *Graduate Faculty,* Department of Earth Sciences (2018-current)
- *Co-Instructor:* EARTH610 Graduate Seminar (2017) – Seminar in which students present talks on research and related topics and develop their oral presentation skills. Led course overhaul, including significant changes to peer feedback system.
- *Guest Instructor:* EARTH101 Dynamic Earth (2016) – Undergraduate introductory course for non-majors. Responsible for selected units including rocks and minerals, volcanoes, earth history and geologic time, and climate change.
- *Guest Lecturer:* EARTH301 Mineralogy, EARTH302 Igneous & Metamorphic Petrology, EARTH402 Hawaiian Geology, Petrology of the Oceanic Lithosphere (2009-2013)

RESEARCH INTERESTS

- Magmatic processes at mid-ocean ridges, ocean islands, and back-arc basins
- Mantle melting and melt transport
- Formation and evolution of oceanic lithosphere
- Submarine volcanism
- Numerical modeling of petrologic processes
- Data management, accessibility, and interoperability

PROFESSIONAL APPOINTMENTS

Department of Earth Sciences	2016-current	Assistant Researcher
School of Ocean & Earth Science &	2014-2016	Postdoctoral Researcher
Technology, University of Hawai'i	2010-2013	Postdoctoral Fellow/Research Specialist
	2004-2009	Graduate Research Assistant

the upper mantle beneath the Galápagos Spreading Center. *Earth & Planet. Sci. Lett.* 252: 423-436.

SELECTED CONFERENCE ABSTRACTS

- Eason, D.E.**, R.A. Dunn (2020) Three-dimensional seismic tomography of the lower crust and mantle along Lau back-arc spreading centers. (Submitted to Goldschmidt 2020, Honolulu, HI, 21-26 Jun)
- Lata, C., R.A. Dunn, **D.E. Eason** (2018) P and S wave investigation of the upper crust across the Eastern Lau Spreading Center. Abstract T32E-3410 at 2018 Fall Meeting, AGU, Washington DC, 10-14 Dec.
- Eason, D.E.**, B.C. Bruno, D. Böttjer-Wilson (2018) The 'Ike Wai Project: Structured mentoring and professional development for Hawai'i's future sustainability workforce. Abstract ED13C-0760 at 2018 Fall Meeting, AGU, Washington DC, 10-14 Dec.
- Eason, D.E.**, R.A. Dunn, R. Arai, J.P. Canales, R.A. Sohn (2016) Segment-scale variations in seafloor volcanic and tectonic processes in the Rainbow region, Mid-Atlantic Ridge (36°N). Abstract T33A-3005 presented at 2016 Fall Meeting, AGU, San Francisco, CA, 12-16 Dec.
- Dunn, R.A., R. Arai, **D.E. Eason**, J.P. Canales, R.A. Sohn (2016) 3-D seismic imaging of lithospheric fault-block structures, core complexes, alteration fronts, and hydrothermal systems along the Mid-Atlantic Ridge, Rainbow area. Abstract T32A-08 at 2016 Fall Meeting, AGU, San Francisco, CA, 12-16 Dec.
- Eason, D.E.**, R.A. Dunn, F. Martinez (2016) Exploring the effects of spreading rate and slab-derived water on melting processes in the Lau-Havre backarc systems. Abstract 1808 presented at Goldschmidt Conference, Yokohama, Japan, 26 Jun–1 Jul.
- Eason, D.E.**, R.A. Dunn (2015) Petrogenesis and crustal structure along Lau back-arc spreading centers. Abstract 799 presented at Goldschmidt Conference, Prague, Czech Republic, 16-21 Aug.
- Dunn, R.A., R. Arai, **D.E. Eason**, F. Martinez (2015) Crustal and magmatic system structure along the Eastern Lau Spreading Center. Abstract 787 at Goldschmidt Conference, Prague, Czech Republic, 16-21 Aug.
- Martinez, F., R. Hey, **D.E. Eason** (2015) Plate boundary processes as alternatives to mantle plume effects on the Reykjanes Ridge. Abstract V12A-03 at 2015 Fall Meeting, AGU, San Francisco, CA, 14-18 Dec.
- Dunn, R.A., J.P. Canales, R.A. Sohn, R. Arai, M. Paulatto, **D.E. Eason** (2015) Structure of a MAR non-transform discontinuity and ultramafic massif from 3D OBS tomography and seismic reflection profiling. Abstract (Invited) at US-China International Ocean Discovery Program Workshop: Scientific Ocean Drilling in the Indian Ocean Crust & Mantle, Woods Hole, MA 13-16 May.
- Eason, D.E.**, R.A. Dunn (2014) Petrogenesis of oceanic crust at back-arc spreading centers: Modeling the effects of slab-derived water on crustal accretion in the Lau basin. Abstract T53A-4618 presented at 2014 Fall Meeting, AGU, San Francisco, CA 15-19 Dec.
- Dunn, R.A., **D.E. Eason** (2014) Crustal construction along the Eastern Lau Spreading Center: Mantle water, magmatic differentiation, and a compositionally zoned basin.

