

Josef D. Dufek

School of Earth and Atmospheric Science
Georgia Institute of Technology
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Education

University of Washington, Department of Earth and Space Science, Seattle, WA

Ph.D. in Earth and Space Science, 2006.

Thesis: *The Ascent and Eruption of Arc Magmas: A Physical Examination of the Genesis, Rates, and Dynamics of Silicic Volcanism.* (Advisor George Bergantz)

University of Washington, Department of Earth and Space Science, Seattle, WA

M.S. in Geology, 2004.

Thesis: *Lower Crustal Magma Genesis and Preservation: A Stochastic Framework for the Evaluation of Basalt-Crust Interaction* (Advisor George Bergantz)

University of Chicago, Department of Geophysical Sciences, Chicago, IL

B.Sc., 2000 with Honors in Geophysical Sciences

Honors Thesis: *A Coupled Dynamic Glacier-Atmosphere Model of the Climate of Early Mars* (Advisor Raymond Pierrehumbert)

Research Interests

Comparative Planetology, natural hazards, physical petrology, explosive eruption dynamics, turbulent multiphase flow, magma dynamics, mass and heat transfer in the crust and geochemical consequences, and planetary volcanism.

Positions

Associate Chair, School of Earth and Atmospheric Sciences, Georgia Institute of Technology, 2014 –

Professor, Georgia Institute of Technology, 2016 -

Associate Professor, Georgia Institute of Technology, 2013 - 2016

Assistant Professor, Georgia Institute of Technology, 2008 - 2013

Miller Postdoctoral Fellow, University of California, Berkeley, 2006 – 2008

Research Assistant, University of Washington, 2001-2006.

Laboratory Research Assistant, University of Chicago, 2001.

Lunar and Planetary Institute Internship, 1999

Awards and Honors

- Kavli Frontiers of Science Fellow, US National Academy/Chinese National Academy Symposium
- Macelwane Medal, AGU Union award, 2012.
- AGU Fellow, 2012.
- Blanchard-Milliken College of Science Faculty Fellowship, 2012-2014.
- NSF CAREER Award, 2012.
- IAVCEI George Walker Award, 2011
- AGU H. Kuno Early Career Award, 2010
- Miller Postdoctoral Fellowship, 2006 - 2008
- AGU student paper award, Fall Meeting 2004.
- David Johnston Award recognizing graduate research (University of Washington), 2004.
- NASA Earth Systems Science Fellowship (2004 - 2006).
- National Defense Science and Engineering Graduate Fellowship, 2001-2004
- NSF Graduate Fellowship, declined to receive National Defense Fellowship

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- Achievement Rewards for College Scientists (ARCS) Fellowship, 2001.
- Inducted into Phi Beta Kappa Honor Society, 1999.
- University of Chicago Student Marshal, Academic Honor, 2000.
- University of Chicago College Honors Scholarship, 1996-2000.
- National Merit Scholarship, 1996.
- United States Senate Youth Scholarship (program sponsored by William Randolph Hearst Foundation and U.S. Senate).
- Robert C. Byrd Honors Scholarship, 1996-2000.

Classes Taught

Physical Volcanology, Fluid Dynamics, Seminar in Multiphase Flow, Natural Hazards, Field Methods, Seminar in Instrument Design for Extreme Conditions

Committees – Georgia Tech

EAS Strategic Planning Committee, Chair, 2014 – Present
EAS Promotions and Tenure, Co-Chair, 2014 - Present
EAS Chair Search Committee: 2012-2013
Physics Chair Search Committee: 2013
EAS Graduate Admission Co-Chair (2013-Present)
EAS Faculty Search Committee: 2008-2009, 2012-2013 (Planetary and Solid Earth)
EAS Graduate Admissions Committee: 2008- Present.
EAS Awards Committee: 2009-2011.
EAS Postdoctoral Committee (Chair): 2010-Present.
EAS Chair Advisory Committee. 2011 – Present

