Tracy K.P. Gregg

Department of Geology

126 Cooke Hall

University at Buffalo

The State University of New York

Buffalo, NY 14260-3050

Tel.: (716) 645-4328

Fax: (716) 645-3999

E-mail: [tgregg@buffalo.edu](mailto:tgregg@buffalo.edu)

**Education**

Sc.B. (honors), Geological Sciences, Brown University, Providence, RI, 1990. Thesis: *Rhyolitic ridges on martian basalts*, Peter H. Schultz, advisor.

Ph.D., Geology, Arizona State University, Tempe, AZ, 1995. Dissertation: *Quantification of lava flow morphologies through analog experiments*, Jonathan H. Fink, advisor.

Research Interests

Volcanic eruptions in extreme environments (mid-ocean ridges and extraterrestrial surfaces); lava flow eruption and emplacement on Earth and other planets; constraining physics of eruptions from resulting volcanic morphologies.

**Professional Experience**

*2004 to present*: 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 to 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 to present:* Adjunct Assistant Scientist, Woods Hole Oceanographic Institution. Constraining volcanic and hydrothermal processes in submarine volcanic zones.

*1997 to 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 to 1995:* Graduate Research Assistant, Arizona State University, Tempe, Arizona.

*1990 to 1992:* Graduate Teaching Assistant, Arizona State University, Tempe, Arizona.

*1987 to 1990:* Undergraduate Teaching Assistant and Research Assistant, Brown University, Providence, Rhode Island.

**Funded 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: supervition 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: Projectcoordinator 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*

**Invited Talks: Professional**

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)

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).

February, 2015, Syracuse University Earth Sciences Dept., K. Douglas Nelson Lecture Series (Volcanism in the Solar System: Exotic lavas in strange places)

April, 2014, SUNY Geneseo Annual Rock Salt Lecture (Deep, Dark and Damp: Exploring Mid-Ocean Ridges with the HOV Alvin)

March, 2014, Disaster: New York, Science Teachers Association of New York State, Inc., SUNY Cortland (When and Asteroid Strikes New York)

December, 2013, Origins @ UB conference (The Origins of Planetary Surfaces)

December, 2013, American Geophysical Union Fall Meeting (Subaerial, submarine and extraterrestrial lava flow morphologies)

April, 2013, Dept. of Earth and Ocean Sciences, University of South Carolina, Columbia, SC (New Views of Mars)

March 17, 2013, Moving FORWARD in Space workshop speaker, Lunar and Planetary Science Conference, Houston, TX (incorporating planetary science in undergraduate labs)

June 2 - 4, 2012, Moving FORWARD in Space workshop leader, Temple University, Philadelphia, PA (https://sites.google.com/a/temple.edu/forward-in-space/)

April, 2010, Buffalo State College, Buffalo, NY (Extreme Volcanism in the Solar System)

May 10, 2010, Jet Propulsion Laboratory, Pasadena, CA (Plains materials on the terrestrial planets)

October, 2009, Fall Meeting of the Geological Society of America, Portland, OR (Planetary volcanism in “every-day” geoscience curriculum: Examples and lessons learned)

April, 2009, Department of Earth Sciences, SUNY-Oneonta, Oneonta, NY (Revising Undergraduate Labs)

October, 2008, Department of Geology, Kent State University, Kent, OH (The New Mars)

August, 2008, IAVCEI General Assembly, Reykjavik, Iceland (“Volcanic Plains” on the Terrestrial Planets: Constraints and Alternatives)

February, 2008, Department of Geology, Beloit College, Beloit, WI (Mars Exploration: New Ideas about an Old Planet)

April, 2007, Department of Earth Sciences, Syracuse University, Syracuse, NY, Science Symposium (The New Mars)

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)

February, 2007, Department of Geology, Belloit College, Belloit, WI (The New Mars)

January, 2007, University at Buffalo Geology Department (The New Mars: How our understanding of the Red Planet changes with new data)

October, 2005, Geological Society of America Fall Meeting, Salt Lake City, Utah, Oct. 13 – 19 (Incorporating extraterrestrial geology in every classroom)

October, 2005, Department of Geology, University of Illinois at Urbana-Champaign, (Loki Patera, Io, and Earth’s mid-ocean ridges)

April, 2004, Department of Earth and Space Sciences, University of Pittsburgh, Pittsburgh, Pennsylvania (Exploring Volcanoes at Mid-Ocean Ridges)

April, 2004, Lunar and Planetary Institute, Houston, Texas (Loki Patera, Io: A Round Mid-Ocean Ridge)

April, 2003, Department of Space Studies, University of North Dakota, Grand Forks, North Dakota (High-pressure volcanism: Venus and Earth’s Mid-Ocean Ridges)

April, 2003, Geology Department, University of North Dakota, Grand Forks, North Dakota (Volcanism in the Solar System)

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)

December, 2002, Fall American Geophysical Union Meeting, San Francisco, California (Lava emplacement at Sabancaya volcano, Peru)

February, 2002, College of Arts and Science Lecture Series, SUNY-Buffalo, Buffalo, New York (Volcanic eruptions in the Pacific Ocean)

December, 2001, Fall American Geophysical Union Meeting, San Francisco, California (New Views of Mars)

May, 2001, Oregon State University, Department of Geology, Corvallis, Oregon (Volcanism in the Solar System)

September, 2000, Department of Physics, University at Buffalo, Buffalo, New York (Everything we knew about Mars is wrong)

March, 1998, Dept. of Geology, Mt. Holyoke College, Amherst, Massachusetts (Development of folds on lava flow surfaces)

January, 1998, Woods Hole Oceanographic Institution, Dept. of Geology and Geophysics, Woods Hole, Massachusetts (Lava flow emplacement at mid-ocean ridges)

January, 1998, University of Rhode Island, Graduate School of Oceanography, Newport, Rhode Island (Formation of submarine lava pillars)

November, 1997, University of Massachusetts, Dept. of Geology, Amherst, Massachusetts (Volcanism in the Solar System)

February, 1997, Boston College (Volcanoes in the Solar System)

January, 1997, IAVCEI General Assembly, Puerto Vallarta, Mexico (Remote sensing of submarine lava flows)

September, 1996, Dept. of Geology, University of Delaware, (Volcanism on Earth, Mars and Venus)

February, 1996, Dept. of Geology, Bridgewater State College, Bridgewater, Massachusetts (Volcanism on the terrestrial planets)

October, 1995, Dept. of Geological Sciences, Brown University, Providence, Rhode Island (Exploration of submarine volcanoes)

July, 1995, IUGG, Boulder, Colorado (Submarine lava flow morphologies and effusion rates)

