

Tracy K.P. Gregg
CURRICULUM VITAE

Work

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Education

Ph.D., Geology, Arizona State University, Tempe, AZ, 1995. Dissertation: *Quantification of lava flow morphologies through analog experiments*, Jonathan H. Fink, advisor.
Sc.B. (honors), Geological Sciences, Brown University, Providence, RI, 1990. Thesis: *Rhyolitic ridges on martian basalts*, Peter H. Schultz, advisor.

Employment History

2024 to present: Chair, Department of Geology
2022 to present: Full Professor, Department of Geology, University at Buffalo. Supervision of graduate and undergraduate students; instruction of volcanology, planetary geology, magma petrogenesis and ascent.
2004 - 2022: Associate Professor, Department of Geology, University at Buffalo. Supervision of graduate and undergraduate students; instruction of volcanology, planetary geology, magma petrogenesis and ascent, and supervision of introductory laboratories.
1998 - 2004: Assistant Professor, Department of Geology, University at Buffalo. Supervision of graduate and undergraduate students; instruction of volcanology, introductory geology, planetary geology and marine geology.
1998 - 2008: Adjunct Assistant Scientist, Woods Hole Oceanographic Institution. Constraining volcanic and hydrothermal processes in submarine volcanic zones.
1997 - 2002: Consultant, Proxemy Research, Bowie, Maryland.
1997 - 1998: Assistant Scientist, Woods Hole Oceanographic Institution. Quantification of submarine and extraterrestrial eruption dynamics through numerical, physical, and analytical modeling.
1997: Adjunct Laboratory Instructor, Dept. of Geology, Bridgewater State College, Bridgewater, MA. Taught 1 section of undergraduate introductory geology laboratory.
1995 - 1997: RIDGE post-doctoral Fellow (funded through NSF Ocean Sciences), Dept. of Geology and Geophysics, Woods Hole Oceanographic Institution, Woods Hole, MA; Dr. Daniel Fornari, advisor.
1992 - 1995: Graduate Research Assistant, Arizona State University, Tempe, Arizona.
1990 - 1992: Graduate Teaching Assistant, Arizona State University, Tempe, Arizona.
1987 - 1990: Undergraduate Teaching Assistant and Research Assistant, Brown University, Providence, Rhode Island.

Grant Support:

1. T.K.P. Gregg, PI: 4/15/14 - 4/14/19

"Planetary Geology and Geophysics Undergraduate Research Program (PGGURP)"
\$426,287 (NASA Planetary Geology and Geophysics Program)

Responsibilities: Project coordinator for summer research program; Ms. Robyn Wagner is also

supported on this grant.

2. T.K.P. Gregg, PI: 4/15/10 - 4/14/14
"Planetary Geology and Geophysics Undergraduate Research Program (PGGURP)"
\$427,039 (NASA Planetary Geology and Geophysics Program)
Responsibilities: Project coordinator for summer research program; Ms. Robyn Wagner is also supported on this grant.
3. T.K.P. Gregg (PI) and A. Yingst: 11/1/2007-10/31/2010
"*Timing and Stratigraphy of Unusual Lunar Volcanism: Geologic Mapping of the Marius Quadrangle (Lunar Quadrangle 10)*"
\$232,130 (NASA: Planetary Geology & Geophysics)
Responsibilities: Primary mapper and project coordinator
4. T.K.P. Gregg (PI) and David A. Crown: 08/15/07 – 08/14/08
"*Formation and Evolution of Hesperia Planum, Mars*"
\$56,000 (NASA Planetary Geology and Geophysics Program)
Responsibilities: Primary mapper and project coordinator
5. T.K.P. Gregg, PI: 4/15/07 - 4/14/10
"Planetary Geology and Geophysics Undergraduate Research Program (PGGURP)"
\$325,000 (NASA Planetary Geology and Geophysics Program)
Responsibilities: Project coordinator for summer research program
6. T.K.P. Gregg: 8/01/04 – 7/31/05
"Building ocean crust: Quantitative comparison of submarine lava channel formation and laboratory simulations"
\$47,893 (NSF Ocean Sciences, Marine Geology & Geophysics)
Responsibilities: supervision of Ph.D. candidate
7. T.K.P. Gregg (PI) and D.A. Crown (Co-I): 10/01/05 – 09/30/08
"Geologic map of Hesperia Planum, Mars: A test of multiple working hypotheses"
\$168,000 (NASA Planetary Geology and Geophysics)
Responsibilities: Project coordinator; creating maps with graduate student under advisement
8. S. Sakimoto (PI), T.K.P. Gregg (Co-I), S. Hughes (Co-I) and R. Greeley (Collaborator): 8/01/02 – 7/31/05
"*Plains Volcanism and Small Volcanic Edifices on Mars*"
\$150,000 (NASA Mars Data Analysis Program)
Responsibilities: Fieldwork, data analyses and investigation of lava flow morphologies
9. R. Lopes (PI), L. Camp (Co-I) and T.K.P. Gregg (Co-I): 3/1/03 – 2/28/06
"*Volcanism on Io*"
\$135,000 (NASA Planetary Geology and Geophysics)
Responsibilities: laboratory simulations of lava lakes on Io
10. T.K.P. Gregg (PI) and D. Crown (Co-I): 10/01/01 – 09/30/04
"Evolution of Western Hesperia Planum, Mars: Geologic Mapping of MTM Quadrangles –15257 and –20257"
\$168,057 (NASA Planetary Geology and Geophysics)
Responsibilities: Creating maps with graduate student under advisement
11. T.K.P. Gregg, PI: 4/15/03 - 4/14/06
"Planetary Geology and Geophysics Undergraduate Research Program (PGGURP)"

\$250,000 (NASA Planetary Geology and Geophysics Program)
Responsibilities: Project coordinator for summer research program