Professional Activities

Associate Editor, *Bulletin of Volcanology*, 2016 -
Ambassador Award Steering Committee Member, AGU Union Award, 2014 - Present.
Center Interdisciplinary Deep Earth Research (CIDER) Instructor in Berkeley, CA Summer 2013
Macelwane Award Committee (Chair), VGP Section, 2014 - Present
AGU VGP Education and Outreach Committee: 2010 – Present.
VHUB (Community wide cyber-infrastructure project) Steering Committee: 2009 – Present.
Computational Infrastructure for Geodynamics Representative (2011 – Present)
Convened sessions at AGU (2007, 2009, 2010, 2012), IAVCEI (2008), and IUGG (2011)
Reviewer for *Earth and Planetary Science Letters*, *Journal of Geophysical Research*, *Journal of Volcanology and Geothermal Research*, *Bulletin of Volcanology*, *Journal of Theoretical and Computational Fluid Dynamics*, *Journal of Geology*, *Journal of Petrology*, *Science*, *Geology*, *Tectonophysics*, and NSF Petrology and Geochemistry, CSEDI, and Geophysics Programs.

Publications (in review, in press and published)

*Indicates student or postdoc. in Dufek Group

Karakas, O.*, Dufek, J., Mangan, M.T., Wright, H. and Bachmann, O. (2016) *Thermal and petrologic constraints on lower crustal melt accumulation under the Salton Sea Geothermal Field*, in review, *Earth and Planetary Science Letters*.

Karakas, O., Degruyter, W., Bachmann, O. and Dufek, J. (2016) *Crustal-scale magmatism and its impact on growth and longevity of reservoirs*, in review, *Nature*.

Head, J. W., Qiao, L., Wilson, L., Xiao, L., and Dufek, J. (2016) *Ina Pit Crater on the Moon: Origin as a Drained Summit Lava Lake Modified by Seismic Sieving*, submitted to *Geology*.

Breard, E., Lube, G., Jones, J., Dufek, J., Cronin, S., Valentine, G., Moebis, A. (2016), *Revealing the internal structure of pyroclastic flows*, in *Press*, *Nature Geosciences*.