November, 1994, University of Florida, Dept. of Geology, Gainesville, Florida (Volcanism in the Solar System)

**Public Outreach**

April, 2018, Flash Forward podcast interview about the end of the world (see <https://www.flashforwardpod.com/2018/04/10/fire-from-the-deep/)>

October, 2017, “Supervolcano” planetarium show at Williamsville North High School Planetarium, Williamsville NY

December, 2016, Buffalo Niagara Nature Club, Fort Erie, Ontario (Asteroid impacts on Earth)

September, 2016, Western New York STEM Forum, University at Buffalo, Buffalo NY (Submarine volcanism)

October, 2015, Royal Astronomical Society of Canada (Niagara Centre), Niagara Falls, Canada (Volcanism in the Solar System)

February, 2015, Niagara Falls Nature Club, Niagara Falls, Canada (Submarine volcanism)

January, 2015, The Park School, Snyder, NY (Geology of the Galapagos Islands and the Galapagos Spreading Center)

February, 2014, Niagara Falls Nature Club, Niagara Falls, Canada (Volcanoes)

October, 2012, Casey Middle School, Williamsville, NY (Exploring the Moon)

February, 2012, Buffalo Astronomical Association, Buffalo, NY (Mars: New Paradigms for an Old Planet)

January, 2012, Casey Middle School, Williamsville, NY (Volcanoes and Culture)

May, 2009, Buffalo Geologic Society Monthly Meeting, Buffalo, NY (Exploring undersea volcanoes with a deep-submergence vehicle)

April, 2009, SUNY-Oneonta, Department of Earth Sciences, Oneonta, NY (Mars Exploration)

April,2009, Maple East Elementary School, Second Grade, Williamsville, NY (Exploring Submarine Volcanoes)

November, 2008, Buffalo Geologic Society Monthly Meeting, Buffalo, NY (The Geology of Mars and Earth)

May, 2008, University at Buffalo Phi Beta Kappa Initiation Ceremony, Buffalo, NY (Diving in the Dark: Exploring Submarine Volcanoes)

May, 2008, Maple East Elementary School, First Grade, Williamsville, NY (Every Rock Tells a Story)

November, 2008, Buffalo Geologic Society Monthly Meeting, Buffalo, NY (The Geology of Mars and Earth)

April, 2008, Maple East Elementary School, Williamsville, NY (What does a Geologist Do?)

April, 2007, Maple East Elementary School, Williamsville, NY (Geology as a Career)

March, 2007, Maple East Elementary School, Williamsville, NY (Geology of the Solar System)

January, 2007, Hamburg Natural History Society, Hamburg, NY, Public Lecture (Diving in the Dark: Exploring mid-ocean ridges using a submarine)

December, 2006, Western New York Science and Technology Forum, University at Buffalo, Buffalo, NY (The New Mars)

April, 2006, American Association of University Women’s « Tech Savvy » outreach to inspire girls about science at D’Youville College (Why volcanoes erupt)

March, 2006, Maple East Elementary School, Williamsville, NY (Identifying Rocks and Minerals)

March, 2006, University of Toronto’s Astronomy and Space Exploration Society (Martian Dating)

April, 2005, Maple East Elementary School, Williamsville, NY (What does a geologist do?)

October, 2005, Western New York Science and Technology Forum, Buffalo, NY (The Science Behind the Tsunami)

2005: Taught geology to 1st graders at Maple East Elementary School, Williamsville, NY.

December, 2004, Western New York Science and Career Symposium (The New Faces of Mars)

2004: Taught planetary geology to kindergarteners at Maple East Elementary School, Williamsville, NY.

March, 2003, “Career Day” speaker at Spencerport High School, Spencerport, New York (What does a volcanologist do?)

April, 2003, Cutting Edge Lecture Series, SUNY-Buffalo, Buffalo, New York (Space Odyssey 2002: Volcanoes in the Solar System)

May, 2003, Field Trip Leader for Northeastern Section Meeting of the National Association of Geoscience Teachers (Glacial geology of western New York)

June, 2002, Hills Elementary School, Hills, Iowa (Volcanoes in the Ocean)

November, 2002, Rochester Academy of Science Annual Meeting, SUNY-Brockport, New York (Exploration of submarine volcanoes)

September, 2000, Clarence Elementary School, Clarence, New York (Studying volcanoes on land and sea)

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.

1998 – 1999: Worked with gifted elementary school students (via email) at Hills Elementary School, Hills, Iowa, on submarine geology and biology.

**Teaching Experience at the University at Buffalo**

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 (new course Spring 2017, offered as a “Communications Literacy 2” course to fulfill the new general education requirements)

GLY 325 Geophysics

GLY 407/507 Geological Field Training

GLY 419/519 Extraterrestrial Volcanism (new course first taught Spring 2002)

GLY 424/524 Magmatic Plumbing (new course first taught Spring 2001)

GLY 431/531 Volcanology (team-taught with Dr. M.F. Sheridan or Dr. E. Calder)

GLY 443/543 Marine Geology (team-taught with Dr. R. Jacobi)

GLY 454/554 Topics in Planetary Geosciences (new course first taught Fall 2004)

GLY 577 Topics in Advanced Volcanology (new course first taught Fall 2009)

GLY 597 Volcanology Seminar

UE 142 Undergraduate Research Academy Seminar

UE 143 Advanced Undergraduate Research Academy Seminar

**Professional Activities**

*Elected Offices Held*

Chair, Commission on Volcano Ice Interactions, International Association of Volcanology and Chemistry of Earth’s Interior (IAVCEI), 2013-14.

Vice-Chair, Commission on Volcano Ice Interactions, International Association of Volcanology and Chemistry of Earth’s Interior (IAVCEI), 2012-13.

Secretary, Commission on Volcano Ice Interactions, International Association of Volcanology and Chemistry of Earth’s Interior (IAVCEI), 2011-12.

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

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

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

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

*Sessions Chaired and Organized at National and International Meetings*

Co-Chair and organizer for the 48th Lunar and Planetary Science Conference in Houston, TX, March 19 – 24, 2017. Special session “Large Igneous Provinces in the Solar System.” Co-chair R. Ernst, Carleton University, Ottawa, Ontario, Canada

Co-Chair and organizer for the Geological Society of America Annual Meeting in Dennver, CO, Sept. 25 – 28, 2016. Session T166: “Large Igneous Provinces (LIPs) in the Solar System.” Co-chair R. Ernst, Carleton University, Ottawa, Ontario, Canada.