12. T.K.P. Gregg, PI: 4/15/00 - 4/14/03
"Planetary Geology and Geophysics Undergraduate Research Program (PGGURP)"
\$250,000 (NASA Planetary Geology and Geophysics Program)
Responsibilities: Project coordinator for summer research program
13. T.K.P. Gregg (PI), D.A. Crown (Co-I) and S.E.H. Sakimoto (Co-I): 4/15/00 - 4/14/03
"Volcanic and erosional history of Tyrrhena and Hadriaca Paterae, Mars"
\$167,000 (NASA Mars Data Analyses Program)
Responsibilities: Project coordinator; investigation of lava flow emplacement and caldera formation.
14. T.K.P. Gregg (Co-I) and S. Sakimoto (Co-I): 10/1/00 - 01/1/02
"Collaborative Research: Quantifying the emplacement of channeled flow using experimental, analytical and numerical analyses"
\$79,500 (NSF, Earth Sciences)
Responsibilities: Laboratory simulations, measurements, and field data collection for channeled flows.
15. D. Smith (PI), L. Kong (Co-I), J. Reynolds (Co-I), T.K.P. Gregg (Co-I): 1/1/97 - 12/31/00
"Understanding volcanic processes at the submarine Puna Ridge, Kilauea, Hawaii"
\$10,000 to UB through subcontract (NSF Marine Geology & Geophysics/Woods Hole Oceanographic Institution)
Responsibilities: Constraining effect of increasing water pressure and dike length effect lava flow emplacement styles.
16. J. Sinton (PI), R. Batiza (Co-I), K. Rubin (Co-I), and T.K.P. Gregg (Co-I): 10/1/97-9/30/00
"Volcanological investigations of a superfast-spreading mid-ocean ridge"
\$56,000 to UB through subcontract (NSF Marine Geology and Geophysics/University of Hawaii)
Responsibilities: Cruise participant; quantitative interpretation of submarine volcanic morphologies and comparison with subaerial volcanic processes
17. T.K.P. Gregg (Co-I) and S. Sakimoto (Co-I): 7/15/97-6/30/99
"Collaborative research: Quantifying the fluid dynamic processes controlling channelized lava flow emplacement through numerical, experimental and field analyses"
\$54,000 (NSF Earth Sciences)
Responsibilities: Laboratory simulations, field data collection and analyses of channeled lavas
18. T.K.P. Gregg (Co-I) and D. Fornari (Co-I): 9/1/95 - 2/28/98
"Quantitative relations between submarine volcanic eruption rates and lava flow morphologies at mid-ocean ridges: Analysis of field data and laboratory simulations (RIDGE post-doctoral fellowship)"
\$70,000 (NSF Marine Geology and Geophysics)
Responsibilities: Quantitative analyses of submarine lava flow

FUNDED CONTRACT SUPPORT

1. T.K.P. Gregg, PI: 10/01/2018 – 01/31/2019
Venera-D Joint Science Definition Team
\$29,185 (NASA / USRA / Glenn Research Center)
Responsibilities: US Co-Chair of Venera-D Joint Science Definition Team, a collaboration between NASA and Roscosmos (Space Science Institute, Moscow) to define Russia's next mission to Venus.
2. T.K.P. Gregg, PI: 08/01/2018 – 09/30/2018

Venera-D Joint Science Definition Team

\$56,035 (NASA / USRA / Glenn Research Center)

Responsibilities: US Co-Chair of Venera-D Joint Science Definition Team, a collaboration between NASA and Roscosmos (Space Science Institute, Moscow) to define Russia's next mission to Venus.

3. T.K.P. Gregg, PI: 04/15/19 – 05/18/20

Summer Undergraduate Program in Planetary Research (SUPPR)

\$20,000 (NASA / USRA / Lunar and Planetary Institute, Cooperative Agreement NNX15AL12A)

Responsibilities: supervising the undergraduate research program. I vet mentors and ensure both mentors and interns are doing well over the summer; and I determine whether the summer research projects are appropriate for the interns to present at national conferences.

3. T.K.P. Gregg, PI: 05/19/20 – 05/20/23 (continuing)

Summer Undergraduate Program in Planetary Research (SUPPR)

\$20,000 per year (NASA / USRA / Lunar and Planetary Institute, Cooperative Agreement

NNJ14ZKA001N) *Responsibilities: supervising the undergraduate research program. I vet mentors and ensure both mentors and interns are doing well over the summer; and I determine whether the summer research projects are appropriate for the interns to present at national conferences. This contract is annually renewed.*

3. T.K.P. Gregg: 10/09/23 – 1/31/2026

Lunar Surface Instrument and Technology Payloads (LSITP) – Heimdall (Aileen Yinsgst, Planetary Science Institute, PI)

\$15,000 per year (*Responsibilities: supervising an M.S. Thesis project on lunar geologic mapping; I am also responsible for creating my own geologic map of the potential landing site.*)

Awards

2016: Distinguished Service Award, Planetary Geology Division of the Geological Society of America.

2012: Fellow, Geological Society of America.

1995 – 1997: National Science Foundation RIDGE Post-doctoral Fellowship.

1994: First Place, Stephen E. Dworkin Planetary Geoscience Best Student Paper, for research presented at the 25th Lunar and Planetary Science Conference, Houston, TX.

1992: Honorable Mention, Stephen E. Dworkin Planetary Geoscience Best Student Paper, for research presented at the 23rd Lunar and Planetary Science Conference, Houston, TX.

1990: Most Outstanding Geology Student, Brown University.

Honors

2019: Woodford-Eckis Lectureship Recipient, Pomona College, Pomona, CA (see

<https://www.pomona.edu/academics/departments/geology/woodford-eckis-lecture-series>)

2006 – 2009: Distinguished Lecturer, National Association of Geoscience Teachers (NAGT).

Invited Professional Talks

1. April, 2023, University of Illinois Urbana-Champaign, School of Earth, Society and Environment, Champaign, IL (Earth and Venus: Separated at Birth?)
2. September, 2019, Annual Meeting of the Geological Society of America, Sept. 22-25, 2019, Phoenix, AZ (You know what you do when you assume: Modeling basaltic eruption processes)
3. February, 2019, Woodford-Eckis Lecture, Pomona College, Pomona, CA (Exploring Mars)
4. March, 2018, Lunar and Planetary Institute's 50th Birthday and Science Symposium, Lunar and Planetary Institute, Houston, TX, March 16 (Exploration of Volcanism in the Solar System)
5. December, 2018, NASA Glenn Research Center Lecture Series (Visiting Venus via

Earth's mid-ocean ridges: Volcanoes under pressure)