Abstract (Invited, RD) T52B-02 at 2014 Fall Meeting, AGU, San Francisco, CA 15-19 Dec.

Eason, D.E., R.A. Dunn (2014) Slab-derived water and the petrogenesis of distinct zones of oceanic crust along spreading centers in the Lau back-arc basin. Abstract EGU2014-11701 presented at EGU General Assembly, Vienna, Austria, 27 Apr-4 May.

White, S., **D.E. Eason**, J.T. McClinton and J. Howell (2012) Controls on lava morphology and volcano growth in submarine and subglacial environments. Abstract (Invited, SW) 2012 Fall Meeting, AGU, San Francisco, CA, 3-7 Dec.

Eason, D.E., G. Ito, and J.M. Sinton (2011) Melt and chemical transport in the mantle: Insights from deglaciation-induced melting perturbations in Iceland. Abstract V32B-01 presented at 2011 Fall Meeting, AGU, San Francisco, CA, 5-9 Dec.

Eason, D.E., G. Ito, and J.M. Sinton (2011) Insights into melt and chemical transport rates in the mantle from the volcanic response to glacial unloading in Iceland, presented at AGU Chapman Conference: The Galápagos as a Laboratory for the Earth Sciences, Puerto Ayora, Ecuador, 25-30 Jul.

Eason, D.E., J.M. Sinton, G. Ito, K. Grönvold, and M. Kurz (2010) Rates of melt migration following deglaciation-induced mantle melting revealed by studies of Icelandic table mountains. Abstract V43B-2368 presented at 2010 Fall Meeting, AGU, San Francisco, CA, 13-17 Dec.

Eason, D.E., J.M. Sinton, and G. Ito (2009). Volcanism and deglaciation in the Western Volcanic Zone, Iceland: Constraints on mantle melting and melt transport rates, *Eos Trans. AGU*, 90(52), Fall Meet. Suppl., Abstract NH33B-1142.

Eason, D.E. and J.M. Sinton (2008) Lava shields and fissure eruptions of the Western Volcanic Zone, Iceland: evidence for magma chambers and crustal interaction. IAVCEI General Assembly 2008, Abstract 690.

Eason, D.E. and J.M. Sinton (2005) Origin of high-Al N-MORB by fractional crystallization in the upper mantle beneath the Galápagos Spreading Center. *Eos Trans. AGU*, 86(52), Fall Meet. Suppl., Abstract V41C-1463.

INVITED LECTURES & PANELS

GNS Science, New Zealand (Mar 2020) “Magmatic Processes and Crustal Formation in the Lau Back-arc Basin”

Science & Technology Policy Institute, Washington DC (2014) “Data Challenges in Earth Science: A Researcher’s Perspective from the Long Tail of Data.”

University of Texas, Institute for Geophysics (2012) “Iceland’s melting experiment: Deglaciation and volcanism in the Western Volcanic Zone.”

Rice University (2012) “Iceland’s melting experiment: Deglaciation and volcanism in the Western Volcanic Zone.”

Hockaday School of Dallas, TX (2012) Speaker and panelist at HATS (Hockaday Alumnae in Technology & Science), a program highlighting women in STEM careers.