Co-chair and organizer for the General Assembly of the International Association of Vocalnology and Chemistry of the Earth’s Interior (IAVCEI), Reykjavik, Iceland, August 18 – 22, 2008. Session 3a: “Fire and Ice: Volcanism and Cryovolcanism in the Solar System.” Co-Chairs R. Lopes (Jet Propulsion Laboratory), D. Rothery (The Open University) and Th. Thorsteinsson (National Energy Authority, Iceland).

Co-chair for Northeast Geological Society of America session (“Session No. 34: Advances in Planetary Geology: Image Analysis, Lab Results, and Analog Studies (Posters”)), March 27 – 29, 2008, Buffalo, NY

Co-Chair and advocate of Geological Society of America Pardee Keynote Symposium ("There and Back Again: Terrestrial Analogs for Extraterrestrial Problems") for Fall GSA meeting, Denver, CO, October 26-30, 2002.

Co-Chair and advocate of American Geophysical Union topical session ("Advances in Modeling Flow Processes: Volcanoes, Floods, Impacts, and Mass Movements") for Fall AGU, San Francisco, CA, December 10-14, 2001.

Co-Chair and advocate of Geological Society of America Pardee Keynote Symposium ("The Search for Water in the Solar System") for Fall GSA meeting, Boston, MA, November 4 - 8, 2001.

Co-chair and advocate of Geological Society of America theme session ("From Deep Oceans to Deep Space: Volcanism in Unique Professional Activities (Cont’Environments") for Fall GSA meeting, Salt Lake City, UT, October 28-31, 1997.

Co-Chair of workshop for Geoscience Educators (“Advances in Planetary Geosciences”) at Fall GSA Meeting, Seattle, WA. Workshop sponsored by the National Science Foundation and National Association of Geoscience Teachers.

# National Conferences Chaired and Organized

Co-Chair and Co-Organizer, NASA Annual Meeting of Planetary Mappers, Planetary Science Institute, Tucson, AZ, June 28 – 29, 2007. Co-Chairs: L. Bleamaster (Trinity University), R.S. Saunders (NASA Headquarters), K. Tanaka (USGS Flagstaff).

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, 2006.

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, 2005.

Chair and Organizer, NASA Annual Meeting of Planetary Mappers, USGS Astrogeology Branch, Flagstaff, AZ, June 17 – 19, 2004.

Chair and Organizer, NASA Annual Meeting of Planetary Mappers, Brown University, Providence, RI, June 19 – 20, 2003.

Chair and Organizer, NASA Annual Meeting of Planetary Mappers, Mars Flight Facility, Arizona State University, Tempe, AZ, June 21 – 22, 2002.

East Coast Volcanology Gathering, National Air and Space Museum, Washington, DC, October 25-26, 2001.

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, 1999.

East Coast Volcanology Gathering, National Air and Space Museum, Washington, DC, November 18-19, 1998.

East Coast Volcanology Gathering, National Air and Space Museum, Washington, DC, November 17-19, 1997.

East Coast Volcanology Gathering, National Air and Space Museum, Washington, DC, November 13 - 14, 1996.

*Appointed and Volunteered Activities (outside of UB)*

**2018**

Campus Representative, Geological Society of America, 2002 to present.

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

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, 2017.

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, 2016.

**2015**

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

**2014**

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

Group Chief, Solar System Volcanism, NASA Review Panel for Solar System Working Group, October 2014.

**2008**

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

**2007**

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

**2006**

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

Member, 37th Lunar and Planetary Science Conference Program Committee, January 17 – 19, Houston, TX, 2006.

Judge, Stephen E. Dwornik “Best Student Paper Award,” 37th Lunar and Planetary Science Conference, March 13 – 18, Houston, TX, 2006.

**2004**

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

**2003**

Member, Joint Technical Program Committee of the Fall Meeting for the Geological Society of America, 2001-2003.

Judge, Stephen E. Dwornik Planetary Geosciences Student Paper Award Judging Panel (Geological Society of America, Planetary Geology

Division), 1997 – 2003.

**2002**

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

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

**1999**

Member, 31st Lunar and Planetary Science Conference Program Committee, January 19-21, Houston, TX, 1999.

**1997**

Member, 29th Lunar and Planetary Science Conference Program Committee, January 21-23, 1997.

*Career Development*

1 May, 2015: Attended workshop “Writing in the Disciplines: Developing Communicative Literacy 2,” University at Buffalo.

April 21, 2014: AGI/AGU sponsored webinar on “The Future of Field Camps”

May 2, 2013: Leica microscopy user group meeting, Buffalo State College, Buffalo, NY.

March 27, 2013: webinar sponsored by SERC and the Cutting Edge (NSF and NAGT) on “Concept sketches in undergraduate intro courses.”

May 12, 2012: Leica microscopy user group meeting, Buffalo, NY.

May 17 – 21, 2010: Attended “National Center for Case Study Teaching in Science,” http://sciencecases.lib.buffalo.edu/cs/training/workshops/.

June 2 – 4, 2009: Attended “Strengthening your geoscience program: A practical workshop with ideas and examples,” sponsored by NSF and NAGT (<http://serc.carleton.edu/departments/program_revision/index.html>).

August, 2009: Attended UB Teaching & Learning Center workshop on Clickers.

February, 2009: Attended UB Teaching & Learning Center workshop on Technology in the Classroom.

July, 2007: Attended Council on Undergraduate Research (CUR) Institute on Mentorship, Collaboration, and Undergraduate Research in the Social Sciences and Humanities at Carthage College, Kenosha, WI.

December, 2002 to 2007: Member of The Cutting Edge Workshop Series Advisory Panel, a 5-year program sponsored by the National Association of Geoscience Teachers and the National Science Foundation, designed to improve geoscience education at the college/university level.

July, 1999, Attended “Early Career Faculty in the Geosciences” workshop, sponsored by the National Association of Geoscience Teachers and the National Science Foundation, Bozeman, Montana.

**Fellowships and Awards**

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

Fellow, Geological Society of America, elected May 2012.

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

RIDGE post-doctoral fellowship, 1995-1997.

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

Honorable mention, Stephen E. Dwornik Planetary Geoscience Best Student Paper, for research presented at the 23rd Lunar and Planetary Science Conference, Houston, Texas, 1992.

"Most Outstanding Geology Student" at Brown University, 1990.

**University Service**

Member, Undergraduate Writing Council, 2015 – present, Alex Reid (English), Chair.

Member, Undergraduate Research Exploration Academy Advisory Board, 2009 – present.

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

Member, Nancy Welch Awards Committee, 2008 – present.

Member, Special Majors Committee (Mike Kustreba, chair), 2001 – present.

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

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

Member, Dean’s Summer Task Group, 2009 – 2014.