6. January, 2017, AGU Chapman Conference on Submarine Volcanism, Hobart, Australia, Jan. 30 – Feb. 4, 2017 (Modeling Approaches: Where we are, where we want to be, and how to get there).
7. February, 2015, Syracuse University Earth Sciences Dept., K. Douglas Nelson Lecture Series (Volcanism in the Solar System: Exotic lavas in strange places)
8. April, 2014, SUNY Geneseo Annual Rock Salt Lecture (Deep, Dark and Damp: Exploring Mid-Ocean Ridges with the HOV Alvin)
9. March, 2014, Disaster: New York, Science Teachers Association of New York State, Inc., SUNY Cortland (When and Asteroid Strikes New York)
10. December, 2013, Origins @ UB conference (The Origins of Planetary Surfaces)
11. December, 2013, American Geophysical Union Fall Meeting (Subaerial, submarine and extraterrestrial lava flow morphologies)
12. April, 2013, Dept. of Earth and Ocean Sciences, University of South Carolina, Columbia, SC (New Views of Mars)
13. March 17, 2013, Moving FORWARD in Space workshop speaker, Lunar and Planetary Science Conference, Houston, TX (incorporating planetary science in undergraduate labs)
14. June 2 -4, 2012, Moving FORWARD in Space workshop leader, Temple University, Philadelphia, PA (<https://sites.google.com/a/temple.edu/forward-in-space/>)
15. April, 2010, Buffalo State College, Buffalo, NY (Extreme Volcanism in the Solar System)
16. May 10, 2010, Jet Propulsion Laboratory, Pasadena, CA (Plains materials on the terrestrial planets)
17. October, 2009, Fall Meeting of the Geological Society of America, Portland, OR (Planetary volcanism in “every-day” geoscience curriculum: Examples and lessons learned)
18. April, 2009, Department of Earth Sciences, SUNY-Oneonta, Oneonta, NY (Revising Undergraduate Labs)
19. October, 2008, Department of Geology, Kent State University, Kent, OH (The New Mars)
20. August, 2008, IAVCEI General Assembly, Reykjavik, Iceland (“Volcanic Plains” on the Terrestrial Planets: Constraints and Alternatives)
21. February, 2008, Department of Geology, Beloit College, Beloit, WI (Mars Exploration: New Ideas about an Old Planet)
22. April, 2007, Department of Earth Sciences, Syracuse University, Syracuse, NY, Science Symposium (The New Mars)
23. February, 2007, Department of Astronomy and Physics, University of Rochester, Rochester, NY (The New Mars: How our understanding of the Red Planet changes with new data)
24. February, 2007, Department of Geology, Beloit College, Beloit, WI (The New Mars)
25. January, 2007, University at Buffalo Geology Department (The New Mars: How our understanding of the Red Planet changes with new data)
26. October, 2005, Geological Society of America Fall Meeting, Salt Lake City, Utah, Oct. 13 – 19 (Incorporating extraterrestrial geology in every classroom)
27. October, 2005, Department of Geology, University of Illinois at Urbana-Champaign, (Loki Patera, Io, and Earth's mid-ocean ridges)
28. April, 2004, Department of Earth and Space Sciences, University of Pittsburgh, Pittsburgh, Pennsylvania (Exploring Volcanoes at Mid-Ocean Ridges)
29. April, 2004, Lunar and Planetary Institute, Houston, Texas (Loki Patera, Io: A Round Mid-Ocean Ridge)
30. April, 2003, Department of Space Studies, University of North Dakota, Grand Forks, North

- Dakota (High-pressure volcanism: Venus and Earth's Mid-Ocean Ridges)
31. April, 2003, Geology Department, University of North Dakota, Grand Forks, North Dakota (Volcanism in the Solar System)
 32. December, 2002, On the Cutting Edge Workshop on the use of Global Data Sets in the Classroom, San Francisco, California (Planetary data sets and geoscience education)
 33. December, 2002, Fall American Geophysical Union Meeting, San Francisco, California (Lava emplacement at Sabancaya volcano, Peru)
 34. February, 2002, College of Arts and Science Lecture Series, SUNY-Buffalo, Buffalo, New York (Volcanic eruptions in the Pacific Ocean)
 35. December, 2001, Fall American Geophysical Union Meeting, San Francisco, California (New Views of Mars)
 36. May, 2001, Oregon State University, Department of Geology, Corvallis, Oregon (Volcanism in the Solar System)
 37. September, 2000, Department of Physics, University at Buffalo, Buffalo, New York (Everything we knew about Mars is wrong)
 38. March, 1998, Dept. of Geology, Mt. Holyoke College, Amherst, MA (Development of folds on lava flow surfaces)
 39. January, 1998, Woods Hole Oceanographic Institution, Dept. of Geology and Geophysics, Woods Hole, Massachusetts (Lava flow emplacement at mid-ocean ridges)
 40. January, 1998, University of Rhode Island, Graduate School of Oceanography, Newport, Rhode Island (Formation of submarine lava pillars)
 41. November, 1997, University of Massachusetts, Dept. of Geology, Amherst, Massachusetts (Volcanism in the Solar System)
 42. February, 1997, Boston College (Volcanoes in the Solar System)
 43. January, 1997, IAVCEI General Assembly, Puerto Vallarta, Mexico (Remote sensing of submarine lava flows)
 44. September, 1996, Dept. of Geology, University of Delaware, (Volcanism on Earth, Mars and Venus)
 45. February, 1996, Dept. of Geology, Bridgewater State College, Bridgewater, MA (Volcanism on the terrestrial planets)
 46. October, 1995, Dept. of Geological Sciences, Brown University, Providence, Rhode Island (Exploration of submarine volcanoes)
 47. July, 1995, IUGG, Boulder, Colorado (Submarine lava flow morphologies and effusion rates)
 48. November, 1994, University of Florida, Dept. of Geology, Gainesville, Florida (Volcanism in the Solar System)

Publications

Books Edited

- Environmental Effects on Volcanic Eruptions: From Deep Oceans to Deep Space*, J.R. Zimbelman and T.K.P. Gregg, eds., Kluwer Academic/Plenum Publishing, New York, pp.260, 2000.
- Volcanic Worlds: Exploring the Solar System's Volcanoes*, R.M.C. Lopes and T.K.P. Gregg, eds., Praxis Press, New York, pp. 236, 2004.
- Modeling Volcanic Processes: The Physics and Mathematics of Volcanism*, S.A. Fagents, T.K.P. Gregg and R.M.C. Lopes, eds., Cambridge University Press, pp. 421, 2013.
- Venera-D: Expanding Our Horizon of Terrestrial Planet Climate and Geology through the Comprehensive Exploration of Venus, Phase 2 Report, Report of the Venera-D Joint Science Definition Team, January 31, 2019* see <https://www.lpi.usra.edu/vexag/reports/Venera-DPhaseIIFinalReport.pdf>.

Volcanoes on Mars, J. Zimbelman, D.A. Crown, P. Mouginis-Mark and T.K.P. Gregg, eds., Elsevier Press, pp. 260, 2020.

Planetary Volcanism across the Solar System, T.K.P. Gregg, R.M.C. Lopes and S.A. Fagents, eds., Elsevier Press, pp. 354, 2021.

Book Chapters

All chapters are peer-reviewed by at least 2 other researchers in the field.

2021

Fagents, S.A., R.M.C. Lopes, L.C. Quick and T.K.P. Gregg, Cryovolcanism, in *Planetary Volcanism across the Solar System*, T.K.P. Gregg, R.M.C. Lopes and S.A. Fagents, eds., Elsevier Press, pp. 161-234.

Gregg, T.K.P., P.K. Byrne, R.M.C. Lopes and S.A. Fagents, Volcanism in the Solar System, in *Planetary Volcanism across the Solar System*, T.K.P. Gregg, R.M.C. Lopes and S.A. Fagents, eds., Elsevier Press, pp. 1-5.

Gregg, T.K.P. and P.K. Byrne, Ages of Planetary Surfaces, in *Planetary Volcanism across the Solar System*, T.K.P. Gregg, R.M.C. Lopes and S.A. Fagents, eds., Elsevier Press, pp. 271-286.

Gregg, T.K.P., R.M.C. Lopes, S.A. Fagents and P.K. Byrne, Volcanism in the Solar System: Review, synthesis and some outstanding questions, in *Planetary Volcanism across the Solar System*, T.K.P. Gregg, R.M.C. Lopes and S.A. Fagents, eds., Elsevier Press, pp. 333-338.

