

University of Illinois – Urbana-Champaign
Department of Geology
School of Earth, Society, and Environment
Natural History Building
1301 W. Green St., MC-102
Urbana, IL 61801
Office: 217-244-6726 | E-mail: pgregg@illinois.edu

Patricia M. Gregg

Current Position 07/2020 - present: **University of Illinois – Urbana Champaign**
Associate Head, Dept. of Earth Science & Environmental Change (ESEC)
Associate Professor Earth Science & Environmental Change
Associate Professor National Center for Supercomputing Applications (NCSA)
Associate Professor Latin American & Caribbean Studies

Education **Ph.D. Marine Geophysics**, Massachusetts Institute of Technology / Woods Hole Oceanographic Institution Joint Program, June 2008
Advisor: Jian Lin
Title: The Dynamics of Oceanic Transform Faults: Constraints from Geochemical, Geophysical, and Geodynamical Modeling

B.S. Geology and Geophysics, University of Missouri-Rolla, December 2000
Magna Cum Laude, Student Marshal

Professional Experience 07/2022 - present: **University of Illinois**, Associate Head, Dept. of ESEC
07/2020 - present: **University of Illinois**, Associate Professor with Tenure
07/2014 - 07/2020: **University of Illinois**, Assistant Professor
09/2011 - 06/2014: **Oregon State University**, Institutional Research Associate
09/2010 - 09/2011: **Oregon State University**, NSF Postdoctoral Fellow
09/2008 - 09/2009: **Lamont-Doherty Earth Observatory**, NSF Postdoctoral Fellow
09/2006 - 05/2008: **Woods Hole Oceanographic Inst.**, Graduate Research Fellow
01/2007 - 06/2007: **Boston College**, Adjunct Lecturer
09/2003 - 09/2006: **MIT/WHOI**, NSF Graduate Research Fellow
06/2002 - 08/2003: **WHOI**, Hollister Graduate Research Fellow
06/2001 - 06/2002: **Sprint**, Project Manager & Associate Engineer
Summer 2000: **Sandia National Laboratories**, Summer Intern
Summer 1999: **WHOI**, Summer Student Fellow

Honors & Awards 09/2020 – Present: Helen Corley Petit Scholar
09/2018 – Present: NSF CAREER Awardee
09/2018 – Present: Lincoln Excellence for Assistant Professors (LEAP) Scholar
07/2017 – 06/2018: National Center for Supercomputing Applications Faculty Fellow
09/2011 - 06/2014: CEOAS Institutional Research Associate (Postdoc) Fellowship
09/2008 - 09/2011: NSF EAR Postdoctoral Fellowship (Lamont-Doherty Earth Observatory / Oregon State University)
2008 - Lamont-Doherty Earth Observatory Postdoctoral Fellowship (declined)
2008 - U. Hawaii, SOEST Young Investigator Postdoc (declined)
09/2003 - 08/2006: NSF Graduate Research Fellowship (MIT/WHOI)
06/2002 - 08/2003: Hollister Graduate Research Fellowship (MIT/WHOI)
08/1996 - 12/2000: V.H. McNutt Geology Scholarship (UMR)

08/1997 - 12/2000: Society of Exploration Geophysicists Scholarship (UMR)
08/1996 - 05/2000: Missouri Bright Flight Scholarship (UMR)

**Field
Experience**

2023: Lead Instructor GEOL415/515 Field Geology, Hawaii
2020: Co-Instructor GEOL415/515 Field Geology, Cyprus
2018: Shore-based Chief Scientist, AT42-06, OASIS2 ECS Expedition (18 days)
2018: Co-Instructor GEOL415/515 Field Geology, Scotland, UK
2016: Chief Scientist, AT37-05, OASIS Expedition (30 days)
2014: 5th International Workshop on Collapse Calderas, Taupo, New Zealand
2012: 4th International Workshop on Collapse Calderas, Vulcini Calderas, Italy
2012: Oregon State University, Adv. Igneous Petrology field trip, Long Valley, CA
2008: Chief Scientist, R/V New Horizon, Costa Rica Seismic Experiment (30 days)
2004-2007: WHOI Geodynamics field trips: Hawaii, Iceland, and Maine
2005: Ridge 2000 Cyprus Ophiolite Field School
2003: MIT Carbonate Sedimentology field trip, the Bahamas
2003: MIT Continental Deformation field trip, Greece
2002: Shipboard Scientific Party, R/V Melville, Vancouver Leg 1, EPR (28 days)
2001: Shipboard Scientific Party, R/V Atlantis, AT4-4, MAR (28 days)
1996-2000: UMR Geophysics Club (GPR, EM, Seismic, and Resistivity)
1998: Boston University Summer Field Camp, Western Ireland (5 weeks)

Invited Talks

2023: Geological Society of Washington DC: “Forecasting volcanic unrest and eruption potential through thermomechanical modeling and geodetic data assimilation”
2022: Earth Science Club of Northern Illinois (ESCONI): “Off-Axis Seamount Investigations at Siqueiros: The OASIS Expedition”
2022: Southeastern Bluegrass Chapter of the Association for Women Geoscientists: Teatime Interview and Seminar
2021: Penn. State University: “Linking thermomechanical models with geodetic observations to assess the evolution and stability of Sierra Negra Volcano, Galápagos”
2021: University of Idaho: “Linking thermomechanical models with geodetic observations to assess the evolution and stability of Sierra Negra Volcano, Galápagos”
2020: Michigan State University: “Off-Axis Seamount Investigations at Siqueiros: The OASIS Expedition”
2020: IEEE IGARSS: “Geodetic data assimilation for evaluating volcanic unrest”
2020: EGU Annual Meeting: “Linking thermomechanical models with geodetic observations to evaluate the 2018 eruption of Sierra Negra Volcano, Galápagos”
2019: AGU Fall Meeting: “Linking thermomechanical models with geophysical observations to assess magma reservoir evolution at Laguna del Maule, Chile”
2019: AGU Fall Meeting: “Forecasting the June 26, 2018 eruption of Sierra Negra, Galapagos”
2019: CONVERSE IAVCEI Geodesy Meeting, Portland: “Strategies for observing and modeling large and complex deformation [at volcanoes]”
2019: IUGG General Assembly: “Linking thermomechanical models with geodetic observations to assess magma reservoir evolution and stability”
2019: CIDER Workshop: “Statistical data assimilation for volcano forecasting”
2018: Lamont-Doherty Earth Observatory: “Forecasting the 2018 eruption of Sierra Negra Volcano, Galápagos”

- 2018: UNAVCO Science Workshop: “Imaging volcano deformation sources through geodetic data assimilation”
- 2018: Keynote AGU Chapman Conference on Large Silicic Magma Systems: “Linking thermomechanical models with geodetic observations to assess magma reservoir evolution and stability”
- 2017: Carnegie Institute Department of Terrestrial Magnetism, “Off-Axis Seamount Investigations at Siqueiros: OASIS Expedition 2016”
- 2017: Southern Methodist University, “Off-Axis Seamount Investigations at Siqueiros: OASIS Expedition 2016”
- 2017: Southern Methodist University, “Thermomechanics of triggering the 2005 eruption of Sierra Negra Volcano, Galapagos”
- 2017: Northern Illinois University, “Off-Axis Seamount Investigations at Siqueiros: OASIS Expedition 2016”
- 2015: GSA Annual Meeting, Baltimore, “The Subordinate Role of Buoyancy in Triggering the Eruption of Large Magma Reservoirs”
- 2015: University of Illinois at Chicago, “A data assimilation framework for tracking magma chamber dynamics during periods of volcanic unrest”
- 2015: Northwestern University, “The mechanics of triggering catastrophic caldera forming eruptions”
- 2015: Illinois State Geologic Survey, “The mechanics of triggering catastrophic caldera forming eruptions”
- 2014: Fall AGU, “Thermomechanics of triggering the eruption of large magma reservoirs: the effects of buoyancy and magma recharge”
- 2014: Hannover College, “The mechanics of triggering catastrophic caldera forming eruptions”
- 2014: University of WI – Madison, “The mechanics of triggering catastrophic caldera forming eruptions”
- 2014: Oklahoma State University, “The mechanics of triggering catastrophic caldera forming eruptions”
- 2014: Missouri University of Science & Technology, “The mechanics of triggering catastrophic caldera forming eruptions”
- 2014: Hatfield Marine Science Center, “Modeling the Melting Mantle at Mid-Ocean Ridges”
- 2014: Oklahoma University, “Frontiers in Volcano Modeling: Gaining physical Insight into Active Volcanic Systems”
- 2014: University of Iowa, “Frontiers in Volcano Modeling: Gaining physical Insight into Active Volcanic Systems” & “Modeling the Melting Mantle at Mid-Ocean Ridges”
- 2014: University of Missouri, “Frontiers in Volcano Modeling: Gaining physical Insight into Active Volcanic Systems”
- 2014: University at Buffalo, “Frontiers in Volcano Modeling: Gaining physical Insight into Active Volcanic Systems”
- 2014: University of Illinois Urbana-Champaign, “Frontiers in Volcano Modeling: Gaining physical Insight into Active Volcanic Systems”
- 2013: Fall AGU, “Petrologic-geodynamic models of the geochemical evolution of the segmented Siqueiros transform fault”
- 2013: Cascade Volcano Observatory – Vancouver, WA, “Magma chambers under pressure: Investigating inflation at Santorini Volcano Greece”
- 2013: University of California - Santa Cruz, “Magma chambers under pressure: Investigating inflation at Santorini Volcano, Greece”
- 2012: Shell EP International Rijswijk, The Netherlands, “Rheological controls on crustal accretion and melt migration”