Member, Special Majors Committee, University at Buffalo, 1999- present.

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

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

Member, Presidential and Dean’s Fellowship Committee, 2008 – 2009 academic year. Academic Director, Undergraduate Research Exploration Academy, 2008 – 2009 academic year.

Master Scholar, Undergraduate Research Exploration Academy, January 2007 – May, 2008.

College of Arts and Sciences representative to Faculty Senate, University at Buffalo, 1999 – 2004.

Member, Assistant Vice President of Research search committee, University at Buffalo, 2000 – 2002.

**Department Service**

Acting Director of Graduate Studies, 2014-2015.

Chair, Faculty Search Committee, Spring 2014.

Chair, Awards Committee, 2013-present.

Member, Space Committee, 2012-2013.

Member, Undergraduate Curriculum Redesign Committee, 2010 – 2012.

Ex officio member, Executive Committee, 2008 – 2009 academic year.

Chair, Graduate Studies Committee (a.k.a. “Director of Graduate Studies”), 2005 – 2009.

Chair, Course Evaluation Committee, Department of Geology, 2000 - present.

Member, faculty search committees, Department of Geology: served on 5 committees since 1998.

**Students Advised**

*Undergraduate Summer Interns*

Sophie Goliber, 2017: “Geologic investigations of Lonar crater, India” (NASA Planetary Geology and Geophysics Undergraduate Research Program, co-advised with Dr. Shawn Wright, Planetary Science Institute)

Hilary Gittings, 2001: "Geologic mapping of MTM quadrangle -20257: The Tyrrhena Patera Region of Mars" (NASA Planetary Geology and Geophysics Undergraduate Research Program)

Aisha Morris, 1999: "On the origin of unique ridges in Hesperia Planum, Mars" (NASA Planetary Geology and Geophysics Undergraduate Research Program)

Jennifer Mercer, 1997: "Quantifying volcanic morphology: Submarine and subaerial comparisons” (Woods Hole Oceanographic Institution Undergraduate Summer Intern)

*Undergraduate Independent Study at University at Buffalo*

Adam Carey, 2002 – 2003: “Lava flow morphologies at the Southern East Pacific Rise”

Karen Makey, 2003 – 2005: “Geologic mapping of fluvial features in Western Hesperia Planum, Mars”

Kristen Paris, 2005 - 2006: “Astrobiology at Gusev crater, Mars”

Elise Rumpf, 2005 – 2006: “Impact crater geology on Venus”

Neil Terry, 2007 – 2008: “Mawrth Vallis, Mars”

Matthew Wendt, 2012: Planetary geoscience

Sophie Goliber, 2016-2017: “A geologic map of a portion of Hesperia Planum, Mars”

*Master's Students*

Sare, Hadarou, M.S. 2019 (expected): “Dust devil tracks in Malea Planum, Mars: Variations in time and space.”

Schiff, Nicholas, M.S. 2019 (expected): “The geology of Albus Mons’ summit region, Mars.”

Smith, Tyler, M.S. 2019 (expected): “Inflated lava flows at Rock Corral Butte, Eastern Snake River Plain.”

Patrick Suter, M.S. 2019 (expected): “Geology of the western margin of Oceanus Procellarum, the Moon.”

Ian Dunning, M.S. 2018 (expected): “The former extent of the Medusae Fossae Formation, Mars.”

Paul Moretti, M.S., 2017: “Ejecta features in Martian flat central-pit impact craters as indicators of subsurface water, a component in central-pit impact crater formation.”

Christian Venturino, M.S., 2016: “Wrinkle ridges in Syrtis Major, Mars.”

Iana Shmelkina, M.S., 2016: “Quantitative comparisons of Titan’s drainage networks with those on Earth and Venus.”

Elisabetta Panza, M.S., 2016: “Erosional patterns of Tyrrhenus Mons, Mars.” (INVOGE exchange student; in Italy 2014-2015.)

David Narkovic, M.S., 2014: “Origin of depressions on Titan.”

Carolyn Roberts, M.S., 2014: “Lunar sinuous rilles in the Marius Hills and Aristarchus Plateau regions of the Moon.”

Dianna Miller, M.S., 2012: “Shield plains and shield fields on Venus: Comparisons and Contrasts.”

Andrew J. Rankin, M.S., 2012: “Geologic hazards at Sabancaya Volcano, Southern Peru.”

Mickael Smolen, M.S., 2012: “Understanding pit crater formation on Mars through analog experiments.” (International INVOGE student; joint advising with Dr. Van de Wryes, Clement, France)

Kenneth W. Christle, M.S., 2011: “Formation of subaerial lava pillars during the 1782-1784 eruption at Laki, Iceland.”

Trevelyn Lough, M.S. 2011: “Geologic mapping of the Aristarchus plateau region on the Moon.”

Daniel Krysak, M.S. 2011: “Geologic mapping of Apollinaris Patera, Mars.”

Emily Laity, M.S., 2009: “Distribution of lava pillars along the Juan de Fuca Ridge and the East Pacific Rise.”

Kelly Shockey, M.S., 2009: “The spatial distribution of shield volcanoes within fields on Earth, Venus and the Moon.”

Joel Allen, M.S., 2007: “Pedestal craters and the erosion of the Medusa Fossae Formation, Mars”

Brett Burkett, M.S., 2007: “Amphitheatre formation at Hualca Hualca volcano, Peru”

Melissa Farley, M.S., 2007: “Evolution of Western Hesperia Planum, Mars”

Tessa Krueger-Jones, M.S., 2007: “Quantitative analyses of hydrologic activity in the Hesperia Planum region of Mars”

Jennifer Lougen, M.S., 2007: “Loki Patera, Io: Laboratory simulations of the lava lake hypothesis”

Karen Makey, M.A., 2007: “Lava flow morphologies on Earth and Mars”

Jennifer Somerville, M.A., 2007: “Geologic mapping of Amphitrites and Peneus Paterae, Mars”

Sarah Black, M.S., 2006: “Geologic relations of Ionian paterae”

Brian Meyer, M.A., 2003: “Lava flow field emplacement at Tyrrhena Patera, Mars”

Leslie Lipkaman, M.S., 2003: “Fractal margins of lava flows on Earth, Mars and Venus”

Cheryl Goudy, M.S., 2002: “Wrinkle ridge formation on Hesperia Planum, Mars”

Nick Warner, M.S., 2002: “Textured lava flows on Earth, Mars and Venus”

Donelle Adams, M.A., 2000: “Cooling the young sheet flow on the Juan de Fuca Ridge”

*Ph.D. Students*

William (Brent) Garry, 2006: "Formation and evolution of lava channels: Laboratory simulations and field analyses"

Abigail Semple, 2008: “Emplacement of large-volume evolved lava flows”

*External Ph.D. Committees*

J. Christopher Stant, Ph.D., 2019 (expected), Syracuse University, Dr. Jeffry Karson, primary advisor.

J. Timothy McClinton, Ph.D. 2014, University of South Carolina, Columbia, S.C., Dr. Scott White, primary advisor.

J. Hungerford, Ph.D., 2013, University of Pittsburgh, Dr. Michael Ramsey, primary advisor.

## Professional Affiliations

Member, Sigma Xi, since 1990.