OUTREACH

RESEARCH CRUISE OUTREACH/EDUCATION

- *Chief Scientist on education-focused cruises*: Seagoing research experiences for underrepresented undergraduates and high school students as part of NSF Research Experience for Undergraduates (REU) program, R/V *Kilo Moana* (Chief Scientist 2017-2018, Co-Chief 2019)
- *Cruise blog and social media admin/contributor*: UNOLS Chief Scientist Training Cruise, Monterey Bay, CA, R/V *Point Sur* (2014)
- *Cruise website developer/admin/contributor*: North Atlantic Reorganization cruise, Reykjanes Ridge, R/V *Langseth* (2013)
- *Cruise blog writer/contributor*: GRUVEE Cruise, Galápagos Spreading Center, R/V *Atlantis* (2010)

OTHER COMMUNITY OUTREACH/SERVICE

- Featured scientist: “Modern Explorers” video project, elementary school outreach, Hockaday School, Dallas, TX (2020)
- *Invited Speaker*: Hockaday Alumnae in Technology & Science, aimed at exposing high school students to women in science and engineering, Dallas, TX (Jan 2012)
- *Volunteer Educator / Guest Lecturer*: field trips on Oahu and the Big Island of Hawai'i for middle-school students through adults (2004-2016)
- *Volunteer*: SOEST Open House, biennial outreach event, Honolulu, HI (2003-2015)
- *Judge*: AGU Outstanding Student Paper Award (AGU Fall Meeting 2011-2012, 2016)

SCIENCE NEWS/POPULAR PRESS

- National news coverage of Ka'ena Volcano project (2014), including media outlets such as NBC News, Fox News, Reuters, LiveScience, ScienceNOW, Honolulu Star-Advertiser, and others.
- International news coverage of deep-sea octopod species discovery during a geology dive on Ka'ena Volcano (2016). Science news: B. Howe, D. Eason, J. Drazen, J. Potemra (2016) Deep-sea life at and near the ALOHA Cabled Observatory. Deep-Sea Life, issue 7, INDEEP, Univ. Southampton, UK.

DATASETS & SOFTWARE

DATASETS

- Eason, D. E. (2018) Cruise KM1810 on RV Kilo Moana. Rolling Deck to Repository (R2R) Program. doi:10.7284/908115.
- Eason, D. E. (2017) Cruise KM1710 on RV Kilo Moana. Rolling Deck to Repository (R2R) Program. doi:10.17616/R39C8D.
- Sinton, J. M., and D. E. Eason (2016) Major and trace element analyses of volcanic rocks from Ka'ena Ridge, Oahu, Hawaii. Integrated Data Applications (IEDA). doi:10.1594/IEDA/100615.
- Pursur, A., M. Yann, H.-J. Hoving, M. Vecchione, U. Piatkowski, D. Eason, H. Blum, and A. Boetius (2016) Photographs and video snippets of incirrate octopods observed during SONNE cruise SO242/2 to the DISCOL Experimental Area, Peru Basin. PANGAEA, doi:10.1594/PANGAEA.865440.
- Pursur, A., M. Yann, H.-J. Hoving, M. Vecchione, U. Piatkowski, D. Eason, H. Blum, and A.

- Boetius (2016) Video snippets of incirrate octopods observed during SONNE cruise SO242/2 to the DISCOL Experimental Area, Peru Basin. PANGAEA, doi:10.1594/PANGAEA.865439.
- Pursur, A., M. Yann, H.-J. Hoving, M. Vecchione, U. Piatkowski, D. Eason, H. Blum, and A. Boetius (2016) Photographs of incirrate octopods observed during SONNE cruise SO242/2 to the DISCOL Experimental Area, Peru Basin. PANGAEA, doi:10.1594/PANGAEA.865438.
- Dunn, R. A., D. E. Eason, J. P. Canales, and R. A. Sohn (2016) Seafloor reflectivity of the Mid-Atlantic Ridge Rainbow region (35°45'-36°35'N). Integrated Earth Data Applications (IEDA). doi:10.1594/IEDA/323563.