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- Dufek, J. (2016) *The Fluid Dynamics of Pyroclastic Density Currents*. Annual Reviews of Fluid Mechanics, Invited Contribution.
- Mendez-Harper, J.* and Dufek, J. (2016) *The effects of granular dynamics on ash tribocharging*. Journal of Geophysical Research. DOI:10.1002/2015JD024275.
- Benage, M.*, Dufek, J., Mothes, P.A. (2016) *Thermal history of pyroclastic density currents and pyroclasts at Tungurahua, Ecuador*, Geophysical Research Letters, DOI:10.1002/2016GL069527.
- Sliwinski, J., Bachmann, O., Ellis, B., Pablo, D.H., Nelson, B., and Dufek, J. *Eruption of shallow crystal cumulates during caldera-forming events on Tenerife, Canary Islands* (2015), Journal of Petrology, doi: 10.1093/petrology/egv068.
- Lillis, R., Dufek, J., Kiefer, W., Black, B., Manga, M., Richardson, J., and Bleacher, J. (2015). *The Syrtis Major volcano, Mars: a multidisciplinary approach to interpreting its magmatic evolution and structural development*. Journal of Geophysical Research. doi: 10.1002/2014JE004774
- Dufek, J. (2015) *Eruptive Dynamics of the Kos Plateau Tuff* in Volcanism in the Eastern Aegean. (Springer, 2015) In revision (Invited Book Chapter).
- Karakas, O.* and Dufek, J. (2015) *Melt Generation and Residence in Extensional Environments: Modeling the Thermal Evolution of Crustal Magmas*. Earth and Planetary Science Letters, 425, 131-144.
- Young, C.*, Sokolik, I., Flanner, M. and J. Dufek (2014) *Surface radiative impacts of ash deposits from the 2009 eruption of Mt. Redoubt*. Journal of Geophysical Research – Atmospheres, 119, 11,387-11,397.
- Dufek, J., O. Roche, and T. Ongaro, (2015) *Pyroclastic density currents: processes and models* in Encyclopedia of Volcanoes. (Academic Press)
- Rader, E., Geist, D., Geissman, J., Dufek, J., and Harpp, K., (2015) *Hot clasts and cold blasts: thermal heterogeneity in boiling-over pyroclastic density currents*. Geological Society of London, Special Publications, Volume 396.
- Myers, M., Geist, D. Rowe, M. Harpp, K., Wallace, P. and Dufek, J. (2014) *Replenishment of volatile-rich mafic magma into a degassed chamber drives mixing and eruption of Tungurahua volcano*, in press, Bulletin of Volcanology, Volume 76, 1-17.
- Young, C., Sokolik, I., Flanner, M. and Dufek, J. (2014) *Surface radiative impacts of ash deposits from the 2009 eruption of Mt. Redoubt*. Journal of Geophysical Research – Atmospheres, 119, 11,387-11,397.
- Huber, C., Su, Y., Nguyen, C., Parmigiani, A., Gonnermann, H., and Dufek, J., (2014) *A new bubble dynamics model to study bubble growth, deformation and coalescence*, Journal of Geophysical Research, 119, doi:10.1002/2013JB010419.
- Young, C.*, Dufek, J. and Sokolik, I. (2014) *Assessment of depositional ash loadings from the 2009 eruption of Mt. Redoubt*. Journal of Volcanology and Geothermal Research, 274, 122-138.
- Benage, M.*, Dufek, J., Degruyter, W.*, Geist, D., Harpp, K., Rader, E. (2013) *Tying Textures of Breadcrust Bombs to their Transport Regime and Cooling History*. Journal of Volcanology and Geothermal Research, 274, 92-107.
- Wray, J., Hansen, S., Dufek, J. et al. (2013) *Prolonged magmatic activity on Mars inferred from the detection of felsic rocks*. Nature Geoscience, 6m 1013-1017 doi:10.1038/ngeo1994.
- Telling, J.*, Dufek, J. and Shaikh, A. (2013) *Ash aggregation in explosive volcanic eruptions*. Geophysical Research Letters, Vol. 40, 2355–2360