Member, Geological Society of America (GSA), since 1991.

Member, American Geophysical Union (AGU), since 1992.

Member, Association for Women in Geosciences (AWG), since 1995.

Member, International Association of Volcanology and Chemistry of Earth’s Interior (IAVCEI), since 1996.

Member, National Association of Geoscience Teachers (NAGT), since 2002.

**Sea Experience**

Participant/diver/Co-Investigator in *HOV Alvin-R/V Atlantis* volcanology cruise (“GRUVEE Cruise”) to the Galapagos Spreading Center, March-April, 2010.

Participant/diver in *DSV Alvin-R/V Atlantis* volcanology cruise to the southern East Pacific Rise, 17°30’ – 18°30’ S (“STOWA Cruise”), January-March, 1999.

Participant/diver in *DSV Alvin-R/V Atlantis II* gravity cruise to the northern East Pacific Rise, 9°50’N, November, 1995.

Participant/diver in *DSV Alvin-R/V Atlantis II* AdVenture VI cruise to East Pacific Rise near 10°N, August, 1994.

Participant/diver in *DSV Alvin-R/V Atlantis II* AdVenture V cruise to East Pacific Rise near 10°N, April, 1994.

Participant in *R/V Discoverer* cruise to the Juan de Fuca Ridge, August, 1994.

### Publications

**Refereed Journal Articles (by year)**

***An asterix (\*) indicates a student author.***

***2018***

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

***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.

Gregg, T.K.P., D.A. Crown and M.A. Farley\*, MTMs -15252 and -20252: Geologic map of western Hesperia Planum, Mars, USGS Misc. Inv. Series, 1:1,000,000,000, in revision.

***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 form Mars Express High Resolution Stereo Camera, *J. Geophys. Res. 112(E10),* doi: 10.1029/2007JE002924.

***2006***

Garry, W.B.\*, T.K.P. Gregg, S.A. Soule and D.J. Fornari, Formation of submarine lava channel textures: insights from laboratory simulations, *J. Geophys. Res. 111(B03104)*, doi:10.1029/2005/JB003796.

Gregg, T.K.P. and M.A. Farley\*, Mafic pyroclastic flows at Tyrrhena Patera, Mars: Constraints from observations and models, *J. Volcanol. Geotherm. Res. 155*:81-91.

***2005***

Goudy, C.L., R.A. Schultz and T.K.P. Gregg, Coulomb stress changes in Hesperia Planum, Mars, reveal regional thrust fault reactivation, *J. Geophys. Res. 110 (E10)*:E10005.

***2004***

Gregg, T.K.P. and L.P. Kesztheyli, The emplacement of pahoehoe toes: Field observations and comparisons to laboratory simulations, *Bull. Volcanol. 66*:381-391.

***2003***

Gregg, T.K.P and D.K. Smith, Volcanic investigations of the Puna Ridge, Hawai’i: Relations of lava flow morphologies and underlying slopes, *J. Volcanol. Geotherm. Res. 126*:63-77.

Warner, N.H.\* and T.K.P. Gregg, Evolved Lavas on Mars? Observations from Southwest Arsia Mons and Sabancaya Volcano, Peru, *J. Geophys. Res*., 10.129/2002JE001969.

***2002***

Parfitt, E.A., T.K.P. Gregg and D.K. Smith, A comparison between subaerial and submarine eruptions at Kilauea Volcano, Hawaii: Implications for the thermal viability of lateral feeder dikes, *J. Volcanol. Geotherm. Res. 113*:213-242.

Sinton, J., E. Bergmanis, K. Rubin, R. Batiza, T.K.P. Gregg, K. Gronvold, K.C. Macdonald and S.M. White, Volcanic eruptions on mid-ocean ridges: New evidence from the superfast spreading East Pacific Rise, 17°-19°S, *J. Geophys. Res. 197*:10.1029/2000JB000090.

***2001***

Sakimoto, S.E.H. and T.K.P. Gregg, Channeled flow: Analytic solutions, laboratory experiments, and applications to lava flows, *J. Geophys. Res. 106*, 8629-8644.

***2000***

Gregg, T.K.P. and J.H. Fink, A laboratory investigation into the effects of slope on lava flow morphology, *J. Volcanol. Geotherm. Res. 96*:145-159.

Gregg, T.K.P., D.J. Fornari, M.R. Perfit, W.I. Ridley and M.D. Kurz, Using submarine lava pillars to record mid-ocean ridge eruption dynamics, *Earth Planet. Sci. Lett. 178:*195-214.

***1999***

Chadwick, W.W., Jr., T.K.P. Gregg, and R.W. Embley, Submarine lineated sheet flows: A unique lava morphology formed on subsiding lava ponds, *Bull. Volcanol. 61*:194 - 206.

***1998***

Fornari, D.J., R.M. Haymon, M.R. Perfit, T.K.P. Gregg and M.H. Edwards, 1998, Axial summit trough of the East Pacific Rise 9°N to 10°N: Geological characteristics and evolution of the axial zone on fast-spreading mid-ocean ridges, *J. Geophys. Res.*, *103*:9827-9855.

Fornari, D.J., T. Shank, K.L. Von Damm, T.K.P. Gregg, R.M. Haymon, M. Lilley, G. Levai, A. Bray, S. Baron, M.R. Perfit and R. Lutz, 1998, A dike intrusion or crustal fracturing event inferred from time-series temperature measurements at high-temperature hydrothermal vents on the East Pacific Rise crest 9° 49’-51'N, *Earth Planet. Sci. Lett*.

Gregg, T.K.P., J.H. Fink, and R.W. Griffiths, 1998, Formation of multiple fold generations on lava flow surfaces: Influence of strain rate, cooling rate, and lava composition, *J. Volcanol. Geotherm. Res.*, *80*:281-292.

Gregg, T.K.P., D.A. Crown and R. Greeley, 1998, Geologic map of MTM Quadrangle -20252 Tyrrhena Patera Region of Mars, *U.S. Geol. Survey, I-2556*, scale 1:500,000.

