

Curriculum Vitae

Jenny Suckale

Office:

Department of Geophysics
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Education

Ph.D., Geophysics, Massachusetts Institute of Technology, 2011.

Dissertation: *Direct numerical simulations of multi-phase flow with applications to basaltic volcanism and planetary evolution.*

Advisor: Linda T. Elkins-Tanton.

Field of study: Numerical methods for geophysics.

M.P.A., Master of Public Administration, Harvard University, Kennedy School of Government, 2006.

Concentration: Science, Technology & Public Policy, and Quantitative Analysis.

Advisor: William Clark.

M.Sc., Physics (with Distinction), Free University Berlin, Germany, 2002.

Concentration: Theoretical Physics, Quantum Field Theory.

Advisor: Felix von Oppen.

Academic Positions

Assistant Professor, Department of Geophysics, Stanford University, since 2014.

Lecturer in Applied Mathematics, School of Engineering and Applied Science, Harvard University, 2011-2013.

Ziff Environmental Fellow, Harvard Center for the Environment, Harvard University, 2011-2013.

Associate Member, Applied Mathematics Group, Lawrence Berkeley National Laboratory, since 2008.

Publications

Manuscripts in Preparation

T. Perol, J. Platt, J.R. Rice, J. Suckale “Stressing, Hydraulic and Locking Processes at Ice Stream Margins”, *to be submitted to the Journal of Geophysical Research.*

Manuscripts under Review

J. Suckale, I.B. Belien, B.H. Hager, K.V. Cashman, P.O. Persson “Slug or Plug? A second look at the mechanism of normal activity at Stromboli”, *submitted to Nature.*

J. Suckale, L.T. Elkins-Tanton, “The possibility of catastrophic magma-ocean degassing and implications for the formation of early planetary atmospheres”, *submitted to Earth and Planetary Science Letters.*

Peer Reviewed Articles

- J. Suckale, T. Perol, J. Platt, J.R. Rice “Deformation-induced melting in the margin of Whillans ice stream (B2), Siple Coast, Antarctica, and implications for ice-stream dynamics”, *Journal of Geophysical Research*, 119, doi:10.1002/2013JF003008, 2014.
- J. Suckale, L.T. Elkins-Tanton, J. Sethian, “Crystals stirred up: 2. Numerical insights into the formation of the earliest crust on the Moon”, *Journal of Geophysical Research*, 117, E08005, 2012.
- J. Suckale, J. Sethian, J. Yu, L.T. Elkins-Tanton, “Crystals stirred up: 1. Direct numerical simulations of crystal settling in non-dilute magmatic suspensions”, *Journal of Geophysical Research*, 117, E08004, 2012.
- J. Suckale, B.H. Hager, L.T. Elkins-Tanton, J.-C. Nave, “Reply to the comment by James et al. on It takes three to tango: 2. Bubble dynamics in basaltic volcanoes and ramifications for modeling normal Strombolian activity”, *Journal of Geophysical Research*, 116, B06208, 2011.
- J. Suckale, B.H. Hager, L.T. Elkins-Tanton, J.-C. Nave, “It takes three to tango: 2. Bubble dynamics in basaltic volcanoes and ramifications for modeling normal Strombolian activity”, *Journal of Geophysical Research*, 115, B07410, 2010.
- J. Suckale, J.-C. Nave, B.H. Hager, “It takes three to tango: 1. Simulating buoyancy-driven flow in the presence of large viscosity contrasts”, *Journal of Geophysical Research*, 115, B07409, 2010.
- J. Suckale, “Large to Moderate Seismicity Induced by Hydrocarbon Production”, *The Leading Edge*, 29, 310–319. 2010.
- J. Suckale, S. Rondenay, M. Sachpazi, M. Charalampakis, A. Hosa, and L. Royden, “High-resolution seismic imaging of the western Hellenic subduction zone using teleseismic scattered waves”, *Geophysical Journal International*, 178 (2), 775–791. 2009.
- J. Suckale, “Induced Seismicity in Hydrocarbon Fields”, *Advances in Geophysics*, 51, 55–106, 2009.
- J. Suckale, G. Grünthal, “Probabilistic seismic hazard model for Vanuatu”, *Bulletin of the Seismological Society of America*, 99 (4), 2108–2126. 2009.