- Estep, J.* and Dufek, J. (2013) *Discrete Element Simulations of Bed Force Anomalies due to Force Chains in Dense Granular flows*. 2013. *Journal of Volcanology and Geothermal Research*, Vol. 254, 108-117.
- Nguyen, C., Gonnermann, H., Chen, Y., Huber, C, Dufek, J., Maiorano, A., and Gouldstone, A. (2013) *The Lifetime of Bubbles: Film Drainage and Bubble Coalescence*, *Geochemistry, Geophysics, Geosystems*, DOI: 10.1002/ggge.20198
- Dufek, J., Patel, A., and Manga, M. (2012) *Granular Disruption During Explosive Volcanic Eruptions*. *Nature Geoscience*, DOI: 10.1038/NGEO1524.
- Young, C.L.*, Sokolik, I.N., and Dufek, J. (2012) *Assessment of regional radiative effects from the 2009 eruption of Redoubt volcano aided by NASA A-train data*, *Atmospheric Chemistry and Physics*. Volume 12, Issue 8, pp.3699-3715.
- Huber, C., Bachmann O., Vignerresse, J.-L., Dufek J., Parmigiani A., (2012) *A physical model for metal extraction and transport in shallow magmatic systems*, *Geochemistry, Geophysics and Geosystems*, Vol. 13, p18.
- Estep, J.* and Dufek, J. *Substrate effects from force chain dynamics in dense granular flows*. (2012) *Journal of Geophysical Research, Earth Surface*. Volume 117, Issue F1, F01028.
- Huber, C., Bachmann, O. and Dufek, J. (2012) *Crystal-poor versus crystal-rich ignimbrites: A competition between stirring and rejuvenation*, *Geology*, V. 40, 115-118.
- Telling, J.* and Dufek, J. (2012) *An experimental evaluation of the role of water vapor and collisional energy on ash aggregation in explosive volcanic eruptions*. *Journal of Volcanology and Geothermal Research*, V209-210, 1-8.
- Manga, M., Patel, A., Dufek, J. and Kite, E. (2012) *Wet surface and dense atmosphere on early Mars inferred from the bomb sag at Home Plate, Mars*, *Geophysical Research Letters*, V.39,1.
- Huber, C.*, Dufek, J. and Chopard, B. (2011) *A simple algorithm to enforce Dirichlet boundary conditions in complex geometries*, *International Journal of Modern Physics C*, DOI No: 10.1142/S0129183111016774.
- Deering, C.D., Bachmann, O., Dufek, J. and Gravley, D.M. (2011) *Rift-related transition from andesite to rhyolite in the Taupo Volcanic Zone (New Zealand) controlled by crystal-melt dynamics in mush zones with variable mineral assemblages*. *Journal of Petrology*, 52 (11), 2243-2263.
- Huber, C.*, Parmigiani, A., Latt, J., Dufek, J. (2010) *The control of surface tension in the flux of buoyant non-wetting phase through a saturated porous media and the stability of fingering instabilities*, *Physica A*, In review.
- Latham, T.L., Kumar, P., Nenes, A., Dufek, J., Sokolik, I., Trail, M., Russell, A. (2011) *The hygroscopic properties of volcanic ash*, *Geophysical Research Letters*, V. 38, L11802.
- Huber, C*, Bachmann, O, Dufek, J (2010) *Thermo-mechanical reactivation of locked crystal mushes: melting-induced internal fracturation and assimilation processes in magmas*. *Earth and Planetary Science Letters*, V. 304, Issue 3-4, 443-454.
- Manga, M., Patel, A., and Dufek, J. (2011) *Rounding of pumice clasts during transport: field measurements and laboratory studies*. *Bulletin of Volcanology*, 73(3), 321-333.
- Dufek, J. and Bachmann, O. (2010) *Quantum magmatism: Magmatic compositional gaps generated by melt-crystal dynamics*, *Geology*, V38, Is. 8, 687-690.