- 2011: Pomona College, “Multidisciplinary investigations of the evolution of the crust and mantle”
- 2011: University of Idaho, “Multidisciplinary investigations of the evolution of the crust and mantle”
- 2011: Oregon State University, “Multidisciplinary investigations of mantle melting and crustal accretion”
- 2010: University of Missouri - Columbia, “Modeling the melting mantle at mid-ocean ridges”
- 2009: Fall AGU, “Geodynamical and petrological modeling constraints of mantle potential temperature at mid-ocean ridges”
- 2008: Oklahoma State University, “The Dynamics of Oceanic Transform Faults: Perspectives from coupled geochemical-geodynamical models
- 2008: Lamont-Doherty Earth Observatory, “The Dynamics of Oceanic Transform Faults: Perspectives from integrated geochemical-geodynamical modeling”
- 2008: Oregon State University, “The Dynamics of Oceanic Transform Faults: Perspectives from integrated geochemical-geodynamical modeling”
- 2008: University of Hawaii SOEST, “Three-dimensional melt generation and extraction at fast-slipping oceanic transform faults”
- 2007: Fall AGU, T22E-04, “The effect of fault segmentation on the dynamics of fast-slipping oceanic transform faults”
- 2006: Oklahoma State University, “The spreading rate dependence of the gravity structure of oceanic transform faults”
- 2006: Brown University, “Fast-slipping transform faults: Gaining new understanding from gravity calculations at the East Pacific Rise”
- 2005: WHOI Open House, “Understanding Oceanic Earthquakes”
- 2004: University of Missouri - Rolla, “The Seismicity of Equatorial East Pacific Transform Faults”

**Teaching
Experience**

- Fa2022: co-Instructor, UIUC, GEOL 451 Environmental Geophysics
- Fa 2018: Professor, UIUC, GEOL593K Applied Geophysics
- Sp2018, Sp2020, Sp2023: co-Instructor, UIUC, GEOL415/515 Field Geology
- Sp2017, Sp2019, Fa2020, Fa2022: Professor, UIUC, GEOL350 Volcanoes
- Sp2017: Professor, UIUC, GEOL593X Volcano Geophysics & Geodynamics
- Sp2015, Sp2016, Sp2018, Sp2020, Sp2021, Sp2022: Professor, UIUC, GEOL450 Investigating the Earth’s Interior
- Fa2015, 2017, 2019: Professor, UIUC, GEOL593P, Mid-ocean Ridge Tectonics
- Sp2014: Lecturer, Oregon State University, Earthquakes of the Pacific Northwest Winter
- Sp2014: Lecturer, Oregon State University, Igneous and Tectonic Processes of Ocean Basins
- Sp2012: Guest Lecturer, Oregon State University, Adv. Igneous Petrology
- Fa2011: Guest Lecturer, Oregon State University, Fluid Dynamics
- Fa2011: Guest Lecturer, Oregon State University, Igneous Petrology
- Su2011: Center for Astronomy Education Tier 1 Workshop
- Sp2011: Guest Lecturer, Oregon State University, Volcanology
- Sp2009: Guest Lecturer, Oregon State University, Global Tectonics
- Fa2008: Guest Lecturer, Columbia University, Geodynamics
- Fa2008: Guest Lecturer, Columbia University, Volcano Petrology
- Sp2007: Adjunct Lecturer, Boston College, GE530 Introduction to MG&G

**Professional
Service**

- Steering Committee Member – U.S. InterRidge, Summer 2022 - present
- Advisory Panel – Rolling Deck to Repository (R2R) Program, Spring 2016 – present

Working Group Member – SZ4D Magmatic Drivers of Eruptions, Fall 2019 – Fall 2022
Chair – SZ4D Cross-Cutting Science Committee, Fall 2021 – Fall 2022
Panel Chair, NASA, *Mission Concepts*
Grant Panelist, Italian National Research Program in Antarctica (PNRA)
Grant Panelist, NSF, *OPP – Antarctic Earth Sciences*
Grant Panelist, NASA, *Mars Fundamental Research Program*
Grant Panelist, NSF, *OCE – Marine Geology and Geophysics*
Grant Panelist, NSF, *Graduate Research Fellowship*
Grant Panelist, NSF, *PREEVENTS*
Panelist, “*Developing a Research Plan*”, UIUC Postdoctoral Affairs Office
Faculty Advisor, UIUC Section of American Association of Petroleum Geologists
Referee of articles for *Science*, *Nature Geoscience*, *G-cubed*, *Earth and Planetary Science Letters*, *Journal of Geophysical Research – Solid Earth*, *Journal of Geophysical Research – Planets*, *Marine Geophysical Researches*, *Proceedings of the National Academies of Science*, *Geophysical Research Letters*
Referee of proposals for NASA, NSF-OCE Marine Geology and Geophysics, NSF-EAR Petrology and Geochemistry, NSF-EAR Postdoc, and NSF-EAR Geophysics, Natural Environment Research Council (Europe)
Break-out Session Leader for GeoMapApp Workshop, Lamont-Doherty Earth Observatory, 2014
Session Organizer Fall AGU 2017, *V019 - Melt generation, transport, and extraction in the on- and off-axis mid-ocean ridge environment*
Session Organizer Fall AGU 2013, *OS015 - On and Off-Axis Accretionary Processes at Mid-Ocean Ridges*
Session Co-Convener, Fall AGU 2011, *Modeling Mantle Melts*
Ridge2000 Thematic Working Group Leader, “*Mantle Controls*”, 2010
Session Co-Convener, Western Pacific Geophysical Meeting, Beijing, 2006
GeoSoft Advisory Committee (NSF EarthCube), September 2014 – Spring 2015
Vice Chair Missouri S&T G&G Alumni Advisory Board (2013 – present)
Missouri S&T Geology and Geophysics Alumni Advisory Board (2007 – present)
Panelist, *Preparing for Professorship*, Oregon State University, 2012
Participant, “*EarthCube Modeling workshop for the Geosciences*”, 2013
Participant, “*Early Career Strategic Visioning Workshop*” for EarthCube, 2012
Participant, Center for Astronomy Education Tier One Teaching Workshop, 2011
Participant, Ocean Leadership Workshop, Washington DC, 2009
Participant, Ridge2000 Integrated Study Site Meeting, Hyannis MA, 2008
Participant, Future of Marine Heat flow Workshop, Salt Lake City UT, 2007
Participant, MIT Path of Professorship, Cambridge MA, 2007

Outreach

PBS Changing Seas, Season 13, Episode 3: Alvin: Pioneer of the Deep (*winner of Southcoast regional Emmy Award*)
<https://www.pbs.org/video/alvin-pioneer-of-the-deep-1ew2ra/>
Guest Lecturer – Earth Science and Planetary Volcanology, Countryside Middle School
WHOI Ocean Encounters: ALVIN – Ocean Discovery at New Depths
<https://www.whoi.edu/multimedia/oe-alvin/>
OASIS Expedition YouTube Channel:
https://www.youtube.com/channel/UC2qHa5PSZCF2_KeCvRTaFGQ
OASIS Expedition Facebook: <https://www.facebook.com/UIUCVolcanoLab>
Curriculum partnership with Campus Middle School for Girls (2016 – present)
Curriculum partnership with University Primary School (2016 – present)
Elementary education, Remote in-room Skype with K-6 students (2009 – 2010)

da Vinci Days OSU Science Showcase, Volcano Demos (2010 – 2012)
Exhibitor, Lamont Doherty Earth Observatory Open House (2008)
Woods Hole Oceanographic Institution Open House (2005 – 2006)

Press

Nature World News: *Supercomputer Upgrade and Good Timing Can Warn Us of Impending Volcanic Eruptions*
<https://www.natureworldnews.com/articles/51180/20220604/combo-good-timing-supercomputer-upgrade-resulted-precise-prognosis-something-volcanic.htm>

Popular Science: *Volcanic eruptions are unpredictable, but these geologists cracked the code: If you thought weather forecasting was tough, try taking on magma.*
<https://www.popsci.com/science/volcanic-eruption-forecast/>

Courthouse News: *A new program predicted a volcanic eruption months before it happened*
<https://www.courthousenews.com/a-new-program-predicted-a-volcanic-eruption-months-before-it-happened/>

UIUC News Bureau: *Great timing, supercomputer upgrade lead to successful forecast of volcanic eruption*
<https://news.illinois.edu/view/6367/913924091>

UIUC News Bureau: *Ice-capped volcanoes slower to erupt, study finds*
<https://news.illinois.edu/view/6367/1728962834>

UIUC News Bureau: *Researchers unveil new volcanic eruption forecasting technique*
https://news.illinois.edu/view/6367/802594?fbclid=IwAR1YT96gh68JWpSV_s4e9x4_DdN0hITVRSNtq3RMSHlptB2vwwwRlwuySY

Popular Mechanics: *This Tech Could Completely Change How We Predict Volcanic Eruptions*
<https://www.popularmechanics.com/science/environment/a28988340/forecast-volcanic-eruptions/>

The 21st Show - W-I-L-L NPR: *Forecasting Volcanic Eruptions*
<https://will.illinois.edu/21stshow/program/computer-science-k-12-education-stem-cell-donor-meets-recipient-20-years-later-forecasting-volcano-eruptions>

USA Today: *Preparing for the Next 'Supervolcano' Eruption*
<https://www.usnews.com/news/best-countries/articles/2019-04-15/scientists-study-supervolcanoes-to-better-prepare-for-eruptions>