2020

Gregg, T.K.P., B.W. Garry, J.R. Zimbelman, P.J. Mouginis-Mark and D.A. Crown, Syrtis Major and small highland volcanoes, in *Volcanoes on Mars*, J.R. Zimbelman, D.A. Crown, P.J. Mouginis-Mark and T.K.P. Gregg, eds., Elsevier Press, pp. 260.

2013

Garcés, M.A., D. Fee, R. Matoza, S.A. Fagents, T.K.P. Gregg and R.M.C. Lopes, Volcano acoustics, in *Modeling Volcanic Processes: The Physics and Mathematics of Volcanism*, S.A. Fagents, T.K.P. Gregg and R.M.C. Lopes, eds., Cambridge University Press, pp. 359-383.

Gregg, T.K.P., Deep sea eruptions, in *Modeling Volcanic Processes: The Physics and Mathematics of Volcanism*, S.A. Fagents, T.K.P. Gregg and R.M.C. Lopes, eds., Cambridge University Press, pp. 258 – 274.

Lopes, R.M.C., S.A. Fagents, K. Mitchell and T.K.P. Gregg, Planetary volcanism, in *Modeling Volcanic Processes: The Physics and Mathematics of Volcanism*, S.A. Fagents, T.K.P. Gregg and R.M.C. Lopes, eds., Cambridge University Press, pp. 384 – 413.

2007

Gregg, T.K.P., Lava-sediment interactions on Earth and Mars: Evidence and consequences, in M. Chapman, ed., *The Geology of Mars: Evidence from Earth-Based Analogs*, Cambridge University Press, Cambridge, UK, pp. 211-231.

2004

Gregg, T.K.P., Volcanism on the Sea Floor, in *Volcanic Worlds: Volcanism in the Solar System*, R. Lopes and T.K.P. Gregg, eds., Praxis Press, New York.

2003

Farr, T.G., S. Arcone, R.E. Arvidson, V. Baker, N.G. Barlow, D. Beaty, M.S. Bell, D.D. Blankenship, N. Bridges, G. Briggs, M. Bulmer, F. Carsey, S.M. Clifford, R.A. Craddock, P.W. Dickerson, N. Duxbury, G.L. Galford, J. Gravin, J. Grant, J.R. Green, T.K.P. Gregg, E. Guinness, V.L. Hansen, M.H. Hecht, J. Holt, A. Howard, L.P. Keszthelyi, P. Lee, P.D. Lanagan, R.C.F. Lentz, D.W. Leverington, G.R. Olhoeft, G.G. Ori, P. Paillou, J.F. Reilly II, J.W. Rice, Jr., C.A. Robinson, M. Sheridan, K. Snook, B.J. Thomson, K. Watson, K. Williams and K. Yoshikawa, Terrestrial analogs to Mars, in *The Future of Solar System Exploration, 2003-2013: Community Contributions to the NRC Solar System Exploration Decadal Survey*, Sykes, M.V., ed., Astronomical Society of the Pacific, San Francisco, CA, pp. 35-76.

2000

Grosfils, E.B., J. Aubele, L. Crumpler, T.K.P. Gregg and S. Sakimoto, Volcanism on Earth's seafloor and Venus, in *Environmental Effects on Volcanic Eruptions: From Deep Oceans to Deep Space*, J.R. Zimbelman and T.K.P. Gregg, eds., Kluwer Academic/Plenum Publishing, New York, pp. 113-142.

Gregg, T.K.P. and J.R. Zimbelman, Volcanic vestiges: Pulling it together, in Zimbelman, J.R. and T.K.P.

- Gregg, *Environmental Effects on Volcanic Eruptions: From Deep Oceans to Deep Space*, Kluwer Academic/Plenum Publishing, New York, 260 pp.
- Zimbelman, J.R. and T.K.P. Gregg, Volcanic diversity throughout the solar system, in *Environmental Effects on Volcanic Eruptions: From Deep Oceans to Deep Space*, J.R. Zimbelman and T.K.P. Gregg, eds., Kluwer Academic/Plenum Publishing, New York, pp. 1 – 8.
- Zimbelman, J.R., S.A. Fagents, T.K.P. Gregg, C.R. Manley and S.K. Rowland, Subaerial terrestrial volcanism: Eruptions in our own backyard, in *Environmental Effects on Volcanic Eruptions: From Deep Oceans to Deep Space*, J.R. Zimbelman and T.K.P. Gregg, eds., Kluwer Academic/Plenum Publishing, New York, pp. 9 – 38.

National Academy of Sciences Reports

2023

- National Academies of Science, Origins, Worlds and Life: A decadal strategy for planetary science and astrobiology, 2023-2032; Panel on Mars; see <https://nap.nationalacademies.org/catalog/26522/origins-worlds-and-life-a-decadal-strategy-for-planetary-science>.

Refereed Journal Articles (by year). An asterisk (*) indicates a student author.

2023

- Yingst, R.A., S.C. Mest, W.B. Garry, D.A. Williams, D.C. Berman and T.K.P. Gregg, A geologic map of Vesta produced using a hybrid method for incorporating spectroscopic and morphologic data, *Planet. Sci. Jour.* 4:157, doi.org/10/3847/PSJ/acebe9.

2022

- Mouginis-Mark, P.J., J.R. Zimbelman, D.A. Crown, L. Wilson and T.K.P. Gregg, Martian volcanism: Current state of knowledge and known unknowns, *Geochemistry* 82, 125886, doi.org/10.1016/j.chemer.2022.125886.
- Schiff, N.L.* and T.K.P. Gregg, Probable ice-rich deposits on north-facing slopes in Alba Patera, Mars, *Icarus* 383:115063, doi: https://doi-org.gate.lib.buffalo.edu/10.1016/j.icarus.2022.115063.

2019

- C.E. Roberts* and T.K.P. Gregg, Rima Marius, the Moon: Formation of lunar sinuous rilles by constructional and erosional processes, *Icarus*, doi: 10.1016/j.icarus.2018.02.033.
- Wroblewski, F.B.*, A.H. Treiman, S. Bhiravarasu and T.K.P. Gregg, Ovda Fluctus, the festoon lava flow on Ovda Regio, Venus: Not silica-rich, *J. Geophys. Res. Planets*, 124(8):2233-2245.
- Younger, Z.P.*, G.A. Valentine and T.K.P. Gregg, A'a lava emplacement and the significance of rafted pyroclastic material: Marcath volcano (Nevada, USA), *Bull. Volcanol.* 81:50, doi:10.1007/200445-019-1309-6.

2017

- Gregg, T.K.P., Patterns and processes: Subaerial lava flow morphologies: A review, *J. Volcanol. Geotherm. Res.*, doi: 10.1016/j.jvolgeores.2017.04.022.

2015

- Gregg, T.K.P., 2015, Planetary tectonics and volcanism: The inner Solar System, in *Treatise on Geophysics*, 2nd Edition, G.E. Schubert, ed., Elsevier, pp. 307-325.