Professional Experience

- Research Fellow, Seismic Hazards, GeoForschungsZentrum (GFZ), Potsdam, Germany, 2003–2004.
- Research Fellow, Seismic Hazards, Institute de Recherche pour le Développement (IRD), Nice, France, 2003.
- Scientific Consultant, Communities at Risk Program, South Pacific Applied Geoscience Commission, Suva, Fiji Islands, 2003.
- Research Assistant, GeoForschungsZentrum (GFZ), Potsdam, Germany, 2002.
- Freelancer, German National Commission for UNESCO, Berlin, Germany, 2001–2002.
- Consultant, South African National Commission for UNESCO, Pretoria, South Africa, 2000.

Teaching Experience

- Instructor for “Scientific Computing”, Harvard University, Spring 2011.
- Co-instructor for “D³: Disasters, Design and Development”, Harvard University, Fall 2011. (An interdisciplinary seminar bridging engineering, public policy and urban planning to improve disaster preparedness in urban regions.)
- Teaching Assistant for “Building Earth-like Planets: From Nebular Gas to Ocean Worlds”, Massachusetts Institute of Technology, Fall 2009.
- Teaching Assistant, Institut für Produktives Lernen in Europa (Institute for Productive Learning in Europe), Spring 2002.
- Teaching Fellow for “Mathematics for Physicists”, Department of Mathematics, University Regensburg, Fall 1998.
- Teaching Fellow for “Mathematics for Chemists”, Department of Mathematics, University Regensburg, Spring 1998.

Awards and Honors

Ziff Environmental Fellow, Harvard Center for the Environment, Harvard, 2010.
Miller Research Fellowship (declined), University of California, Berkeley, 2010.
Graduate Student Research Grant, Geological Society of America, 2009.
Outstanding Student Paper Award, American Geophysical Union, Fall Meeting, 2008.
Graduate Student Research Grant, Massachusetts Institute of Technology, 2007 and 2009.
Presidential Fellow, Massachusetts Institute of Technology, 2006–2007.
McCloy Scholar, German National Merit Foundation, 2004–2005. (The McCloy Scholarship is comparable to the Rhodes Scholarship. It is granted nationwide to six students per year.)
Scholarship, Robert Bosch and German National Merit Foundation, 2002–2003.
Scholarship, German National Merit Foundation, 1997–2002.

Invited Talks

Department seminar, UC Santa Cruz, April 2013.
 Department seminar, UC Berkeley, January 2013.
 Widely Applied Mathematics seminar, Harvard University, November 2012.
 Department seminar, Massachusetts Institute of Technology, November 2012.
 Department seminar, Stanford University, March 2012.
 Department seminar, University of British Columbia, January 2012.
 Computational Geoscience seminar, Stanford University, December 2011.
 Geophysics seminar, German Research Centre for Geosciences, January 2011.
 Applied Mathematics seminar, Lawrence Berkeley National Laboratory, August 2010.
 Solid Earth seminar, Harvard University, May 2010.
 Solid Earth seminar, Boston University, April, 2010.
 Solid Earth seminar, ETH Zürich, June, 2009.
 Aerospace Computational Design Laboratory seminar, Massachusetts Institute of Technology, May, 2009.
 Geophysics seminar, Princeton University, February, 2009.
 Geophysics seminar, Yale University, February, 2009.
 Joint Mathematics Meeting, American Mathematical Society, Washington, DC, January, 2009.
 Department seminar, University of Oregon, December, 2008.
 International Union of Geodesy and Geophysics, Annual Meeting, July, 2007.

Languages

German (mother language)
 French (very good)
 Italian (good)
 Spanish (basic)

Conference Participation

Fall Meeting of the American Geophysical Union, 2007–2013.
 Joint Meeting of the European Planetology Network and the Division for Planetary Sciences of the American Astronomical Society, 2011.
 Annual Meeting of the European Geophysical Union, 2008, 2010.
 Lunar and Planetary Science Conference, 2010.
 Joint Mathematics Meeting of the American Mathematical Society, 2009.
 International Union of Geodesy and Geophysics, Annual Meeting, 2007.

Professional Memberships

American Geophysical Union
 Geological Society of America
 Mineralogical Society of America
 German Association for the United Nations
 Geohazards International