Newsweek: *When will the next supervolcano erupt? New model suggests it depends on local plate tectonics*
<http://www.newsweek.com/when-will-next-supervolcano-erupt-new-model-suggests-it-depends-local-plate-907782>

Forbes: *Yellowstone's Hyperactive Geyser Is Nothing Like Real Supervolcano Eruption Warning Signs*
<https://www.forbes.com/sites/ericmack/2018/05/01/yellowstone-steamboat-geyser-is-nothing-compared-to-caldera-supervolcano-eruption-warning-signs/#5760c1a7fb28>

UIUC News Bureau: *Study suggests ample warning of supervolcano eruptions*
<https://news.illinois.edu/view/6367/645136>

The News-Gazette (Champaign): *Trash-Cano makes science a blast*
<http://www.news-gazette.com/news/local/2017-04-26/trash-cano-makes-science-blast.html>

The News-Gazette (Champaign): *Trashcano!*
<http://www.news-gazette.com/video/2017-04-25/trashcano.html>

Intel iQ Magazine: *OASIS Scientists Catch High-Tech Ride to the Bottom of the Sea*
<https://iq.intel.com/oasis-scientists-catch-high-tech-ride/>

Storied at the University of Illinois: *Three kilometers under the sea*
<http://storied.illinois.edu/three-kilometers-under-the-sea/>

BigTen Network: *Illinois geologist dives deep to study deep-sea volcanoes*

- <http://btn.com/2017/02/22/illinois-geologist-dives-deep-to-study-deep-sea-volcanoes-btn-livebig/>
LAS News Bureau: *3 kilometers under the sea: Illinois leads expedition to explore underwater volcanoes*
<http://www.las.illinois.edu/news/article/?id=21215&/news//news/2017/illiniatsea17>
Intel iQ Magazine: *OASIS Expedition Uses Sophisticated Tech to Probe the Ocean Floor*
<http://iq.intel.com/oasis-expedition-probes-ocean-floor/>
UIUC News Bureau: *Supervolcanoes likely triggered externally, study finds*
<https://news.illinois.edu/blog/view/6367/273769>
IFLScience: *What Actually Causes A Supervolcanic Eruption?*
<http://www.iflscience.com/environment/what-actually-causes-supervolcanic-eruption>
EarthSky: *What triggers supervolcano eruptions?*
<http://earthsky.org/earth/what-triggers-supervolcano-eruptions>
OSU Press Release: *Scientists find possible trigger for volcanic ‘super-eruption’*
http://www.eurekalert.org/pub_releases/2011-10/osu-sfp101011.php
The Daily Mail: *Scientists reveal why pressure builds inside ‘super volcanoes’*
<http://www.dailymail.co.uk/sciencetech/article-2048432/Secret-volcanic-super-eruptions-happen-100k-years-unlocked.html?ito=feeds-newsxml>
Slice of MIT: *Young Scientists and Babies: Alumni Go to Bat*
<https://alum.mit.edu/slice/young-scientists-and-babies-alumni-go-bat>
OSU Terra Magazine: *Family Matters*
<http://oregonstate.edu/terra/2011/10/family-matters/>
WHOI News Release: *Fragmented Structure of Seafloor Faults May Dampen Effects of Earthquakes*
<http://www.whoi.edu/page.do?pid=7545&tid=282&cid=29566&ct=162>
T.V. News Broadcast: *Underwater Earthquakes*, Ivanhoe News Syndicate
<http://www.ivanhoe.com/science/story/2007/10/343a.html>

Professional Affiliations

American Geophysical Union
International Association of Volcanology and Chemistry of the Earth’s Interior (IAVCEI)
IAVCEI Geodesy
IAVCEI Commission on Collapse Calderas
CONVERSE: Community Network for Volcanic Eruption Response
University NAVSTAR Consortium (UNAVCO)
Deep Submergence Science Committee (DESSC)

Current Advisees Grad.

Riley Balikian (Ph.D. expected 2024)
Yuyu Li (Ph.D. expected 2025)
Alexcia Dunn (Ph.D. expected 2027)
Hayley Woodrich (M.S. expected 2025)

Undergrad.

Dominik Rzeszutek (B.S. Geology, expected 2024)

Former Advisees Grad.

Robert Goldman (NSF Graduate Research Fellow, Ph.D. 2023, currently GSA Congressional Science Fellow)
John (Jack) Albright (NSF Graduate Research Fellow, Ph.D. 2022, currently NSF Postdoctoral Fellow UIUC and GNS New Zealand)
Haley Cabaniss (Ph.D. 2020, currently Assistant Professor College of Charleston)

Yan Zhan (NASA Earth & Space Science Fellow, Ph.D. 2020, Postdoctoral Fellow at the Carnegie Institute for Science in Washington D.C., currently Assistant Prof. Chinese University of Hong Kong)
Valentina Romano (Ph.D. La Sapienza U Roma, 2018, currently research faculty at La Sapienza U Roma)
Therese Monical (M.S., May 2017, now Software Engineer, Blue Marble Payroll, IL)

Undergrad.

Hayley Woodrich (B.S. Geology, 2023, currently M.S. student at UIUC)
Lilian Lucas (B.S. Geology, 2023, currently Fulbright Fellow Germany)
Brooke Dykstra (B.S. Geology, 2021)
Ariana Echevarria (2019-2020)
Rishi Chandra (B.S. Geology/Astronomy/Physics, 2021, currently an NSF Graduate Research Fellow and PhD student at Arizona State University)
Keon Park (B.S. Computer Science 2020, Software Engineer at IMC Trading)
Blake Spitz (B.S. Geology 2018, M.S. at U. of Iowa, Geologist at Nevada Gold Mines)
Sean Griffin (B.S. Geology 2017, Geologist at Citizen Energy)
Andrew Birkey (B.S. Geology 2017, PhD UC-Riverside, Postdoc U Delaware)
Tiffany Vlahopoulos (B.S. Geology 2016, Team Leader, Senior Scientific Specialist, Environmental Geologist at the ISGS)
Ashly Hunt (B.S. Geology 2016, Scientific Specialist, Project Manager at the ISGS)
Phillip Moore (B.S. Geology 2015, Geologist at Stantec)

Internal Committee Member: Conner Hansen (Ph.D. expected 2027), Christyna Moore (Ph.D. expected 2027), Yanchong Li (UIUC Ph.D., expected 2025), Yi Yang (UIUC Ph.D., 2020), Hongyu “Jeff” Xiao (UIUC Ph.D., expected 2022), Diandian Peng (UIUC Ph.D., 2022), Zebin Cao (UIUC Ph.D., 2022), Stephanie Mager (UIUC Ph.D. 2016), Quan Zhou (UIUC Ph.D. 2018), Tiffany Leonard (UIUC, M.S. 2015), Andrew Burliegh (OSU, M.S. 2012)

External Committee Member: Sarah J. Oliva (Ph.D., 2020, Tulane University), H el ene Le M ev el (Ph.D. 2016, University of Wisconsin – Madison), Anieri Rivera (Ph.D., University of Miami, Ph.D. 2018), Valentina Romano (Ph.D., University of Rome "La Sapienza", Ph.D. 2017)

PUBLICATIONS

§ Student Advisee, + Postdoctoral Advisee

- Published:**
- § 41. J. A. Albright and **P. M. Gregg**, Building a Better Forecast: Reformulating the Ensemble Kalman Filter for Improved Applications to Volcanology, *Earth and Space Science*, 10, e2022EA002522. <https://doi.org/10.1029/2022EA002522>, 2023.
 - + 40. V. Romano, **P. M. Gregg**, D. Fornari, M. Perfit, D. Wanless, Y. Zhan, M. Battaglia, M. Anderson, Tectonic impacts on mantle melting in the vicinity of oceanic transform faults: The formation of the 8°20' N Seamount Chain, East Pacific Rise, *Marine Geophysical Researches*, 43:22, <https://doi.org/10.1007/s11001-022-09502-z>, 2022.
 - 39. A. Fabbri, R. Parnell-Turner, **P. M. Gregg**, D. J. Fornari, M. R. Perfit, D. Wanless, M. Anderson, Relative Timing of Off-axis Volcanism from Sediment Thickness Estimates on the 8°20'N Seamount Chain, East Pacific Rise, *Geochemistry, Geophysics, Geosystems*, 23, e2022GC010335. [10.1029/2022GC010335](https://doi.org/10.1029/2022GC010335), 2022.
 - § 38. R. T. Goldman, John A. Albright, D. M. Gravley, E. B. Grosfils, **P. M. Gregg**, and Samuel J. Hampton, Characterization of flank eruptions using paleo-stress fields:

- Akaroa, New Zealand, *Journal of Geophysical Research – Solid Earth*, doi:10.1029/2022JB024305, 2022.
37. **P. M. Gregg**, Y. Zhan, F. Amelung, D. Geist, P. Mothes, S. Koric, Z. Yunjun, Forecasting mechanical failure and the June 26, 2018 Eruption of Sierra Negra Volcano, Galápagos – Ecuador, *Science Advances*, 8, doi:10.1126/sciadv.abm4261, 2022.
- § 36. L. C. Lucas, J. A. Albright, **P. M. Gregg**, Y. Zhan, The impact of ice caps on the mechanical stability of magmatic systems: Implications for forecasting on human timescales, *Frontiers in Earth Sciences | Volcanology*, doi: 10.3389/feart.2022.868569, 2022.
35. Y. Zhan, H. Le Mével, D. C. Roman, T. Girona, **P. M. Gregg**, Modeling deformation, seismicity, and thermal anomalies driven by degassing during the 2005-2006 pre-eruptive unrest of Augustine Volcano, Alaska, *Earth and Planetary Science Letters*, <https://doi.org/10.1016/j.epsl.2022.117524>, 2022.
- § 34. J. Wang, Z. Lu, **P. M. Gregg**, Inflation of Okmok Volcano During 2008–2020 From PS Analyses and Source Inversion With Finite Element Models, *Journal of Geophysical Research: Solid Earth*, 126, DOI: 10.1029/2021JB022420, 2021.
- § 33. Y. Zhan, **P. M. Gregg**, Z. Lu, Modeling magma system evolution during 2006-2007 volcanic unrest of Atka volcanic center, Alaska, *Journal of Geophysical Research: Solid Earth*, 126, e2020JB020158, DOI: 10.1029/2020JB020158, 2021.
32. J. T. Keane et al., (including **P.M. Gregg**), The Science Case for Io Exploration, *Bulletin of the American Astronomical Society*, 10.3847/25c2cfef.f844ca0e, 2021.
31. J. T. Keane et al., (including **P.M. Gregg**), Recommendations for Addressing Priority Io Science in the Next Decade, Whitepaper #179 submitted to the Planetary Science and Astrobiology Decadal Survey 2023-2032, 2021.
30. M. Anderson, V.D. Wanless, M. Perfit, E. Conrad, **P.M. Gregg**, D. Fornari, and W.I. Ridley, Extreme mantle heterogeneity in mid-ocean ridge mantle revealed in lavas from the 8°20' N near-axis seamount chain. *Geochemistry Geophysics Geosystems*, 10.1029/2020GC009322, 2020.
29. **P. M. Gregg**, J. A. Albright, Y. Zhan, J. C. Pettijohn, Geodetic data assimilation for evaluating volcanic unrest, *IGARSS 2020 - 2020 IEEE International Geoscience and Remote Sensing Symposium*, IEEE, Waikoloa, HI, USA pp. 3618-3621, doi: 10.1109/IGARSS39084.2020.9323109, 2020.
- § 28. J. A. Albright and **P.M. Gregg**, Distinguishing Inflation Drivers at Shallow Magmatic Systems Using Ensemble-Based Data Assimilation, *IGARSS 2020 - 2020 IEEE International Geoscience and Remote Sensing Symposium*, IEEE, Waikoloa, HI, USA, pp. 3622-3625, 10.1109/IGARSS39084.2020.9324332, 2020.
- § 27. H. E. Cabaniss, **P. M. Gregg**, S. L. Nooner, W. W. Chadwick, Triggering of Eruptions at Axial Seamount, Juan de Fuca Ridge, *Scientific Reports*, 10(1), 10.1038/s41598-020-67043-0, 2020.
- § 26. Y. Zhan, **P. M. Gregg**, H. Le Mével, C. A. Miller, C. Cardona, Integrating reservoir dynamics, crustal stress, and geophysical observations of the Laguna del Maule magmatic system by FEM models and data assimilation, *J. of Geophysical Research*, 10.1029/2019jb018681, 2019.
- § 25. Y. Zhan, **P. M. Gregg**, How accurately can we model magma reservoir failure with uncertainties in host-rock rheology?, *Journal of Geophysical Research*, DOI:10.1029/2019JB018178, 2019.
- § 24. J. A. Albright, **P. M. Gregg**, Z. Lu, and J. Freymueller, Hindcasting magma reservoir stability preceding the 2008 eruption of Okmok, Alaska, *Geophysical Research Letters*, DOI:10.1029/2019GL083395, 2019.

- §23. A. M. Morales Rivera, F. Amelung, F. Albino, **P. M. Gregg**, Impact of crustal rheology on temperature-dependent viscoelastic models of volcano deformation: Application to Taal Volcano, Philippines, *Journal of Geophysical Research*, doi: 10.1029/2018JB016054, 2018.
22. **P. M. Gregg**, H. Le Mével, Y. Zhan, J. Dufek, D. Geist, W. W. Chadwick, Stress Triggering of the 2005 eruption of Sierra Negra volcano, Galápagos, *Geophysical Research Letters*, doi: 10.1029/2018GL080393, 2018.
- §21. H. E. Cabaniss, **P. M. Gregg**, and E. B. Grosfils, The Role of Tectonic Stress in Triggering Large Silicic Caldera Eruptions. *Geophysical Research Letters*, 10.1029/2018GL077393, 2018.
- +20. F. Albino, F. Amelung, and **P. M. Gregg**, The Role of Pore Fluid Pressure on the Failure of Magma Reservoirs: Insights From Indonesian and Aleutian Arc Volcanoes. *J. Geophys. Res.*, 123, 1328-1349, 10.1002/2017JB014523, 2018.
- §19. Y. Zhan, **P. M. Gregg**, E. Chaussard, Y. Aoki, Sequential Assimilation of Volcanic Monitoring Data to Quantify Eruption Potential: Application to Kerinci Volcano, Sumatra, *Front. Earth Sci.*, doi.org/10.3389/feart.2017.00108, 2017.
- §18. Y. Zhan and **P. M. Gregg**, Data assimilation strategies for volcano geodesy, *J. Volcanol. Geotherm. Res.*, doi:10.1016/j.jvolgeores.2017.02.015, 2017.
- §17. H. Le Mével, **P. M. Gregg**, and K. L. Feigl, H. Lé Mévèl, P. M. Gregg, and K. L. Feigl, Magma injection into a long-lived reservoir to explain geodetically measured uplift: Application to the 2007-2014 unrest episode at Laguna del Maule volcanic field, Chile, *Journal of Geophysical Research*, 121, doi:10.1002/2016JB013066, 2016.
- §16. Y. Zhan, G. Hou, T. Kusky, **P.M. Gregg**, Stress development in heterogenetic lithosphere: Insights into earthquake processes in the New Madrid Seismic Zone, *Tectonophysics*, 671, 56-62, 10.1016/j.tecto.2016.01.016, 2016.
15. M. E. Pritchard and **P. M. Gregg**, Geophysical evidence for crustal melt: Where, what kind, and how much? *in press Elements*, 2016.
14. **P.M. Gregg** and J.C. Pettijohn, A multi-data stream assimilation framework for the assessment of volcanic unrest, *J. Volcano. Geotherm. Res.*, 10.1016/j.jvolgeores.2015.11.008, 2016.
13. **P.M. Gregg**, E. B. Grosfils, S. L. de Silva, Catastrophic caldera-forming eruptions II: The subordinate role of buoyancy, *J. Volcano. Geotherm. Res.*, 305, 100–113, doi: 10.1016/j.jvolgeores.2015.09.022, 2015
12. S.L. de Silva SL, Mucek AE, **P.M. Gregg**, and Pratomo I Resurgent Toba—field, chronologic, and model constraints on time scales and mechanisms of resurgence at large calderas. *Front. Earth Sci.* 3:25. doi: 10.3389/feart.2015.00025, 2015.
11. E.B. Grosfils, P.J. McGovern, **P.M. Gregg**, G.A. Galgana, D.M. Hurwitz, S. Long, S. Chestler, Elastic Models of Magma Reservoir Mechanics: A Key Tool for Understanding Planetary Volcanism. In Massironi, M., Byrne, P., Hiesinger, H., Platz, T. (Eds.), *Volcanism and Tectonism across the Solar System*. In: Special Publications. Geological Society, London, SP401, 2015.
10. S.L. de Silva and **P.M. Gregg**, Thermomechanical feedbacks in magmatic systems: Implication for growth, longevity, and evolution of large caldera-forming magma reservoirs and their supereruptions, *Journal of Volcanology and Geothermal Research*, <http://dx.doi.org/10.1016/j.jvolgeores.2014.06.001>, 2014.
9. **P.M. Gregg**, S. L. de Silva, and E. B. Grosfils, Thermomechanics of shallow magma chamber pressurization: Implications for the assessment of ground deformation data at active volcanoes, *Earth and Planetary Science Letters*, <http://dx.doi.org/10.1016/j.epsl.2013.09.040>, 2013.

8. **P.M. Gregg**, S. L. de Silva, E. B. Grosfils, J. Parmigiani, Catastrophic caldera-forming eruptions: Thermomechanics and implications for eruption triggering and maximum caldera dimensions on Earth, *J. Volcano. Geotherm. Res.*, doi:10.1016/j.jvolgeores.2012.06.009, 2012.
7. **P.M. Gregg**, L. B. Hebert, L. G. J. Montesi, and R. F. Katz, Geodynamic models of mantle flow and melt extraction at mid-ocean ridges, *Oceanography* 25(1):78–88, doi:10.5670/oceanog.2012.05, 2012.
6. A.M. Shaw, M.D. Behn, S. Humphris, R.A. Sohn, **P.M. Gregg**, Evidence for deep pooling of low degree melts from volatile, major, and trace element chemistry of olivine-hosted melt inclusions and glasses from the ultra-slow spreading Gakkel Ridge, *Earth and Planet. Sci. Lett.*, 289, 3-4, 311-322, 2010.
5. **P.M. Gregg**, M. D. Behn, J. Lin, T. L. Grove, The effects of mantle rheology and fault segmentation on melt generation and extraction beneath oceanic transform faults, *J. of Geophys. Res.*, 114, B11102, doi:10.1029/2008JB006100, 2009.
4. **P. M. Gregg**, The dynamics of oceanic transform faults: constraints from geophysical, geochemical, and geodynamical modeling, *Ph.D. Thesis, Massachusetts Institute of Technology*, Cambridge, MA, 133 pp, 2008.
3. **P. M. Gregg**, J. Lin, M. D. Behn, L. G. J. Montési, Spreading rate dependence of the gravity structure of oceanic transform faults, *Nature*, 448, 183-187, 2007.
2. **P. M. Gregg**, J. Lin, D. K. Smith, Segmentation of transform systems on the East Pacific Rise: Implications for earthquake processes at fast-slipping oceanic transform faults, *Geology*, 34, 289-292, 2006.
1. D. K. Smith, M. A. Tivey, **P. M. Gregg**, L. S. Kong, Magnetic anomalies at the Puna Ridge, a submarine extension of Kilauea Volcano: Implications for lava deposition, *J. of Geophys. Res.*, Vol. 106, No. B8, 2001.