2013

- Gregg, T.K.P. and K. Christle*, Subaerial lava pillars in the Skaelingar region of Iceland: A unique form of non-explosive lava-water interaction, *J. Volcanol. Geotherm. Res.* 264:36-48.

2012

- Colman, A., J.M. Sinton, S.M. White, J. Timothy McClinton, J.A. Bowles, K.H. Rubin, M.D. Behn, B. Cushman, D.E. Eason, T.K.P. Gregg, K. Gronvold, S. Hidalgo and J. Howell, Effects of variable magma supply on mid-ocean ridge eruptions: Constraints from mapped lava flow fields along the Galapagos Spreading Center, *Geochem. Geophys. Geosys.* 13(8), Q08014, doi: 10.1029/2012GC004163.

2008

- Gregg, T.K.P. and R.M. Lopes, Lava lakes on Io: New perspectives from modeling, *Icarus* 194(1):166-

172.

Valentine, G.A. and T.K.P. Gregg, Continental basaltic volcanoes: Processes and problems, *J. Volcanol. Geotherm. Res.* 177(4):857-873.

2007

Garry, W.B.*, J.R. Zimbelman and T.K.P. Gregg, Morphology and emplacement of a long channeled lava flow near Ascraeus Mons volcano, Mars. *J. Geophys. Res.* 112, E08007, doi:10.1029/2006JE002803.

Gregg, T.K.P., J.P. Briner and K.N. Paris*, Ice-rich terrain in Gusev Crater, Mars? *Icarus* 192(2):348-360.

Williams, D.A., R. Greeley, W. Zuschneid, S.C. Werner, G. Neukum, D.A. Crown, T.K.P. Gregg, K. Gwinner and J. Raitala, 2007, Hadriaca Patera: Insights into its volcanic history from Mars Express High Resolution Stereo Camera, *J. Geophys. Res.* 112(E10), doi: 10.1029/2007JE002924.

2006

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Gregg, T.K.P. and J.H. Fink, 1995, Lava effusion rates, eruption frequencies and eruption durations along mid-ocean ridges, *IUGG XXI General Assembly*, July 2-14, Boulder, Colorado, A473.

Gregg, T.K.P., D.J. Fornari, M.R. Perfit and R.M. Haymon, 1995, Physical volcanology of the 1991 eruption at the East Pacific Rise crest, 9 50°N to 9 52°N, *Eos* 75:F667.

Perfit, M.R., M.C. Smith, K. Sapp, D.J. Fornari, T. Gregg, M.H. Edwards, W.I. Ridley and J.F. Bender, 1995, Geochemistry and morphology of the crestal plateau of the East Pacific Rise ~9° 50°N, *Eos* 76:F694.

1994

Fornari, D.J., T.K.P. Gregg, J.H. Fink, M.R. Perfit, R.M. Haymon and M.H. Edwards, 1994, Effusion rates of young volcanic flows on the East Pacific Rise crest near 9 50°N, *Eos* 75:602.

Gregg, T.K.P. and J.H. Fink, 1994, Modeling the origin of folded and jumbled submarine lava flows allows estimates of eruption rates and strain rates, *Eos* 75:600.

1993

Gregg, T.K.P. and J.H. Fink, 1993, Quantitative classification of submarine lava flow morphology, *Eos* 74:620.

Gregg, T.K.P. and J.H. Fink, 1993, Laboratory investigation into the effect of breaks in slope on mafic lava flows, *IAVCEI General Assembly*, September 25 -October 1, Canberra, Australia, p. 41.

1992

Gregg, T.K.P. and J.H. Fink, 1992, A laboratory investigation into the effect of slope on submarine lava flow morphology, *Eos* 73:648-649.

Service: Professional Memberships and Activities:

Appointed Positions

2023 – present: Member, Venus Exploration Coordination Team (VesCOOR), appointed by NASA's Planetary Science Division

2020 – 2022: National Academy of Sciences Planetary Science and Astrobiology Survey 2023-2032: Panel on Mars (see <https://www.nationalacademies.org/our-work/planetary-science-and-astrobiology-decadal-survey-2023-2032-panel-on-mars>)

2018 – 2019: NASA U.S. Co-Chair for Venera-D Joint Science Definition Team (NASA / Roscosmos / Lavochkin team working on Phase 2 study of a Russian-led mission to Venus).

2008-2015: Member, NASA Planetary Geology and Geophysics Planetary Cartography Working Group Geologic Mapping Standards Panel.

2002 – 2008: Chair, NASA Planetary Geology and Geophysics Planetary Cartography Working Group Geologic Mapping Standards Panel.

2004 – 2007: Member, NASA Planetary Geology and Geophysics Management Oversight Working Group.

2006: Workshop convener and leader, National Association of Geoscience Teachers/National Science Foundation “Cutting Edge” workshop on Discoveries on Mars, Arizona State University, Tempe, Arizona, April 27 – 30.

2004: Workshop leader, National Association of Geoscience Teachers/National Science Foundation “Cutting Edge” workshop on Course Design, June.

2002 - 2003: Member, Joint Technical Program Committee of the Fall Meeting for the Geological Society of America.

Elected Offices Held:

2022 – present: Member, NASA's Venus Exploration Analysis Group (VEXAG) Steering Committee; see <https://www.lpi.usra.edu/vexag/>

2013-2014: Chair, Commission on Volcano Ice Interactions, International Association of Volcanology and Chemistry of Earth's Interior (IAVCEI).

2012-2013: Vice-Chair, Commission on Volcano Ice Interactions, International Association of Volcanology and Chemistry of Earth's Interior (IAVCEI).

2011-2012: Secretary, Commission on Volcano Ice Interactions, International Association of Volcanology and Chemistry of Earth's Interior (IAVCEI).

2003-2004: Chair, G.K. Gilbert Award Committee, Planetary Geology Division of the Geological Society of America.

2002-2003: Chair, Planetary Geology Division of the Geological Society of America.

2001-2002: First Vice-Chair, Planetary Geology Division of the Geological Society of America.

2000-2001: Second Vice-Chair, Planetary Geology Division of the Geological Society of America.

1998-2000: Secretary/Treasurer, Planetary Geology Division of the Geological Society of America.

International Conferences Organized and Chaired:

2019: Co-Chair and Co-Organizer (with Ludmila Zasova, Roscosmos), Venera-D Landing Site Selection

- and Cloud Habitability Workshop, IKI, Moscow, Russia, October 2 – 5.
- 2018: Co-Chair and Co-Organizer (with Ludmila Zasova, Roscosmos), Venera-D Joint Science Definition Team Report to the Directors (of NASA and Roscosmos), IKI, Moscow, Russia, October 5-6.
- 2018: Co-Chair and Co-Organizer (with Ludmila Zasova, Roscosmos), Venera-D Joint Science Definition Team Meeting, IKI, Moscow, Russia, August 7 – 10.
- 2006: Chair and organizer of an international conference (“Volcanic Flows and Falls”) to honor the career of Mike Sheridan, Department of Geology, University at Buffalo, Buffalo, NY, May 11-12.