PROFESSIONAL ACTIVITIES

SEAGOING EXPERIENCE

- Co-Chief Scientist: R/V *Kilo Moana* KM19-11 – Geophysical surveying and rock dredging, submarine rift zone off Kaho‘olawe, REU research cruise, 2019
- Chief Scientist: R/V *Kilo Moana* KM18-10 – Geophysical surveying and rock dredging, Wai‘alu Ridge, O‘ahu, REU research cruise, 2018
- Chief Scientist: R/V *Kilo Moana* KM17-10 – Geophysical surveying and rock dredging on Pa‘uwela Ridge, off-shore East Moloka‘i, REU research cruise, 2017
- Shipboard Scientist/Participant, NSF/UNOLS Chief Scientist Training Cruise, R/V *Point Sur* PS14-16, 2014 (PIs: Kenneth Coale, Mike Prince)
- Shipboard Scientist/Consultant, R/V *Kilo Moana* KM13-18 and KM14-05 – Sea trials/science certification cruises for new UH ROV Lu‘ukai, off-shore O‘ahu, Hawai‘i, 2013-2014
- Shipboard Scientist, R/V *Marcus G. Langseth* MGL13-09 – Geophysical study of Reykjanes Ridge reorganization, S of Iceland, 2013 (PIs: Richard Hey, Fernando Martinez, Ármann Gudmundsson)
- Shipboard Scientist, R/V *Kilo Moana* KM11-16 – Mapping and sampling with *Jason* ROV on Ka'ena Ridge, off-shore O'ahu, 2011 (PI: John Sinton)
- Shipboard Scientist, R/V *Atlantis* AT15-63 – Galápagos Ridge Undersea Volcanic Eruptions Expedition (GRUVEE), *ALVIN* submersible diving, mapping and sampling, along the ridge axis of the Galápagos Spreading Center, 2010 (PIs: John Sinton, Scott White, Ken Rubin, Julie Bowles)
- Shipboard Scientist: R/V *Kilo Moana* KM03-17 – Mapping and dredging off-shore Maui, 2003 (PI: Eric Bergmanis, student cruise)

PROFESSIONAL DEVELOPMENT

Teaching Methods/Best Practices:

- José Antonio Bowen workshops at UHM: “The Brain in the Body: Using New Learning about Learning”, and “Teaching Naked Techniques: A Practical Workshop on Designing Better Classes” (Feb 2020)
- Carl Wieman Science Education Initiative (CWSEI) workshops:
 - “Classroom Techniques to Motivate Students” (Feb 2019)
 - “Metacognition: Creating Self-Regulated Learning Environments” (Feb 2018)
 - “Active Learning for Busy Instructors” (Feb 2017)
 - “Making class as effective and efficient as possible (without killing yourself off

preparing)” (Feb 2016)

- NAGT Workshop: Preparing for an Academic Career (Jun 2014) – Emphasis on evidence-based teaching practices, incorporating active learning into the classroom, effective mentoring practices, and incorporating graduate and undergraduate students in scientific research

NSF/UNOLS Chief Scientist Training Cruise – *R/V Point Sur* (Oct 2014)

- Hands-on seagoing workshop: planning and running an effective research cruise

CONFERENCES / WORKSHOPS

ANZIC Workshop, Havre Trough Proposal Workshop – Investigating the Early Evolution of a Back-arc Basin, GNS Science, Lower Hutt, New Zealand (Mar 2020)

MCS Fluid Transport Modeling Workshop, Modeling Collaboratory for Subduction RCN, Minneapolis, MN (May 30-Jun 1 2019)

AGU Fall Meeting, San Francisco, CA (Dec 2003, 2005, 2007-2014, 2016, 2018)

- Session Chair (2008, 2011); Session Convener (2011)
- Volunteer Staff (2007-2008, 2012-2013)
- Judge: Outstanding Student Presentation Awards

USSSP Workshop, “Drilling into Young Oceanic Crust for Subseafloor Observations at Axial Seamount,” LDEO, Palisades, NY (Oct 2017)

GSA Cordilleran Section Meeting, Honolulu, HI (2017)

- Organizing Committee: Student Volunteer Co-Coordinator

Goldschmidt Conference, Yokohama, Japan (2016)

Goldschmidt Conference, Prague, Czech Republic (2015)

EGU General Assembly, Vienna, Austria (Apr 2014)

NSF EarthCube Initiative – Meetings and Workshops

- End-Users Domain Workshop: Deep Seafloor Processes and Dynamics, Univ. of Rhode Island, Graduate School of Oceanography, Narragansett, RI (Jun 2013)
- End-Users Domain Workshop: Petrology & Geochemistry I, Smithsonian Institute (NMNH), Washington DC (Mar 2013)

DeSSC (Deep Sea Submergence Committee) Fall Meeting (2011-2014, 2016, 2018)

- Early Career Scientist Program (2011)

AGU Chapman Conference on the Galápagos as a Laboratory for Earth Science, Puerto Ayora, Galápagos, Ecuador (2011)

IAVCEI General Meeting, Reykjavík, Iceland (2008)

USGS Hawaii Volcano Observatory-University of Hawai‘i Collaborators Summit, Volcano, HI (2008)

PROFESSIONAL ORGANIZATIONS

American Geophysical Union

National Association of Geoscience Teachers

Geological Society of America

International Association of Volcanology and Chemistry of Earth’s Interior

Sigma Xi