Gregg, T.K.P. and D.J. Fornari, 1998, Limiting the lengths of submarine lava flows through numerical modeling, *J. Geophys. Res.*, *103*:27,517-27,531.

***1996***

Gregg, T.K.P. and W.W. Chadwick, Jr., 1996, Inflated submarine lava flows: A model for the formation of lava pillars, *Geology* *24*:981-984.

Gregg, T.K.P., D.J. Fornari, M.R. Perfit, R.M. Haymon and J.H. Fink, 1996, Rapid emplacement of a mid-ocean ridge lava flow on the East Pacific Rise at 9° 46’-51'N, *Earth Planet. Sci. Lett.*, *144*:E1-E7.

Gregg, T.K.P. and J.H. Fink, 1996, Quantification of extraterrestrial lava flow effusion rates through laboratory simulations, *J. Geophys. Res., 101, 16,891*-16,900.

Gregg, T.K.P. and S.N. Williams, 1996, Explosive mafic volcanoes on Mars and Earth: Deep magma sources and rapid rise rate, *Icarus* *122:*397-405.

***1995***

Gregg, T.K.P. and J.H. Fink, 1995, Quantification of submarine lava-flow morphology through analog experiments, *Geology 23*:73-76.

***1994***

Gregg, T.K.P. and R. Greeley, 1994, "Formation of Venusian canali: Considerations of lava types and their thermal behaviors": A reply, *J. Geophys. Res. 99*:17,165-17,167.

***1993***

Gregg, T.K.P. and R. Greeley, 1993, Formation of venusian canali: Considerations of lava types and their thermal behaviors, *J. Geophys. Res. 98*:10,873-10,882.

**Books Edited**

*Environmental Effects on Volcanic Eruptions: From Deep Oceans to Deep Spac*e, 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.

**Book Chapters**

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

***2013***

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., 2007, 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, 2003-20013: 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, 2000, Volcanism on Earth’s seafloor and Venus, in *Environmental Effects on Volcanic Eruptions: From Deep Oceans to Deep Spac*e, 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, 2000, Volcanic vestiges: Pulling it together, in

Zimbelman, J.R. and T.K.P. Gregg, 2000, *Environmental Effects on Volcanic Eruptions: From Deep Oceans to Deep Spac*e, Kluwer Academic/Plenum Publishing, New York, 260 pp.

Zimbelman, J.R. and T.K.P. Gregg, 2000, Volcanic diversity throughout the solar system, in *Environmental Effects on Volcanic Eruptions: From Deep Oceans to Deep Spac*e, 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, 2000, Subaerial terrestrial volcanism: Eruptions in our own backyard, in *Environmental Effects on Volcanic Eruptions: From Deep Oceans to Deep Spac*e, J.R. Zimbelman and T.K.P. Gregg, eds., Kluwer Academic/Plenum Publishing, New York, pp. 9 – 38.

**United States Geological Survey Open-File Reports**

Gregg, Tracy K. P., K.L. Tanaka and D.A.Senske (editors), 2002, Abstracts of the Annual meeting of planetary geologic mappers, Open-File Report - U. S. Geological Survey, OF 02-0412, p. 55, 2002. Meeting: Annual meeting of planetary geologic mappers, Tempe, AZ, United States, June 21-22, 2002.

Gregg, T.K.P., K.L. Tanaka and R.S. Saunders (eds.), 2003, Abstracts of the annual meeting of Planetary Geologic Mappers, U.S. Geological Survey, OF 2004-1100. Meeting: Annual meeting of planetary geologic mappers, Providence, RI, United States, June 19-22, 2003.

Gregg, T.K.P., K.L. Tanaka and R.S. Saunders (eds.), 2004, Abstracts of the annual meeting of Planetary Geologic Mappers, U.S. Geological Survey, OF 2004-1289. Meeting: Annual meeting of planetary geologic mappers, Flagstaff, AZ, United States, June 23-24, 2004.

Gregg, T.K.P., K.L. Tanaka and R.S. Saunders, eds, 2005, Abstracts of the Annual Meeting of Planetary Geologic Mappers, Washington, DC, 2005, US Geol. Surv. Open-File Report 2005-1271, http://pubs.usgs.gov/of/2005/1271/.

Gregg, T.K.P., K.L. Tanaka and R.S. Saunders, eds., 2006, *Abstracts of the Annual Meeting of Planetary Geologic Mappers, Nampa, Idaho, 2006*, USGS Open-File Report 2006-1263, U.S. Geol. Survey.

Bleamaster, L.F., T.K.P. Gregg, K.L. Tanaka and R.S. Saunders, eds., 2007, Abstracts of the Annual Meeting of Planetary Geologic Mappers, Tucson, AZ, *U.S. Geol. Surv. Open-File Report 2007-1233* (http://pubs.usgs.gov/of/2007/1233/ofr2007-1233.pdf).

**Extended Abstracts (by year)**

*These abstracts are at least 2 pages long and are peer-reviewed prior to acceptance.*

***2018***

Goliber, S.A.\* and T.K.P. Gregg, A plethora of planetary processes in southern Hesperia Planum, Mars: Water, ice and mass wasting, *Lun. Planet. Sci. Conf. 49*, Abstract #2444.

Dunning, I.T.\*, T.K.P. Gregg and J.R. Zimbelman, How big was it? The former extent of the Medusae Fossae Formation, Mars, *Lun. Planet. Sci. Conf. 49*, Abstract #2418.

***2017***

Goliber, S.A.\*, S.P. Wright and T.K.P. Gregg, Synthesis of 3-D, GPS, field data, and high-resolution imagery of Lonar Crater, India, *Lun. Planet. Sci. Conf. 48th*, Abstract #2715.

Gregg, T.K.P., Volcanic vents in Hesperia Planum, Mars: Sources for an extraterrestrial large igneous province, *Lun. Planet. Sci. Conf. 48th*, Abstract #1659.

Moretti, P.J.\* and T.K.P. Gregg, Variations in target porosity affect ejecta morphology of a martian central-pit impact crater, *Lun. Planet. Sci. Conf. 48th*, Abstract #2341.

***2016***

Gregg, T.K.P., 2016, Oh give me a home with a resurgent dome: Loki Patera, Io, *Lun. Planet. Sci. Conf. 47th*, Abstract #2517.

Green, J.E.\*, T.K.P. Gregg and S.E.H. Sakimoto, 2016, Distribution of small (<25 km) volcanoes in Martian northern plains, *Lun. Planet. Sci. Conf. 47th*, Abstract #2399.