National Conferences Organized and Chaired:

- 2007: Co-Chair and Co-Organizer, NASA Annual Meeting of Planetary Mappers, Planetary Science Institute, Tucson, AZ, June 28 – 29. Co-Chairs: L. Bleamaster (Trinity University), R.S. Saunders (NASA Headquarters), K. Tanaka (USGS Flagstaff).
- 2006: Chair and organizer of an international conference (“Volcanic Flows and Falls”) to honor the career of Mike Sheridan, Department of Geology, University at Buffalo, Buffalo, NY, May 11-12.
- 2006: Chair and Organizer, NASA Annual Meeting of Planetary Mappers, Northwest Nazarene University, Nampa, ID, June 30 – July 2.
- 2005: Chair and Organizer, NASA Annual Meeting of Planetary Mappers, Center for Earth and Planetary Science, National Air and Space Museum, Washington, DC, June 23 – 24.
- 2004: Chair and Organizer, NASA Annual Meeting of Planetary Mappers, USGS Astrogeology Branch, Flagstaff, AZ, June 17 – 19.
- 2003: Chair and Organizer, NASA Annual Meeting of Planetary Mappers, Brown University, Providence, RI, June 19 – 20, 2003.
- 2002: Chair and Organizer, NASA Annual Meeting of Planetary Mappers, Mars Flight Facility, Arizona State University, Tempe, AZ, June 21 – 22.
- 2001: East Coast Volcanology Gathering, National Air and Space Museum, Washington, DC, October 25-26.
- 1999: East Coast Volcanology Gathering, National Air and Space Museum, Washington, DC, November 19-20.
- 1999: Co-organizer and host, NASA Planetary Geology and Geophysics Mapping Program Meeting, University at Buffalo, June 24-26.
- 1998: East Coast Volcanology Gathering, National Air and Space Museum, Washington, DC, November 18-19.
- 1997: East Coast Volcanology Gathering, National Air and Space Museum, Washington, DC, November 17-19.
- 1996: East Coast Volcanology Gathering, National Air and Space Museum, Washington, DC, November 13-14.

Sessions Organized and Chaired at International and National Meetings:

- 2019: Venera-D Landing Site Selection Workshop, Space Research Institute of the Russian Academy of Sciences, Moscow, Russia, October 2 – 4.
- 2017: Special session “Large Igneous Provinces in the Solar System” at 48th Lunar and Planetary Science Conference, Houston, TX, March 19 – 24; co-chair R. Ernst, Carleton University, Ottawa, Ontario, Canada.
- 2016: Session T166: “Large Igneous Provinces (LIPS) in the Solar System,” Geological Society of America Annual Meeting, Denver, CO, Sept. 25-28; co-chair R. Ernst, Carleton University, Ottawa, Ontario, Canada.
- 2008: Session 3a: “Fire and Ice: Volcanism and Cryovolcanism in the Solar System,” General Assembly of the International Association of Volcanology and Chemistry of the Earth’s Interior (IAVCEI), Reykjavik, Iceland, August 18 – 22; co-chairs R. Lopes (Jet Propulsion Laboratory), D. Rothery (The Open University, Leeds, UK) and Th. Thorsteinsson (National Energy Authority, Iceland).
- 2008: Session 34: “Advances in Planetary Geology: Image Analysis, Lab Results, and Analog Studies (Posters),” Northeast Section Meeting of the Geological Society of America, March 27 – 29, Buffalo, NY.

2002: Pardee Keynote Symposium: “There and Back Again: Terrestrial Analogs for Extraterrestrial Problems,” Geological Society of America Annual Meeting, Denver, CO, October 26-30.

2001: “Advances in Modeling Flow Processes: Volcanoes, Floods, Impacts, and Mass Movements,” Fall American Geophysical Union Meeting, San Francisco, CA, December 10 – 14.

2001: Pardee Keynote Symposium: “The Search for Water in the Solar System,” Fall Geological Society of America Meeting, Boston, MA, November 4 – 8.

1997: “From Deep Oceans to Deep Space: Volcanism in Unique Environments,” Fall Geological Society of America Annual Meeting, Salt Lake City, UT, October 28-31; co-chair J. Zimelman, Smithsonian Institution, Washington DC.

Volunteer Activities:

2002 – *present*: Campus Representative, Geological Society of America.

2019-2021: Member, NASA Mission Program Review Panel.

2018: Judge, Stephen E. Dwornik “Best Student Paper Award,” 49th Lunar and Planetary Science Conference, March 19-23, Houston, TX.

Member, 49th Lunar and Planetary Science Conference Program Committee.

2017: Judge, Stephen E. Dwornik “Best Student Paper Award,” 48th Lunar and Planetary Science Conference, March 19-24, Houston, TX.

Member, 48th Lunar and Planetary Science Conference Program Committee.

2016: Judge, Stephen E. Dwornik “Best Student Paper Award,” 47th Lunar and Planetary Science Conference, March 13-18, Houston, TX.

2014: Member, NASA Planetary Mission Senior Review Panel, Mars Sub-Panel (Clive Neal, U. Notre Dame, Chair) May.

Group Chief, Solar System Volcanism, NASA Review Panel for Solar System Working Group, October.

2006: Member, 38th Lunar and Planetary Science Conference Program Committee, Houston, TX, January 16-18.

Judge, Stephen E. Dwornik “Best Student Paper Award,” 37th Lunar and Planetary Science Conference, Houston, TX, March 13 – 18.

2002: Member, NASA Mars Data Analysis Program, proposal review panel, November 14-17.

1997 – 2003: Judge, Stephen E. Dwornik Planetary Geosciences Student Paper Award Judging Panel (Geological Society of America Planetary Geology Division) at the annual Lunar and Planetary Science Conference.

1997: Member, 29th Lunar and Planetary Science Conference Program Committee, Houston, TX, January 19-21.

1996 – 2002: Member, NASA Planetary Geology and Geophysics Planetary Cartography Working Group Geologic Mapping Standards Panel.

University Service:

2015 – 2018: Member, Undergraduate Writing Council

2009 – 2018: Member, Undergraduate Research Exploration Academy Advisory Board

2008 – 2018: Member, Center for Undergraduate Research and Creative Activities (CURCA) Grant Award Committee

2008 – *present*: Member, Nancy Welch Awards Committee

1999 – *present*: Member, Special Majors Committee

2016: Participant, WISE Women in STEM discussion panel, August.

2016: Participant, Annual Women in STEM discussion panel, April.

2010: Participant, Women in Academia Panel, convened by Undergraduate Research Exploration Academy, May 2.

2009: Judge, Sigma Xi Poster Competition, April 7.

2007 – 2009: Academic Director / Master Scholar, Undergraduate Research Exploration Academy.