Codes Zhan, Y., Gregg, P. M., Ensemble Kalman Filter Tutorial, GitHub, DOI: 10.5281/zenodo.8475, 2022.

Model Data Cabaniss, H. E; **Gregg, Patricia M**; Grosfils, Eric B: The Role of Tectonic Stress in Triggering Large Silicic Caldera Eruptions. PANGAEA, doi:10.1594/PANGAEA.885992, 2018.

Albright, J. A.; **Gregg, Patricia M**; Lu, Zhong; Freymueller, Jeffrey T: EnKF Data Assimilation Outputs Modeling Preeruptive Deformation at Okmok AK, 2003-2008. PANGAEA, doi:10.1594/PANGAEA.904432, 2019.

Albright, J. A., **Gregg, P. M.**, Performance Criteria and Example Parameter Sets Comparing Different Variants of the Ensemble Kalman Filter as Applied to Volcanology, Zenodo, doi:10.5281/zenodo.6780524, 2022.

Expeditions with Archived Datasets

Chief Scientist **P. M. Gregg**

<u>Cruise</u>	<u>Vessel</u>	<u>Device Name, Device make/model</u>	<u>DOI</u>
AT37-05	Atlantis	GNSS, C&C C-Nav 3050	10.7284/123699
AT37-05	Atlantis	Fluorometer, WET Labs WETStar	10.7284/123700
AT37-05	Atlantis	Expendable Probe, Sippican MK12	10.7284/123701
AT37-05	Atlantis	ADCP, Hawaii UHDAS	10.7284/123702
AT37-05	Atlantis	Multibeam Sonar, Kongsberg EM122	10.7284/123703
AT37-05	Atlantis	Met Station, Vaisala WXT520 [Starboard]	10.7284/123704
AT37-05	Atlantis	Met Station, Vaisala WXT520 [Port]	10.7284/123705
AT37-05	Atlantis	Acquisition Sys WHOI Calliope	10.7284/123706

AT37-05	Atlantis	Gravimeter, Bell BGM-3	10.7284/123707
AT37-05	Atlantis	TSG, Sea-Bird SBE-45	10.7284/123708
AT37-05	Atlantis	Thermometer, Water, Sea-Bird SBE-48	10.7284/123709
AT37-05	Atlantis	Radiometer, Eppley RAD	10.7284/123710
AT42-06	Atlantis	GNSS, C&C C-Nav 3050	10.7284/137886
AT42-06	Atlantis	GNSS, Furuno GP-90D	10.7284/137887
AT42-06	Atlantis	Speed Log, Furuno DS-50	10.7284/137888
AT42-06	Atlantis	ADCP, Hawaii UHDAS	10.7284/137889
AT42-06	Atlantis	Gravimeter, Bell BGM-3	10.7284/137890
AT42-06	Atlantis	Expendable Probe, Sippican MK12	10.7284/137891
AT42-06	Atlantis	CTD, Sea-Bird SBE-911+	10.7284/137892
AT42-06	Atlantis	Multibeam Sonar, Kongsberg EM122 [Water Column]	10.7284/137893
AT42-06	Atlantis	Fluorometer, WET Labs WETStar	10.7284/137894
AT42-06	Atlantis	Met Station, Vaisala WXT520 [starboard]	10.7284/137895
AT42-06	Atlantis	Met Station, Vaisala WXT520 [Port]	10.7284/137896
AT42-06	Atlantis	Multibeam Sonar, Kongsberg EM122	10.7284/137897
AT42-06	Atlantis	Thermometer, Water, Sea-Bird SBE-48	10.7284/137898
AT42-06	Atlantis	TSG, Sea-Bird SBE-45	10.7284/137899
AT42-06	Atlantis	Radiometer, Eppley RAD	10.7284/137900
AT42-06	Atlantis	Gyrocompass, Sperry MK-37	10.7284/137901

Selected Abstracts

*Oral, §Student, +Postdoc
2023

- P. M. Gregg**, Y. Zhan, J. A. Albright, M. Head, Forecasting volcanic unrest with thermomechanical modeling using geodetic data assimilation, IUGG General Assembly, Berlin, Germany, 2023.
- +M. S. Head, **P. M. Gregg**, J. Wang, Z. Lu, Investigating sustained and episodic volcanic deformation of Seguam Island, Alaska, using data assimilation and finite element modelling, IUGG General Assembly, Berlin, Germany, 2023.
- P. M. Gregg**, Y. Zhan, J. A. Albright, M. Head, Forecasting volcanic unrest and eruption potential through thermomechanical modeling and geodetic data assimilation, IAVCEI General Assembly, Rotorua, New Zealand, 2023.
- §D. Rzeszutek, **P. M. Gregg**, and M. Head, Cataloging volcanic structures on the surface of Venus using machine learning, IAVCEI General Assembly, Rotorua, New Zealand, 2023.
- S. Butcher, A. F. Bell, P. La Femina, **P. M. Gregg**, J. A. Albright, S. Hernandez, M. Ruiz, Co-eruptive seismicity and caldera subsidence during the June 2018 eruption at Sierra Negra, Galápagos Archipelago, IAVCEI General Assembly, Rotorua, New Zealand, 2023.
- +J. Albright and **P. M. Gregg**, The Role of Data Resolution in EnKF Forecasts of Volcanic Unrest: Looking Forward to NISAR, IAVCEI General Assembly, Rotorua, New Zealand, 2023.
- +M. Head, **P. M. Gregg**, J. Hickey, Y. Zhan, and K. Pascal, Evaluating magma reservoir stability at the actively deforming Soufrière Hills Volcano, Montserrat, IAVCEI General Assembly, Rotorua, New Zealand, 2023.
- §Y. Li, **P. M. Gregg**, Z. Lu, and J. Wang, Using numerical models to investigate open magma system behavior at Veniaminof Volcano, Alaska, IAVCEI General Assembly, Rotorua, New Zealand, 2023.

- +M. S. Head, **P. M. Gregg**, J. Wang, Z. Lu, Investigating sustained and episodic volcanic deformation of Seguam Island, Alaska, using data assimilation and finite element modelling, IAVCEI General Assembly, Rotorua, New Zealand, 2023.
- §L. Lucas, J.A. Albright, **P.M. Gregg**, Y. Zhan, The Impact of Ice Sheets on the Stability of Magma Systems, IAVCEI General Assembly, Rotorua, New Zealand, 2023.
- Y. Zhan, D. C. Roman, H. Le Mével, **P. M. Gregg**, Volcanic unrest driven by dike propagation: Implication from a new multiphysics model, IAVCEI General Assembly, Rotorua, New Zealand, 2023.

2022

- §R. Balikian and **P. M. Gregg**, Shoreline Classification and Erosion Characterization on the Illinois Coast of Lake Michigan using Synthetic Aperture Radar, AGU Fall Meeting, 2022.
- +M. S. Head, **P. M. Gregg**, J. Wang, Z. Lu, Investigating sustained and episodic volcanic deformation of Seguam Island, Alaska, using data assimilation and finite element modelling, AGU Fall Meeting, 2022.
- + J. Albright and **P. M. Gregg**, The Role of Data Resolution in EnKF Forecasts of Volcanic Unrest: Looking Forward to NISAR, AGU Fall Meeting, 2022.
- §Y. Li, **P. M. Gregg**, Z. Lu, J. Wang, Investigations of open magma system behavior at Veniaminof Volcano, Alaska, AGU Fall Meeting, 2022.
- §D. Rzeszutek, **P. M. Gregg**, M. S. Head, Using convolutional neural networks to investigate Pancake Volcanism on Venus, AGU Fall Meeting, 2022.
- S. Butcher, A. F. Bell, P. La Femina, **P. M. Gregg**, J. A. Albright, S. Hernandez, M. Ruiz, Co-eruptive seismicity and caldera subsidence during the June 2018 eruption at Sierra Negra, Galápagos Archipelago, British Seismology Meeting, September 2022.
- §R. Balikian and **P. M. Gregg**, Shoreline Classification and Erosion Characterization on the Illinois Coast of Lake Michigan using Synthetic Aperture Radar, GSA Annual Meeting, 2022.
- S. Butcher, A. F. Bell, P. La Femina, **P. M. Gregg**, J. A. Albright, S. Hernandez, M. Ruiz, Co-eruptive seismicity and caldera subsidence during the June 2018 eruption at Sierra Negra, Galápagos Archipelago, Latin American and Caribbean Seismological Commission IV ASSEMBLY Quito, Ecuador, October 2022.