Moretti, P.\* and T.K.P. Gregg, 2016, Do ejecta features support volatiles as a basis for central pit craters on mars? *Lun. Planet. Sci. Conf. 47th*, Abstract #2788.

Shmelkna, I.\* and T.K.P. Gregg, 2016, Morphometric analysis of valley networks and channels on Venus, *Lun. Planet. Sci. Conf. 47th*, Abstract #2814.

Venturino, C.S.\* and T.K.P. Gregg, 2016, Relative ages of wrinkle ridges in Syrtis Major, Mars, *Lun. Planet. Sci. Conf. 47th*, Abstract #2437.

Venturino, C.S.\*, D.J.P. Martin, F.E. McDonald, S. Paisarnsombat, E.S. Steenstra, S. O’Hara, A. Calzada-Diaz, S. Bottoms, M.K. Leader, K.K. Klaus, T.K.P. Gregg and D.A. Kring, 2016, Lunar pyroclastic soil mechanics and trafficability in the Schrodinger basin, *Lun. Planet. Sci. Conf. 47th*, Abstract #1676.

***2015***

Gregg, T.K.P., Large (>1 km) rayed craters in Hesperia Planum, Mars: What’s the ejecta trying to say? *Lun. Planet. Sci. Conf. 46th*, Abstract #2442.

***2014***

Gregg, T.K.P., E. Panza\* and B. Buford\*, 2014, Can you miss what you don’t see? Erosion patterns of lavas and ignimbrites on Earth and Mars, *Lun. Planet. Sci. Conf. 45th*, Abstract #2326.

***2012***

Miller, D.\* and T.K.P. Gregg, Geologic characteristics and stratigraphic relationshipos of shield fields versus shield plains on Venus, *Lun. Planet. Sci. Conf. 43rd*, Abstract #2311.

Roberts, C.\* and T.K.P. Gregg, Quantitative comparisons of lunar sinuous rilles in the Marius Hills and Aristarchus Plateau regions: Insights into formation and evolution, *Lun. Planet. Sci. Conf. 43rd*, Abstract #1685.

***2011***

Gregg, T.K.P. and D.J. Krysak\*, 2011, Apollinaris Mons, Mars: A new name and a new past, *Lun. Planet. Sci. Conf. 42nd*, Abstract #1922.

Lough, T.A.\* and T.K.P. Gregg, 2011, Assessment of geologic mapping techniques at Aristarchus plateau, the Moon, *Lun. Planet. Sci. Conf. 42nd*, Abstract #2013.

Miller, D.M.\* and T.K.P. Gregg, 2011, Characteristics and geologic relationships of shield fields versus shield plains on Venus, *Lun. Planet. Sci. Conf. 42nd*, Abstract #1550.

***2010***

Gregg, T.K.P. and D.A. Crown, 2010, Geologic mapping in the Hesperia Planum region of Mars, in in L. Bleamaster III, K.L. Tanaka and M.S. Kelley, eds., *Abstracts of the annual meeting of planetary mappers, Flagstaff, AZ, June 2010*, NASA/CP-2010217041, pp. 30-31.

Lough, T.A.\* and T.K.P. Gregg, 2010, Geologic mapping of the Aristarchus plateau region on the Moon, *Lun. Planet. Sci. Conf. 41st*, Abstract #2370.

Lough, T.A.\*, T.K.P. Gregg and R. Aileen Yingst, 2010, Geologic mapping of the Aristarchus plateau region of the Moon, in L. Bleamaster III, K.L. Tanaka and M.S. Kelley, eds., *Abstracts of the annual meeting of planetary mappers, Flagstaff, AZ, June 2010*, NASA/CP-2010217041, pp. 16 – 17.

***2009***

Gregg, T.K.P. and D.A. Crown, 2009, Mapping Tyrrhena Patera and Hesperia Planum, Mars, in L. Bleamaster III, K.L. Tanaka and M.S. Kelley, eds., *Abstracts of the annual meeting of planetary mappers, San Antonio, TX, 2009*, NASA/CP-2010-216680, pp. 27-28.

Gregg, T.K.P. and R.A. Yingst, 2009, Lunar geologic mapping: A preliminary map of a portion of the LQ-10 (“Marius”) quadrangle, in L. Bleamaster III, K.L. Tanaka and M.S. Kelley, eds., *Abstracts of the annual meeting of planetary mappers, San Antonio, TX, 2009*, NASA/CP-2010-216680, pp. 13-14.

Gregg, T.K.P. and S. de Silva, 2009, Tyrrhena Patera and Hesperia Planum, Mars: New insights (and old interpretations) from high-resolution imagery, *Lun. Planet. Sci. Conf. 40th,* Abstract #1700.

Shockey, K.M.\* and T.K.P. Gregg, 2009, The spatial relationship within fields of shield volcanoes, *Lun. Planet. Sci. Conf. 40th*, Abstract #2056.

Yingst, R.A. and T.K.P. Gregg, 2009, Lunar geologic mapping: A preliminary map of a portion of the Marius Quadrangle, *Lun. Planet. Sci. Conf. 40th,* Abstract #1319.

***2008***

Hughes, S.S., S.E.H. Sakimoto and T.K.P. Gregg, 2008, A petrogenic model of plains-style low shield volcanoes on Mars—Implications for magma production in the Tharsis Region, *Lun. Planet. Sci. Conf. XXXIX*, Abstract #1619.

Shockey, K.M.\*, Zimbleman, J.R. and T.K.P. Gregg, 2008, Transverse aeolian ridges across the dichotomy boundary of Mars, *Lun. Planet. Sci. Conf. XXXIX*, Abstract #1686.

***2007***

Allen, J.G.\* and T.K.P. Gregg, 2007, Using pedestal craters around the Medusae Fossae Formation, Mars, to constrain erosion rates, *Lun. Planet. Sci. Conf. 38th,* Abstract #2016.

Crown, D.A., D.C. Berman and T.K.P. Gregg, 2007, Geologic diversity and chronology of Hesperia Planum, Mars, *Lun. Planet. Sci. Conf. 38th*, Abstract #1169.

Gregg, T.K.P. and D.A. Crown, 2007, Redefining Hesperia Planum, Mars, through geologic mapping, *Lun. Planet. Sci. Conf. 38th*, Abstract #1190.

Gregg, T.K.P. and R.M. Lopes, 2007, Volcanic depressions and lava lakes on Earth, Mars, Venus, Io and Titan, in *Ices, Oceans and Fire: Satellites of the Outer Solar System*, Lun. Planet. Inst., Abstract #6054.

Jones, T.K.\*, T.K.P. Gregg and D.A. Crown, 2007, A quantitative investigation of fluvial activity in the Hesperia Planum Region, Mars, *Lun. Planet. Sci. Conf. 38th*, Abstract #2156.