2000 – 2002: Member, Assistant Vice President of Research search committee.

College of Arts and Sciences Service:

2009 – 2014: Member, Dean's Summer Task Group

2008 – 2009: Member, Presidential and Dean's Fellowship Committee

1999 – 2004: College of Arts and Sciences representative to Faculty Senate

Departmental Service:

202 – present: Chair, Department of Geology

2017 – 2023: Director, UB Geology Field Training

2013 – 2023: Chair, Awards Committee

2000 – 2018: Chair, Course Evaluation Committee

2014 – 2015: Acting Director of Graduate Studies

2014: Chair, Faculty Search Committee

2010 – 2012: Member, Undergraduate Curriculum Redesign Committee

2008 – 2009: Member, Executive Committee

2005 – 2009: Director of Graduate Studies

1998 – present: served on 7 faculty search committees for the Dept. of Geology

Community Service (Public Talks and Podcasts):

1. April 13, 2023, Buffalo Torch Club (Exotic Lavas in Strange Places)
2. April 13, 2022, University at Buffalo Alumni (Volcanism in the Solar System, via Zoom)
3. April 1, 2021, Buffalo Geological Society (Perseverance rover on Mars, via Zoom)
4. February 1, 2021: Rumbles on Mars Raise Hopes of Underground Magma Flows, *Quanta Magazine*, (<https://www.quantamagazine.org/rumbles-on-mars-raise-hopes-of-underground-magma-flows-20210201/>)
5. July 20, 2019, Niagara Aerospace Museum (50th Anniversary of Apollo 11: What we've learned and where we're going)
6. July 20, 2019, Williamsville North High School Planetarium (50th Anniversary of Apollo 11: What Moon Rocks Taught Us)
7. October, 2019, Here We Are podcast with Shane Mauss about submarine volcanism (see <https://www.herewearepodcast.com/episodes/episode-308-volcanoes-a-submarine-tracy-gregg>).
8. April, 2018, Flash Forward podcast interview about the end of the world (see <https://www.flashforwardpod.com/2018/04/10/fire-from-the-deep/>)
9. October, 2017, "Supervolcano" planetarium show at Williamsville North High School Planetarium, Williamsville NY
10. December, 2016, Buffalo Niagara Nature Club, Fort Erie, Ontario (Asteroid impacts on Earth)
11. September, 2016, Western New York STEM Forum, University at Buffalo, Buffalo NY (Submarine volcanism)
12. October, 2015, Royal Astronomical Society of Canada (Niagara Centre), Niagara Falls, Canada (Volcanism in the Solar System)
13. February, 2015, Niagara Falls Nature Club, Niagara Falls, Canada (Submarine volcanism)
14. January, 2015, The Park School, Snyder, NY (Geology of the Galapagos Islands and the Galapagos Spreading Center)
15. February, 2014, Niagara Falls Nature Club, Niagara Falls, Canada (Volcanoes)
16. October, 2012, Casey Middle School, Williamsville, NY (Exploring the Moon)
17. February, 2012, Buffalo Astronomical Association, Buffalo, NY (Mars: New Paradigms for an Old Planet)
18. January, 2012, Casey Middle School, Williamsville, NY (Volcanoes and Culture)
19. May, 2009, Buffalo Geologic Society Monthly Meeting, Buffalo, NY (Exploring undersea volcanoes with a deep-submergence vehicle)
20. April, 2009, SUNY-Oneonta, Department of Earth Sciences, Oneonta, NY (Mars Exploration)
21. April, 2009, Maple East Elementary School, Second Grade, Williamsville, NY (Exploring Submarine Volcanoes)
22. November, 2008, Buffalo Geologic Society Monthly Meeting, Buffalo, NY (The Geology of Mars and

- Earth)
23. May, 2008, University at Buffalo Phi Beta Kappa Initiation Ceremony, Buffalo, NY (Diving in the Dark: Exploring Submarine Volcanoes)
 24. May, 2008, Maple East Elementary School, First Grade, Williamsville, NY (Every Rock Tells a Story)
 25. November, 2008, Buffalo Geologic Society Monthly Meeting, Buffalo, NY (The Geology of Mars and Earth)
 26. April, 2008, Maple East Elementary School, Williamsville, NY (What does a Geologist Do?)
 27. April, 2007, Maple East Elementary School, Williamsville, NY (Geology as a Career)
 28. March, 2007, Maple East Elementary School, Williamsville, NY (Geology of the Solar System)
 29. January, 2007, Hamburg Natural History Society, Hamburg, NY, Public Lecture (Diving in the Dark: Exploring mid-ocean ridges using a submarine)
 30. December, 2006, Western New York Science and Technology Forum, University at Buffalo, Buffalo, NY (The New Mars)
 31. April, 2006, American Association of University Women's "Tech Savvy" outreach to inspire girls about science at D'Youville College (Why volcanoes erupt)
 32. March, 2006, Maple East Elementary School, Williamsville, NY (Identifying Rocks and Minerals)
 33. March, 2006, University of Toronto's Astronomy and Space Exploration Society (Martian Dating)
 34. April, 2005, Maple East Elementary School, Williamsville, NY (What does a geologist do?)
 35. October, 2005, Western New York Science and Technology Forum, Buffalo, NY (The Science Behind the Tsunami)
 36. October, 2005: Taught geology to 1st graders at Maple East Elementary School, Williamsville, NY.
 37. December, 2004, Western New York Science and Career Symposium (The New Faces of Mars)
 38. October, 2004: Taught planetary geology to kindergarteners at Maple East Elementary School, Williamsville, NY.
 39. March, 2003, "Career Day" speaker at Spencerport High School, Spencerport, New York (What does a volcanologist do?)
 40. April, 2003, Cutting Edge Lecture Series, SUNY-Buffalo, Buffalo, New York (Space Odyssey 2002: Volcanoes in the Solar System)
 41. May, 2003, Field Trip Leader for Northeastern Section Meeting of the National Association of Geoscience Teachers (Glacial geology of western New York)
 42. June, 2002, Hills Elementary School, Hills, Iowa (Volcanoes in the Ocean)
 43. November, 2002, Rochester Academy of Science Annual Meeting, SUNY-Brockport, New York (Exploration of submarine volcanoes)
 44. September, 2000, Clarence Elementary School, Clarence, New York (Studying volcanoes on land and sea)
 45. 1999-2000: Lectured to individual classes and groups of classes at Clarence Elementary School, Clarence, New York, on submarine exploration, terrestrial volcanism and volcanoes in the solar system.
 46. 1998 – 1999: Worked with gifted elementary school students (via email) at Hills Elementary School, Hills, Iowa, on submarine geology and biology.