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- Huber, C.*, Bachmann, O., Dufek, J. (2010) *The limitations of melting in the rejuvenation of silicic crystal mushes*. Journal of Volcanology and Geothermal Research. V195, Is. 2-4, 97-105.
- Stroberg, T.W., Manga, M., and Dufek, J. (2010) *Heat Transfer Coefficient of Natural Volcanic Clasts*. Journal of Volcanology and Geothermal Research. V. 194, Is. 4, 214-219.
- Dufek, J., Huber, C., and Karlstrom, L. (2010) *Magma Chamber Dynamics and Thermodynamics*. Book Chapter, Cambridge University Press, *In Press*.
- Karlstrom, L., Dufek, J. and Manga, M. (2010) *Magma Chamber Stability in arc and continental crust*. Journal of Volcanology and Geothermal Research, 190, 249-270.
- Dufek, J., Wexler, J., and Manga, M. (2009) *The Transport Capacity of Pyroclastic Flows: Experiments and Models of Substrate-Flow Interaction*. Journal of Geophysical Research, 114. B11203. DOI: 10.1029/2008JB006216.
- Karlstrom, L., Dufek, J. and Manga, M. (2009) *Organization of volcanic plumbing through magmatic lensing by magma chambers and volcanic loads*. Journal of Geophysical Research, 114. B10204, DOI: 10.1029/2009JB006339.
- Lillis, R.J., Dufek, J., Bleacher, J.E., and Manga, M. (2009) *Thermal demagnetization of crust by magmatic intrusion in southwestern Tharsis, Mars*. Journal of Volcanology and Geothermal Research. 185. 123-138.
- Dufek, J. and Manga, M. (2008) *The In-Situ Production of Ash in Pyroclastic Flows*. Journal of Geophysical Research, 113, B09207, doi:10.1029/2007JB005555.
- Leeman, W.P., Annen, C., and Dufek, J. (2008) *Snake River Plain-Yellowstone silicic volcanism: implications for magma genesis and crustal evolution*. Geological Society of London.
- Ruprecht, P. Bergantz, G., and Dufek, J. (2008) *Modeling of Gas-Driven Magmatic Overturn: Tracking of Phenocryst Dispersal and Gathering During Magma Mixing*. Geochemistry, Geophysics, Geosystems, 9, Q07017, doi:10.1029/2008GC002022.
- Dufek, J. and Bergantz, G.W. (2007). *The dynamics and deposits generated by the Kos Plateau Tuff eruption: I. The control of basal particle loss on pyroclastic flow transport*. Geochemistry, Geophysics, Geosystems, 8, doi:10.1029/2007GC001741.
- Dufek, J., Manga, M. and Staedter, M. (2007). *Littoral Blasts: Pumice-water heat transfer and the conditions for steam explosions when pyroclastic flows enter the ocean*. Journal of Geophysical Research, 112, B11201, doi:10.1029/2006JB004910.
- Dufek, J. and Bergantz, G.W. (2007) *The suspended-load and bed-load transport of particle laden gravity currents: Insight from pyroclastic flows that traverse water*, Theoretical and Computational Fluid Dynamics, 21, 119-145.
- Dufek, J. and Cooper, K.M. (2006) Radium excess generated in the lower crust: Comment and Reply. *Geology*. 34 (1), e104.
- Dufek, J. and Bergantz, G.W. (2005) *Lower Crustal Magma Genesis and Preservation: A Stochastic Framework for the Evaluation of Basalt-Crust Interaction*, Journal of Petrology. 46, 2167-2195.
- Dufek, J. and Bergantz, G.W. (2005) *Transient two-dimensional dynamics in the upper conduit of a rhyolitic eruption: A comparison of closure models for the granular stress*, Journal of Volcanology and Geothermal Research, 143, 113-132.
- Herrick, R.R., Dufek, J. and McGovern, P.J. (2005) *The Evolution of Large Shield Volcanoes on Venus*. Journal of Geophysical Research, Vol. 110. (EO1002), 1-19.
- Dufek, J. and Cooper, K.M. (2005). *(²²⁶Ra)/(²³⁰Th) excess generated in the upper mantle and lower crust: Implications for magma transport and storage time scales*. *Geology*. 33 (10), 833-836.

Petcovic, H.L. and Dufek, J. (2005) *Modeling of Magma Flow and Cooling Dikes: Implications for Emplacement of Columbia River Flood Basalts*. Journal of Geophysical Research, Vol. 110 (B10201), 1-15.

Wallace, P.J., Dufek, J., Anderson, A.T., and Zhang, X.Y. (2003) *Cooling rates of Plinian-fall and pyroclastic-flow deposits in the Bishop Tuff: inferences from water speciation in quartz hosted glass inclusion*, Bulletin Of Volcanology, 65 (3), 105-123.