2021

- J. Wang, Z. Lu, **P. M. Gregg**, Deformation mapping and source modeling of the Makushin volcano during 2011 to 2021, AGU Fall Meeting, 2021.
- §L. Lucas, J.A. Albright, **P.M. Gregg**, Y. Zhan, The Impact of Ice Sheets on the Stability of Magma Systems, AGU Fall Meeting, 2021.
- H. E. Cabaniss, **P. M. Gregg**, Y. Zhan, S. L. Nooner, W. W. Chadwick, W. Hefner, Modeling the Fault Modulated Eruptions of Axial Seamount, Juan de Fuca Ridge, AGU Fall Meeting, 2021.
- M. Anderson, L. Morgan, M. Perfit, M. Cosca, D. Fornari, V. D. Wanless, P. M. Gregg, Near-Ridge Magmatism Explored Using $^{40}\text{Ar}/^{39}\text{Ar}$ Dating of Enriched MORB from the 8°20' N Seamount Chain, AGU Fall Meeting, 2021.
- §J.A. Albright and **P. M. Gregg**, Building a Better Forecast: Reformulating the Ensemble Kalman Filter for Improved Applications to Volcanology, AGU Fall Meeting, 2021.

2020

- §L. Lucas, J.A. Albright, P.M. Gregg, Y. Zhan, The Impact of Ice Sheet Withdrawal on the Stability of Magma Systems, AGU Fall Meeting, 2020.

- §J.A. Albright and **P. M. Gregg**, Optimizing the Ensemble Kalman Filter for Novel Applications in Volcanology, AGU Fall Meeting, 2020.
- H. E. Cabaniss, **P. M. Gregg**, Y. Zhan, S. L. Nooner, W. W. Chadwick, W. Hefner, Faulting Modulation of Earthquakes at Axial Seamount, Juan de Fuca Ridge, AGU Fall Meeting, 2020.
- J. Wang, Z. Lu, **P. M. Gregg**, Inflation of Okmok volcano during 2008 to 2020 from PS analyses and source inversion with finite element models, AGU Fall Meeting, 2020.
- M. Anderson, M. Perfit, V. D. Wanless, E. Conrad, D. Fornari, W. I. Ridley, M. Cosca, **P. M. Gregg**, Mantle heterogeneity near the east pacific rise: Pb, Sr, and Nd isotopic data from the 8 20'N seamount chain, AGU Fall Meeting, 2020.
- J. T. Kean, et al. (including **P.M. Gregg**), The Case for Io, American Astronomical Society, DPS 2020.
- §J.A. Albright and **P. M. Gregg**, Optimizing Ensemble-Based Inversions for Non-unique Volcanic Systems, EGU Annual Meeting, 2020.
- P. M. Gregg**, Linking thermomechanical models with geodetic observations to evaluate the 2018 eruption of Sierra Negra Volcano, Galápagos, EGU Annual Meeting, 2020.

2019

- §Y. Zhan, **P. M. Gregg**, and Z. Lu, Modeling magma system evolution during 2005-2007 volcanic unrest of Atka volcanic center, Alaska, AGU Fall Meeting, 2019.
- §J.A. Albright and **P. M. Gregg**, Distinguishing Inflation Drivers at Shallow Magmatic Systems Using Statistical Data Assimilation, AGU Fall Meeting, 2019.
- J. Wang, Z. Lu, **P. M. Gregg**, Inflation of Okmok volcano during 2015 to 2018 from PS analyses, AGU Fall Meeting, 2019.
- §H. E. Cabaniss, **P. M. Gregg**, S. L. Nooner, W. W. Chadwick, Rheologic Controls on Models of Volcano Unrest at Axial Seamount, AGU Fall Meeting, 2019.
- *J. C. Pettijohn and **P. M. Gregg**, Linking Undergraduate Learners with Research Expeditions using an Asynchronous Teaching and Learning Framework, AGU Fall Meeting, 2019.
- J. Muller, S. Kemmerlin, J. Gonzalez-Santana, H. Shamloo, Y. J. Tan, Y. Zhan, C. Smith, **P. M. Gregg**, G. Abers, M. Myers, D. Roman, P. Wallace, B. Andrews, K. Cooper, T. Plank, G. Bergantz, Tectonic and compositional controls on magma storage depths: Results from CIDER 2019, AGU Fall Meeting, 2019.
- M. Anderson, M. Perfit, V. D. Wanless, **P. M. Gregg**, D. Fornari; W. I. Ridley, M. Cosca, Reconciling Off-Axis Mantle Melting Systematics and Heterogeneity: Recent Geochemical Data From the 8°20' N Seamount Chain, AGU Fall Meeting, 2019.
- ***P. M. Gregg**, Y. Zhan, F. Amelung, D. Geist, P. Mothes, S. Koric, Z. Yujun, Forecasting the June 26, 2018 eruption of Sierra Negra, Galapagos, AGU Fall Meeting, 2019. **INVITED**
- ***P. M. Gregg**, Y. Zhan, H. Le Mével, C. Miller, Linking thermomechanical models with geophysical observations to assess magma reservoir evolution at Laguna del Maule, Chile, AGU Fall Meeting, 2019. **INVITED**
- §B. A. Dykstra, Y. Zhan, S. Marshak, **P. M. Gregg**, A. M. Anders, Effect of a trans-lithospheric weak zone on the magnitude of Paleozoic flexural uplift: A case study of the Ozark Dome, GSA Annual Meeting, 2019.
- §H. E. Cabaniss, **P. M. Gregg**, S. L. Nooner, W. W. Chadwick, Rheologic Controls on Models of Volcano Unrest, GSA Annual Meeting, 2019.

- ***P. M. Gregg**, Y. Zhan, H. Le Mével, J. A. Albright, H. E. Cabaniss, Linking thermomechanical models with geodetic observations to assess magma reservoir evolution and stability, IUGG General Assembly, 2019. **INVITED**
- §J. Albright, **P. M. Gregg**, Z. Lu, J. Freymueller, Tracking reservoir stability through multi-data stream statistical data assimilation: Application to the 2008 eruption of Okmok, AK, IUGG General Assembly, 2019.
- P. M. Gregg**, Y. Zhan, F. Amelung, D. Geist, P. Mothes, S. Koric, Z. Yujun, Forecasting the June 26, 2018 eruption of Sierra Negra, Galapagos, IUGG General Assembly, 2019.

2018

- §J. Albright, **P. M. Gregg**, Z. Lu, J. Freymueller, Tracking reservoir stability through multi-data stream statistical data assimilation: Application to the 2008 eruption of Okmok, AK, AGU Fall Meeting, 2018.
- P. M. Gregg**, Y. Zhan, F. Amelung, D. Geist, P. Mothes, Model forecasts of the 26 June 2018 Eruption of Sierra Negra Volcano, Galápagos, AGU Fall Meeting, 2018.
- §R. T. Goldman, J. Albright, D. M. Gravely, E. B. Grosfils, **P. M. Gregg**, Samuel Hampton, Characterization of Flank Eruptions using Paleo-stress Fields: Akaroa, New Zealand, AGU Fall Meeting, 2018.
- §Y. Zhan, **P. M. Gregg**, H. Le Mével, Investigating the stability of the Laguna del Maule magmatic system by modeling the stress state using data assimilation, AGU Fall Meeting, 2018.
- E. M. Conrad, M. Perfit, M. Anderson, V. D. Wanless, D. Fornari, **P. M. Gregg** Geochemical Diversity of Lavas from the 8°20'N Seamount Chain Provides Insights into Seamount Evolution from a Heterogeneous Mantle, AGU Fall Meeting, 2018.
- §R. T. Goldman, J. Albright, D. M. Gravely, E. B. Grosfils, **P. M. Gregg**, Samuel Hampton, Characterization of Flank Eruptions using Paleo-stress Fields: Akaroa, New Zealand, GSA Annual Meeting, 2018.
- +V. Romano, **P. M. Gregg**, Three-dimensional mantle melt generation, migration and extraction at the Quebrada-Discovery-Gofar fracture zones on the southern East Pacific Rise, GSA Annual Meeting, 2018.
- S. B. Shirey, M. R. Perfit, V. D. Wanless, **P. M. Gregg**, D. J. Fornari, W. I. Ridley, Petrogenesis of Siquieros FZ & Off-Axis Seamounts: Os Isotopic and Trace Element Constraints, Goldschmidt 2018.
- ***P. M. Gregg**, Y. Zhan, J. A. Albright, Z. Lu, J. Freymueller, F. Amelung, Imaging volcano deformation sources through geodetic data assimilation, UNAVCO Science Workshop, 2018.
- ***P. M. Gregg**, H. Le Mével, Y. Zhan, J. A. Albright, H. E. Cabaniss, Linking thermomechanical models with geodetic observations to assess magma reservoir evolution and stability, AGU Chapman Conference on Merging Geophysical, Petrochronologic, and Modeling Perspectives of Large Silicic Magma Systems, January 2018.
- H. Le Mével, **P. M. Gregg**, K. Feigl, Modeling Deformation Episodes at Large Silicic Systems using Poroelasticity: Examples from Long Valley Caldera and Laguna del Maule Volcanic Field, AGU Chapman Conference on Merging Geophysical, Petrochronologic, and Modeling Perspectives of Large Silicic Magma Systems, January 2018.

2017

- §E. McCully, D. J. Fornari, **P. M. Gregg**, M. R. Perfit, V. D. Wanless, M. Anderson, M. Lubetkin, Geophysical and Geochemical Analysis of the 8°20' N Seamount Chain: Studies of Off-Axis Volcanism, AGU Fall Meeting, 2017.