Courses Taught:

GLY 101 Natural Hazards (lecture)
 GLY 101 – 102 Global Environmental Science (laboratory)
 GLY 103-104-105 Introductory geology for majors, plus laboratory
 GLY 106 Geological Mapping Techniques
 GLY 137 Dinosaurs
 GLY 206 Geological Communications (a CL2 course)
 GLY 325 Geophysics
 GLY 407/507 Geological Field Training
 GLY 419/519 Extraterrestrial Volcanism
 GLY 424/524 Magmatic Plumbing
 GLY 431/531 Volcanology
 GLY 443/543 Marine Geology

GLY 454/554 Topics in Planetary Geosciences
GLY 577 Topics in Advanced Volcanology
GLY 597 Geodynamics, Volcanology, and Geohazards Seminar
UE 142 Undergraduate Research Academy Seminar
UE 143 Advanced Undergraduate Research Academy Seminar

Research Supervision:

Undergraduate Summer Interns

- 2017: Goliber, Sophie: "Geologic investigations of Lonar crater, India" (NASA Planetary Geology and Geophysics Undergraduate Research Program, co-advised with Dr. Shawn Wright, Planetary Science Institute)
2001: Gittings, Hillary: "Geologic mapping of MTM quadrangle -20257: The Tyrrhena Patera Region of Mars" (NASA Planetary Geology and Geophysics Undergraduate Research Program)
1999: Morris, Aisha: "On the origin of unique ridges in Hesperia Planum, Mars" (NASA Planetary Geology and Geophysics Undergraduate Research Program)
1997: Mercer, Jennifer: "Quantifying volcanic morphology: Submarine and subaerial comparisons" (Woods Hole Oceanographic Institution Undergraduate Summer Intern)

Undergraduate Independent Study at University at Buffalo

- 2022 – 2024: Lorraine, Kristin, Planetary Geosciences
2020-2021: Sheridan, David, "Small volcanoes in Vastitas Borealis, Mars"
2018 – 2019: Wasilewski, Brian, "Creating a database of sinuous rilles on Venus."
2016 – 2017: Goliber, Sophie, "A geologic map of a portion of Hesperia Planum, Mars."
2012: Wendt, Matthew, "Planetary geoscience."
2007 – 2008: Terry, Neil, "Mawrth Vallis, Mars."
2005 – 2006: Rumpf, Elise, "Impact crater geology on Venus."
Paris, Kristen, "Astrobiology at Gusev crater, Mars."
2003 – 2005: Makey, Karen, "Geologic mapping of fluvial features in Western Hesperia Planum, Mars."
2002-2003: "Lava flow morphologies at the Southern East Pacific Rise."

Master's Students (M.S. unless specified)

- 2025 (expected): Gmerek, Andrew; Huggins, Cassaundra
2024 (expected): Eaman, Katie; Hottendorf, Kiersten; Paredes, Mareli.
2021: Conlon, Julianna (M.A.): "Volcanic constructs in the northern, ice-rich plains of Mars."
Lang, Antonio: "Collapse pits in Copernicus crater, the Moon: Habitability studies."
Wasilewski, Brian (M.A.): "Extent of the Medusae Fossae Formation, Mars"
2020: Schiff, Nicholas: "The geology of Albus Mons' summit region, Mars."
Sewell, Katlyn, "Seamount construction and destruction on the Galapagos Spreading Center."
Sare, Hadarou (M.A.): "Dust devil tracks in Malea Planum, Mars: Variations in time and space."
Smith, Tyler (M.A.): "Inflated lava flows at Rock Corral Butte, Eastern Snake River Plain."
Suter, Patrick: "Geology of the western margin of Oceanus Procellarum, the Moon."
2019: Dunning, Ian: "The former extent of the Medusae Fossae Formation, Mars."
2017: Moretti, Paul: "Ejecta features in Martian flat central-pit impact craters as indicators of subsurface water, a component in central-pit impact crater formation."
2016: Panza, Elisabetta: "Erosional patterns of Tyrrhenus Mons, Mars." (INVOGE exchange student; in Italy 2014-2015.)
Shmelkina, Iana: "Quantitative comparisons of Titan's drainage networks with those on Earth and Venus."
Venturino, Christian: "Wrinkle ridges in Syrtis Major, Mars."
2014: Narkovic, David: "Origin of depressions on Titan."
Roberts, Carolyn: "Lunar sinuous rilles in the Marius Hills and Aristarchus Plateau regions of the Moon."
2012: Miller, Diana: "Shield plains and shield fields on Venus: Comparisons and Contrasts."

- Rankin, Andrew J.: “Geologic hazards at Sabancaya Volcano, Southern Peru.”
- Smolen, Mickael: “Understanding pit crater formation on Mars through analog experiments.” (International INVOGE student; joint advising with Dr. Van de Wryes, Clement, France)
- 2011: Christle, Kenneth W.: “Formation of subaerial lava pillars during the 1782-1784 eruption at Laki, Iceland.”
- Krysak, Daniel: “Geologic mapping of Apollinaris Patera, Mars.”
- Lough, Trevelyn: “Geologic mapping of the Aristarchus plateau region on the Moon.”
- 2009: Laity, Emily: “Distribution of lava pillars along the Juan de Fuca Ridge and the East Pacific Rise.”
- Shockey, Kelly: “The spatial distribution of shield volcanoes within fields on Earth, Venus and the Moon.”
- 2007: Joel Allen: “Pedestal craters and the erosion of the Medusa Fossae Formation, Mars”
- Burkett, Brett: “Amphitheatre formation at Hualca Hualca volcano, Peru”
- Farley, Melissa: “Evolution of Western Hesperia Planum, Mars”
- Krueger-Jones, Tessa: “Quantitative analyses of hydrologic activity in the Hesperia Planum region of Mars”
- Lougen, Jennifer: “Loki Patera, Io: Laboratory simulations of the lava lake hypothesis”
- Makey, Karen (M.A.): “Lava flow morphologies on Earth and Mars”
- Somerville, Jennifer (M.A.): “Geologic mapping of Amphitrites and Peneus Paterae, Mars”
- 2006: Black, Sarah: “Geologic relations of Ionian paterae”
- 2003: Lipkaman, Leslie: “Fractal margins of lava flows on Earth, Mars and Venus.”
- Meyer, Brian (M.A.): “Lava flow field emplacement at Tyrrhena Patera, Mars”
- 2002: Goudy, Cheryl: “Wrinkle ridge formation on Hesperia Planum, Mars”
- Warner, Nick: “Textured lava flows on Earth, Mars and Venus”
- 2000: Adams, Donelle (M.A.): “Cooling the young sheet flow on the Juan de Fuca Ridge”

Ph.D. Students

- 2008: Garry, William (Brent): "Formation and evolution of lava channels: Laboratory simulations and field analyses"
- 2006: Domegal, Abigail Semple: “Emplacement of large-volume evolved lava flows”

External Ph.D. Committees

- 2022 (expected): J. Christopher Sant, Syracuse University, Dr. Jeffry Karson, primary advisor.
- 2014: J. Timothy McClinton, University of South Carolina, Columbia, S.C., Dr. Scott White, primary advisor.
- 2013: J. Hungerford, University of Pittsburgh, Dr. Michael Ramsey, primary advisor.