Keynote Addresses, Invited Conference Presentations and Invited Seminars

International Meeting of Multiphase Flow, Keynote, 2016
University of Oregon, Fluid Dynamics Seminar, 2016
Isaac Newton Institute, Cambridge University, 2016
Brown University, Planetary and Department Seminar, 2015
University of Illinois, Geology Seminar, 2015
University of Utah, Geology Seminar, 2015
Gordon Invited Talk, 2015
Canterbury University (NZ), Geology Seminar, April 2015
AGU Invited Talk, 2014
Computational Math and Geophysics, Keynote talk, Sept. 2014
American Museum of Natural History, March 2014.
AGU Invited Talk, 2013
Yale University Department Seminar, October 2013.
Emory University Physics Department Seminar, Sept. 2013.
Harvard Solid Earth Seminar Series, Feb. 2013.
University of Florida Seminar Series, April 2013.
University of Chicago Geophysical Sciences Seminar Series, April 2013.
University of South Florida Seminar Series, Feb. 2013.
University of Wisconsin Department Seminar Series, Scheduled Feb. 2013
Cornell Earth and Atmospheric Science Seminar Series, Jan. 2013.
University of Texas Institute of Geophysics Seminar Series, November, 2012.
AGU Invited Talk, December, 2012.
University of Washington Seminar, March, 2012.
Princeton University Seminar, February, 2012.
4D Adamello Conference, Keynote Speaker, Bagolino, Italy, 2012.
USC Department Seminar Series, April, 2012.
Caltech Department Seminar, October 2011.
DTM Carnegie Institution Seminar, May 2011.
Stanford Department Seminar, January 2011.
AGU Invited Talk, December 2010.
Keynote Talk, Mathematical Geophysics, Pisa, Italy, June 2010.
AGU Invited Talk, December 2009
Virginia Tech Department Seminar, November 2009.
Scripps Institution of Oceanography Department Seminar, January 2010.
ASME Forum on Multiphase Processes in Geophysical and Environmental Flows. Invited Meeting Presentation. August 2009.
Cooperative Institute for Deep Earth Research, Keynote Presentation. May 2009.
Portland State University, Department of Geology Seminar, April 2009.
University of Georgia, Department of Geology Seminar, January 2009.
Georgia Institute of Technology, Department of Physics Seminar, October 2008.
Cascades Volcano Observatory (USGS), Hazards Seminar, April 2008.
Natural Disasters in Small Communities Conference, Keynote Presentation, March 2008.
USGS Volcanoes Hazards Seminar Series, Menlo Park, CA, March 2008.
Vanderbilt University, Department of Earth and Environmental Sciences Seminar, February 2008.
University of California, Davis, Department of Geology Seminar. January 2008.
AGU Invited Talk, December 2007.
Massachusetts Institute of Technology, EAPS Seminar, March 2007.
Princeton University, Department of Geological Sciences Seminar. April 2007.
University of Oregon, Department of Geology Seminar. May 2007.
University of California, Santa Cruz, Department of Geology Seminar. October 2007.
University of British Columbia, Complex Fluids Seminar. March 2007.
Invited Presentation. International Union of Geodesy and Geophysics, Perugia Italy. July 2007.
University of California, Berkeley, Seismology Seminar. October 2006.

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California Institute of Technology, Department of Geological and Planetary Sciences Seminar. November, 2006.

University of Maryland, Department of Geology Seminar, February 2006.

Georgia Institute of Technology, School of Earth and Atmospheric Sciences Seminar, February 2006.

Rice University, Department of Earth Science Seminar, April 2006.

AGU Invited Talk, 2006.

University of British Columbia, Seminar in the Department of Earth and Ocean Sciences, February, 2005.

AGU Invited Talk, 2005.

Arizona State University, Seminar in the Department of Geological Sciences, November 2004.

Keynote Talk. International Association of Volcanology and Chemistry of the Earth's Interior Meeting (IAVCEI), November 2004.

AGU Invited Talk, 2004.