- §M. Anderson, V. D. Wanless, M. R. Perfit, **P. M. Gregg**, D. J. Fornari, E. McCully, W. I. Ridley, Off-Axis Seamount Lavas at 8°20' N Span the Entire Range of East Pacific Rise MORB Compositions, AGU Fall Meeting, 2017.
- §V. Romano, **P. M. Gregg**, D. J. Fornari, M. R. Perfit, M. Battaglia, Formation and evolution of the near axis 8°20'N seamount chain: Evidences from the geophysical data analysis, AGU Fall Meeting, 2017.
- §J. A. Albright, **P. M. Gregg**, Z. Lu, J. Freymueller, Hind-casting the 2008 eruption of Okmok, AK using multi-data stream statistical data assimilation, IAVCEI Scientific Assembly, Portland, OR, 2017.
- §R. T. Goldman, D. M. Gravelly, E. B. Grosfils, **P. M. Gregg**, Reconstructing the paleo-stress field of New Zealand's Akaroa Volcanic Complex: Insights from field, petrographic, seismic and numerical methods, IAVCEI Scientific Assembly, Portland, OR, 2017.
- *§H. E. Cabaniss, **P. M. Gregg**, E. B. Grosfils, Tectonic triggering of large caldera eruptions in the Taupo Volcanic Zone, IAVCEI Scientific Assembly, Portland, OR, 2017.
- §Y. Zhan, **P. M. Gregg**, E. Chaussard, Y. Aoki, Investigation of volcanic unrest in Indonesia using statistical data assimilation with a two-source magma chamber model, IAVCEI Scientific Assembly, Portland, OR, 2017.
- P.M. Gregg**, D. J. Fornari, M. R. Perfit, V. Romano, D. Wanless, D. Geist, S. Shirey, W. Ridley, M. Smith, C. Lundstrom, Y. Zhan, E. McCully, C. Trim, H. Cabaniss, J. Albright, B. Boulahanis, Y. Tan, Emplacement of the 8° 20'N Seamount Chain: Preliminary results from the 2016 OASIS Expedition, IAVCEI Scientific Assembly, Portland, OR, 2017.
- D. Fornari, **P. M. Gregg**, M. Perfit, E. McCully, M. Lubetkin, OASIS Science Team, High resolution mapping using the submersible Alvin and Sentry AUV at the 8 20'N Seamounts: Morphostructural analysis and volcanic history, IAVCEI Scientific Assembly, Portland, OR, 2017.
- M. Perfit, D. Fornari, **P. M. Gregg**, D. Wanless, M. Smith, W. I. Ridley, Diversity of Lavas from the 8 20'N Seamount Chain: Windows into Small-scale Geochemical Heterogeneity of the Mantle Proximal to the Northern East Pacific Rise, IAVCEI Scientific Assembly, Portland, OR, 2017.
- +H. Le Mével, **P. M. Gregg**, K. Feigl, Characterizing magma pulses feeding Long Valley caldera using thermo-poroelastic models of magma injection into a magmatic mush, IAVCEI Scientific Assembly, Portland, OR, 2017.
- D. Fornari, M. Perfit, **P. M. Gregg**, V. D. Wanless, & AT37-05 Science Team, Seamount Calderas and Craters – Keys to Submarine Magmatic and Volcanic Processes, *AGU Chapman Conference on Submarine Volcanism: New Approaches and Research Frontiers*, 2017.

2016

- +F. Albino, F. Amelung, **P. M. Gregg**, How pore-fluid pressure due to heavy rainfall influences volcanic eruptions, example of 1998 and 2008 eruptions of Cerro Azul (Galapagos), *Cities on Volcanoes 9*, Chile, 2016.
- B. S. Singer, H. Le Mével, L. Córdova, B. Tikoff, J. Licciardi, N. Andersen, K. Feigl, A. Diefenbach, **P. M. Gregg**, Magma-driven surface uplift of 60+ m spanning the Holocene, Laguna del Maule Volcanic Field, Chilean Andes, *Cities on Volcanoes 9*, Chile, 2016.
- §*Y. Zhan and **P. M. Gregg**, Data Assimilation Strategies for Volcano Geodesy, *Goldschmidt*, 2016.
- J. C. Pettijohn and **P. M. Gregg**, A model-data fusion approach for assessing volcanic unrest, *Goldschmidt*, 2016.

- ***P. M. Gregg**, H. Le Mével, J. Dufek, Linking ground deformation to magma injection and volatile exsolution in a rapidly evolving magma chamber, Goldschmidt, 2016.
- *§Y. Zhan, **P. M. Gregg**, G. Hou, T. Kusky, Stress development in heterogenetic lithosphere: Insights into earthquake processes in the New Madrid Seismic Zone, Geological Society of America *Abstracts with Programs*. Vol. 48, No. 5 doi: 10.1130/abs/2016NC-275226, 2016.
- §T. Vlahopoulos, L. Dizio, S. McGill, **P. M. Gregg**, Q. Zhong, Elastic block modeling of fault slip rates across southern california using updated gps velocity data from the san bernardino mountains and vicinity, Geological Society of America *Abstracts with Programs*. Vol. 48, No. 5, doi: 10.1130/abs/2016NC-275226, 2016.
- §A. M. Hunt and **P. M. Gregg**, Near-axis seamounts as probes of mantle melting at the East Pacific Rise, Geological Society of America *Abstracts with Programs*. Vol. 48, No. 5, doi: 10.1130/abs/2016NC-275226, 2016.

2015

- ***P. M. Gregg** and J. C. Pettijohn, A multi-data stream assimilation framework for the assessment of volcanic unrest, AGU Fall Meet. Suppl., 2015
- J. C. Pettijohn, **P. M. Gregg**, and Y. Zhan, Sequential data assimilation strategies for utilizing ground deformation data to assess rapidly evolving magma reservoirs, AGU Fall Meet. Suppl., 2015.
- §Y. Zhan, **P. M. Gregg**, G. Hou, T. Kusky, Stress development in heterogenetic lithosphere: Insights into earthquake processes in the New Madrid Seismic Zone, AGU Fall Meet. Suppl., 2015
- +F. Albino, **P. M. Gregg**, F. Amelung, Can we infer the magma overpressure threshold before an eruption? Insights from ground deformation time series and numerical modeling of reservoir failure, AGU Fall Meet. Suppl., 2015
- §A. M. Rivera, F. Amelung, F. Albino, **P. M. Gregg**, P. Mothes, Volcano Deformation Sources at Tungurahua Volcano from Finite Element Methods and Multidisciplinary Data Integration, AGU Fall Meet. Suppl., 2015.
- §H. Lé Mévèl, **P. M. Gregg**, K. L. Feigl, Magma injection models to quantify reservoir dynamics at Laguna del Maule volcanic field, Chile, between 2007 and 2015, AGU Fall Meet. Suppl. 2015.
- ***P. M. Gregg**, E. B. Grosfils, S. L. de Silva, The Subordinate Role of Buoyancy in Triggering the Eruption of Large Magma Reservoirs, GSA Annual Meeting, 2015.

INVITED

- P. M. Gregg** and J.C. Pettijohn, A data assimilation framework for tracking magma chamber dynamics during periods of volcanic unrest, Gordon Research Conference: Interior of the Earth, 2015.

2014

- ***P. M. Gregg**, E. B. Grosfils, S. L. de Silva, Thermomechanics of triggering the eruption of large magma reservoirs: the effects of buoyancy and magma recharge AGU Fall Meet. Suppl., 2014. **INVITED**
- *§E. Guerrero, A. Meigs, E. Kirby and **P. Gregg**, Spatial Patterns of Channel Steepness in the Central Rockies: Do River Profiles Record Landscape Evolution Forcing by Yellowstone Dynamic Topography?, AGU Fall Meet. Suppl., 2014
- ***P. M. Gregg**, S. L. de Silva, and A. Mucek, Viscoelastic models of resurgence at Toba Caldera, 5th International Workshop on Collapse Calderas, Taupo NZ, 2014.
- *S. L. de Silva, Mucek A.M., Kaiser J., Grocke S., Iriarte R. & **P. M. Gregg**, Resurgence at Large Calderas: Rates, Styles, Magma Dynamics and Mechanisms, 5th International Workshop on Collapse Calderas, Taupo NZ, 2014.
- §A. Mucek, S. L. de Silva, and **P. M. Gregg**, Toba: A Resurging Caldera, 5th International Workshop on Collapse Calderas, Taupo NZ, 2014.

- §A. Mucek, S. L. de Silva, and **P. M. Gregg**, Toba: A Resurging Caldera, Cities on Volcanoes 8, Yogyakarta, Indonesia, 2014.
- *§E. Guerrero, A. Meigs, E. Kirby and **P. Gregg**, Spatial Patterns of Channel Steepness in the Central Rockies: Do River Profiles Record Landscape Evolution Forcing by Yellowstone Dynamic Topography?, Geological Society of America *Abstracts with Programs*. Vol. 46, No. 5, p.0, 2014.

2013

- ***P. M. Gregg**, M. R. Perfit, and D. J. Fornari, Petrologic-geodynamic models of the geochemical evolution of the segmented Siqueiros transform fault, AGU Fall Meet. Suppl., S53D-08, 2013. **INVITED**
- *E. B. Grosfils, P. J. McGovern, **P. M. Gregg**, G. A. Galgana, D. M. Hurwitz, S. M. Long, S. R. Chestler, Improving Mechanical Insight into Ring Fault Initiation and Caldera Formation via Elastic Models of Magma Reservoir Inflation, AGU Fall Meet. Suppl., V12C-06, 2013. **INVITED**
- §E. Guerrero, E. Meigs, and **P. M. Gregg**, Landscape and Drainage Evolution of the Bighorn Basin: Can We Deconvolve The Yellowstone Hot Spot Swell's Erosional Signal Using Geomorphic Markers? GSA Annual Meeting, T104, 2013.
- ***P. M. Gregg**, S. L. de Silva, and E. B. Grosfils, Thermo-mechanical models of magma chamber pressurization: Implications for chamber growth and caldera formation, IAVCEI Scientific Assembly, 3C-OC, 2013.
- *S. L. de Silva, **P. M. Gregg**, A thermomechanical perspective on caldera formation and classification, IAVCEI Scientific Assembly, 2013.

2012

- ***P. M. Gregg** and S. L. de Silva, Thermomechanics of overpressurizing a shallow crystallizing magma chamber, AGU Fall Meet. Suppl., V42A-06, 2012.
- *S. L. de Silva, **P. M. Gregg**, S. Grocke, J. M. Kern, J. F. Kaiser, R. Iriarte, D. H. Burns, C. Tierney, A. K. Schmitt, W. D. Gosnold, Thermal influences on the development and evolution of large catastrophic caldera-forming magmatic systems (Invited), Eos Trans. AGU, Fall Meet. Suppl., V42A-04, 2012.
- ***P. M. Gregg**, S. L. de Silva, E. B. Grosfils, Thermomechanics of caldera formation in large silicic systems, 4th International Workshop on Collapse Calderas, 2012.

2011

- ***P. M. Gregg**, S. L. de Silva, E. B. Grosfils, J. P. Parmigiani, Thermal-mechanics of roof failure and caldera formation in large silicic systems, Eos Trans. AGU, Fall Meet. Suppl., 2011.
- P. M. Gregg**, *S. L. de Silva, E. B. Grosfils, J. P. Parmigiani, Development, evolution and triggering of supereruptions, Geological Society of America, 2011.

2010

- P. M. Gregg**, S. L. de Silva, E. B. Grosfils, Rheological controls on roof failure in large caldera-forming eruptions, Eos Trans. AGU, Fall Meet. Suppl., 2010.

2009

- ***P. M. Gregg**, M. D. Behn, T. L. Grove, A. M. Shaw, Geodynamical and petrological modeling constraints of mantle potential temperature at mid-ocean ridges, Eos Trans. AGU, Fall Meet. Suppl., 2009, **INVITED**.
- A.M. Shaw, M.D. Behn, S. Humphris, R.A. Sohn, **P.M. Gregg**, Evidence for deep pooling of low degree melts from volatile, major, and trace element chemistry of olivine-hosted melt inclusions and glasses from the ultra-slow spreading Gakkel Ridge, AGU, Fall Meet. Suppl., 2009.
- *M. D. Behn, A. M. Shaw, **P. M. Gregg**, T. L. Grove, Mantle melting beneath the ultraslow spreading Gakkel Ridge: Insights from melt inclusions and numerical

- modeling, *Geochimica et Cosmochimica Acta*, Volume 73, Issue 13 Supplement 1, A103, June 2009.
- *P.M. Gregg**, Melt generation, crystallization, and extraction beneath segmented oceanic transform faults, Ocean Leadership – Marine Geosciences Leadership Symposium, 2009.
- 2007**
- *P. M. Gregg**, M. D. Behn, J. Lin, T. L. Grove, L. G. J. Montési, The effect of fault segmentation on the dynamics of fast-slipping oceanic transform faults, *Eos Trans. AGU*, Fall Meet. Suppl., Abstract T22E-04, 2007, **INVITED**.
- 2006**
- P. M. Gregg**, J. Lin, M. D. Behn, L. G. J. Montési, Spreading rate dependence of the gravity structure of oceanic transform faults: Contrast between ultra-slow/slow and intermediate/fast slipping systems, *Eos Trans. AGU*, Fall Meet. Suppl. Abstract V23E-0698, 2006.
- *P. M. Gregg**, J. Lin, M. D. Behn, L. G. J. Montési, Spreading rate dependence of the gravity structure of oceanic transform faults, WPGM Meet., T41B-05, 2006.
- 2005**
- P. M. Gregg**, J. Lin, D. K. Smith, Oceanic transform fault segmentation: constraints from hydroacoustic monitoring in the equatorial Pacific, Ridge 2000 Cyprus Field School, 2005.
- 2004**
- P. M. Gregg**, J. Lin, D. K. Smith, Characteristics and possible triggering relationship of earthquakes at the Pacific transform faults, *Eos Trans. AGU*, 85(47), Fall Meet. Suppl., Abstract T41A-1164, 2004.
- P. M. Gregg**, D. K. Smith, and J. Lin, Spatial and temporal patterns in the seismicity of the equatorial Pacific and possible earthquake triggering at the East Pacific Rise, *EOS Trans. AGU*, 85(17), 2004.
- 2003**
- P. M. Gregg**, D. K. Smith, and J. Lin, Spatial and temporal variability in seismicity of the East Pacific Rise: Constraints from hydroacoustic monitoring and evidence for triggering of transform earthquakes, *Eos Trans. AGU*, 84(46), Fall Meet. Suppl., Abstract B12A-0745, 2003.
- 2000**
- P. M. Gregg**, D. K. Smith, L. S. Kong, K. Johnson, et al., Lava Depocenters at the Summit of the Submarine Puna Ridge, Kilauea Volcano, Fall AGU 2000.
- C. J. Weiss, **P. M. Gregg**, G. A. Newman, Electromagnetic induction in a fully 3D heterogeneous anisotropic earth, Fall AGU 2000.

GRANTS & FUNDING

- Current** Mardsen Fund, Royal Society of New Zealand | PI: S. Pearson-Grant (GNS Science, New Zealand), co-I's: C. Miller (GNS Science, New Zealand), S. Ellis (GNS Science, New Zealand), **P. Gregg**, T. Driesner (ETH Zurich)
What drives a volcano to phreatic eruption?
 Total Award: n/a
 Date: October 2020 – September 2023
- NSF GEO-NERC | PI P. LaFemina (Penn. State), **co-PI P. Gregg**
Collaborative Research: NSF GEO-NERC: Mechanisms of deformation through a complete eruption cycle of Sierra Negra volcano, Galapagos Islands

Total Award: \$348,441
Date: October 2021 – September 2024

NSF-CAREER | PI P. Gregg

CAREER: Investigating the unrest and eruption potential of caldera forming volcanoes in the Aleutians

Total Award: \$485,063
Date: September 2018 – August 2024

NASA – Earth Surface and Interior | PI P. Gregg, Co-I Z. Lu (SMU)

A Geodetic Data Assimilation Framework for Monitoring Aleutian Volcanoes

Total Award: \$541,921
Date: January 2019 – January 2024

Previous

NSF-OCE Marine Geology & Geophysics | PI P. Gregg

Testing eruption-triggering mechanisms at Axial Caldera using statistical data assimilation

Total Award: \$272,587
Date: September 2016 – August 2021

NSF-OCE Marine Geology & Geophysics | PI P. Gregg, co-PI's D. Fornari (Woods Hole Oceanographic Institution) and M. Perfit (University of Florida)

Collaborative Research: Melting in the Off-Axis Environment - Interdisciplinary Field and Modeling Studies of the 8° 20'N Seamount Chain, EPR.

Total Award: \$495,000
Date: September 2015 – August 2019

NASA – Earth Surface and Interior | PI F. Amelung (U Miami) co-PI P. Gregg

Near-real time InSAR observations of precursory deformation during volcanic crises

Total Award: \$350,000
Date: January 2015 – December 2018

NSF-EAGER, OCE Ship Operations | PI P. Gregg, Co-I Dorsey Wanless (Boise State University)

EAGER: Early Career Training Cruise Opportunity - East Pacific Rise 9 50'N

Total Award: \$78,642
Date: June 2018 – May 2020

BlueWaters Illinois Allocation | PI P. Gregg

Forecasting Volcanic Unrest and Eruption Potential Using Statistical Data Assimilation

Total Award: 85,000 XE6 Node Hours, \$52,700 equivalent
Dates: June 2018 - March 2019

American Geophysical Union Chapman Conference Proposal

Proposal Committee: A. Amigo (Servicio Nacional de Geología y Minería), C. Cardona (Servicio Nacional de Geología y Minería), C. Thurber (U WI – Madison), F. Costa (Earth Observatory of Singapore), J. Dufek (Georgia Tech), Martyn Unsworth (U Alberta), **P. Gregg (UIUC)**, A. Grunder (OSU), Allen Glazner (UNC), G. Bergantz (U WA), G. Waite (MTU), S. Prejean (USGS), M. Pritchard (Cornell), J. Farrell (U Utah), T. Masterlark (SD School of Mines)

Merging geophysical, petrochronologic, and modeling perspectives to understand large silicic magma systems

Conference Date: January 2018

NCSA Faculty Fellow Program UIUC | **PI P. Gregg**

A Data Assimilation Framework for Forecasting Volcanic Unrest

Total Award: \$25,000

Date: July 2017 – June 2018

BlueWaters Illinois Allocation | **PI P. Gregg**

Forecasting Volcanic Unrest and Eruption Potential Using Statistical Data Assimilation

Total Award: 85,000 XE6 Node Hours, \$52,700

Date: June 2018 – April 2019

EAR-0815101 EAR Postdoctoral Fellowship | **PI Gregg**, 09/01/2008 – 08/31/2010 (no-cost extension through 08/31/2011), *The role of diiking in the evolution of continental rift systems*. \$160,000.