Research Grants

- Multi-scale dynamics in explosive volcanic eruptions, NSF : 9/1/08 – 9/1/11, \$190,000, (PI).
- Boiling-over Pyroclastic Flows, NSF : 1/1/09 – 1/1/12, \$175,000, (PI).
- The Dynamics of Explosive Phreatomagmatic Events on Mars: The Role of Atmospheric Pressure in Determining Eruptive Style and Deposit Architecture, NASA: 6/1/09 – 5/31/12, \$242,419, (PI).
- The magmatic history of Tharsis: Insight from thermal, mechanical and magnetic field modeling, NASA: 6/1/09 – 5/31/12, \$55,711 (CoI, Subcontract UC, Berkeley)
- A Closer Look at the May 18th, 1980 Pumice Plain Deposits: Implications for Assessing Eruptive Conditions and Pyroclastic Density Current Dynamics, NSF: 1/1/10 – 12/31/12, \$128,400 (PI).
- Eruptive Potential of Silicic Magmas: Thermodynamic and Fluid Dynamics Modeling, and Implications to the Evolution of Selected Natural Systems, NSF 6/1/10-5/31/13, 103,035 (PI).
- Enceladus' Plume: Coupling Eruptive Dynamics to Plasma Dynamics, NASA, 9/1/11 – 8/31/2014, \$300,000 (CoI).
- Development of Hands-on Fluid Dynamics Modules for EAS, Georgia Tech Technology Fund: 2011, \$24,400 (PI).
- CAREER: The Role of Proximal Dynamics and Particle Aggregation in Ash Dispersal: An Educational, Numerical, Field and Laboratory Approach, NSF, 1/1/12 – 1/1/17, \$470,000 (PI).
- Accomplishment Based Renewal: Multiscale dynamics in explosive volcanic eruptions, NSF, 1/1/12-1/1/14, \$202,386 (PI).
- Collaborative Research: Heterogeneous Bubble Dynamics in Volcanic Conduits, NSF, 1/1/12-1/1/14, \$151,470 (Co-PI).
- Collaborative Research: ENH: Physical Modeling of Submarine Volcanic

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- Eruption Generated Tsunamis, NSF, 8/1/16 – 8/1/19, \$659,803.00 (Co-I).
- Collaborative Research: Windows of opportunity: Exploring the controls on the depths of eruption-forming silicic magma bodies using improved thermodynamics and dynamics models, NSF, 7/1/13 – 6/31/15, \$59,116 (PI).
 - Collaborative Research: Dynamics of caldera-scale rhyolitic magma systems, 6/1/14 – 5/31/19, NSF, \$354,600 (PI).
 - Plume Morphology on Europa: Assessment of the Driving Forces, Multiphase Plume Dynamics, and Plasma Environment, JPL Contract, 7/21/14 – 7/21/15, \$78,829 (PI).

Graduate Students – Past and Current

Jennifer Telling (PhD, 2013), Microphysics of ash aggregation and base surge dynamics
Cindy Young (PhD, 2013), Remote sensing of eruptions using A-Train Satellites
Joe Estep (PhD, 2014), Granular flows and force chain dynamics
Mary Benage (PhD, 2015), Boiling-over eruption dynamics at Tungurahua, Ecuador
NSF Graduate Fellow, DOE Graduate Fellow
Ozge Karakas (PhD, 2015), Tectonic forcing and melt production (Earth and Mars)
Josh Mendez-Harper (PhD candidate), Microphysical processes, charging, and instrument design
NSF Graduate Fellow, Blue Waters Graduate Fellowship
Taryn Black (2nd Year Student), Eruption dynamics, granular instabilities
NSF Graduate Fellow
Ryan Cahalan (2nd Year Student), Submarine eruptions, entrainment
NSF Graduate Fellow
Gabe Eggers (2nd year student) Mars volcanism
Amelia Winner (1st Year Student), Granular instabilities and erosion

Undergraduate Students

Kathleen Warrell, Experimental gravity currents
Cindi Jackson, Granular shocks and steam-explosions on Mars
Andrew Gase, Ballistic Impact Dynamics

Postdoctoral Researchers

Chris Huber, Numerical investigations of pore-scale processes (2009-2011)
Domenico Doronzo, Pyroclastic Flow Dynamics (2011 - 2012)
Wim Degruyter, Conduit Dynamics (2013 -)
Leah Courtland, Microphysics (2013 -)