Sakimoto, S.E.H., T.K.P. Gregg and A.L. Fagan, 2007, Mechanical and flow model constraints on the origins of platy flows on Mars: Lava, frozen sea, or something rather muddy? *Lun. Planet. Sci. Conf. 38th*, Abstract #2441.

***2006***

Black, S.\* and T.K.P. Gregg, 2006, The origin and evolution of “islands” in ionian paterae, *Lun. Planet. Sci. Conf. XXXVII*, Abstract #2180.

Garry, W.B.\*, J.R. Zimbelman and T.K.P. Gregg, 2006, Emplacement of a long lava flow near Ascraeus Mons volcano, Mars, *Lun. Planet. Sci. Conf. XXXVII,* Abstract #1508.

Gregg, T.K.P., J.P. Briner and K.N. Paris\*, 2006, Glaciated terrain in Gusev crater, Mars, *Lun. Planet. Sci. Conf. XXXVII*, Abstract #1752.

Lougen, J.A.\*, T.K.P. Gregg and R. Lopes, 2006, Behavior of Loki Patera, Io, revealed through mathematical and laboratory modeling, *Lun. Planet. Sci. Conf. XXXVII*, Abstract #2179.

Morris, A., F.S. Anderson, P.J. Mouginis-Mark, A.F.C. Haldemann and T.K.P. Gregg, 2006, Initial analysis of topographic roughness of martian and hawaiian terrains, *Lun. Planet. Sci. Conf. XXXVII*, Abstract #2064.

Somerville, J.R.\* and T.K.P. Gregg, 2006, Amphitrites and Peneus Paterae, Mars: Characteristics and possible origins, *Lun. Planet. Sci. Conf. XXXVII*, Abstract #2197.

Williams, D.A., R. Greeley, S. Werner, G. Neukum, D. Crown, T.K.P. Gregg, K. Guinner, J. Raitala, and the HRSC Co-Investigator Team, 2006, Tyrrhena Patera: Volcanic history derived from HRSC-based crater counts, *Lun. Planet. Sci. Conf. XXXVII*, Abstract #1306.

***2005***

Brady, S.M., S.S. Hughes, S.E.H. Sakimoto, and T.K.P. Gregg, 2005, Exploring the link between geochemistry and volcano morphology on the Eastern Snake River Plain, a planetary analog to Mars volcanism, *Lunar Planet. Sci. Conv. XXXVI,* Abstract #2359.

Garry, W.B.\* and T.K.P. Gregg, 2005, Analysis of downstream transitions in morphology and structure of lava channels on Mars, *Lunar Planet. Sci. Conf. XXXVI*, Abstract #2019.

Goudy, C.L., R.A. Schultz and T.K.P. Gregg, Coulomb stress changes in Hesperia Planum, Mars, reveal regional thrust fault reactivation*, J. Geophys. Res. 110(E10),* doi: 10.1029/2004JE002293.

Gregg, T.K.P. and D.A. Crown, 2005, What is Hesperia Planum, Mars? An examination of multiple working hypotheses, *Lunar Planet. Sci. Conf. XXXVI*, Abstract #1962.

Hughes, S.S., S.E.H. Sakimoto, T.K.P. Gregg and S.M. Brady, 2005, Petrologic evidence for multiple, chemically evolved magma batches and implications for plains volcanism on Earth and Mars, *Lunar Planet. Sci. Conf. XXXVI,* Abstract #2396.

Williams, D.A., W. Zuschneid, S. Werner, and G. Neukum, D.A. Crown, T.K.P. Gregg, J. Raitala, and the HRSC Co-Investigator Team, 2005, Hadriaca Patera: Volcanic history derived from HRSC-based crater counts, *Lunar Planet. Sci. Conf. XXXVI*, Abstract #1470.

***2004***

Brady, S.M., S.S. Hughes, S.E.H. Sakimoto and T.K.P. Gregg, 2004, Field and geochemical study of Table Legs Butte and Quaking Aspen Butte, Eastern Snake River Plain, Idaho: An analog to the morphology of small shield volcanoes on Mars, *Lun. Planet. Sci. Conf. XXXV*, Abstract #2145.

Gregg, T.K.P. and R.M. Lopes, 2004, Lava lakes on Io: New perspectives from numerical modeling, *Lun. Planet. Sci. Conf. XXXV*, Abstract #1558.

Hughes, S.S., S.E.H. Sakimoto, T.K.P. Gregg, D.J. Chadwick, S.B. Bradey, M.A. Farley, A.A.J. Holmes, A.M. Semple and S.L. Weren, 2004, Topographic evidence for eruptive style changes and maga evolution of small plains-style volcanoes on Earth and Mars, *Lun. Planet. Sci. Conf. XXXV*, Abstract #2123.

Sakimoto, S.E.H. and T.K.P. Gregg, 2004, Cerberus Fossae and Elysium Planitia lavas, Mars: Source vents, flow rates, edifice styles and water interactions, Lun. Planet. Sci. Conf. XXXV, Abstract#1851.

Weren, S.L., S.E.H. Sakimoto, S.S. Hughes and T.K.P. Gregg, 2004, Comparison of plains volcanism in the Tempe Terra region of Mars to the Eastern Snake River Plains, Idaho with implications for geochemical constraints, *Lun. Planet. Sci. Conf. XXXV*, Abstract #2090.

***2003***

Gregg, T.K.P. and M.F. Sheridan, 2003, Pinacates Volcanic Field: A terrestrial analog to martian phreatomagmatic features, Mars Analog Workshop, Golden, Colorado, May 21-24.

Lipkaman, L.J.\* and T.K.P. Gregg, 2003, A’a versus pahoehoe on Mars, Venus and Earth: What do fractal dimensions actually reveal? *Lun. Planet. Sci. Conf. XXXIV*:#1389.

Lopes, R., L. Kamp, W.D. Smythe, R. Carlson, J. Radebaugh and T.K.P. Gregg, 2003, Paterae on Io: Volcanic activity observed by Galileo’s NIMS and SSI, *Lun. Planet. Sci. Conf. XXXIV*:#1837.

Sakimoto, S.E.H., T.K.P. Gregg, S.S. Hughes and J. Chadwick, 2003, Martian plains volcanism in Syria Planum and Tempe Mareotis as analogs to the Eastern Snake River Plains, Idaho: Similarities and possible petrologic contributions to topography*, Lun. Planet Sci. Conf. XXXIV*:#1740.

***2002***

Goudy, C.L.\* and T.K.P. Gregg, 2002, Insight into the evolution of wrinkle ridges in Hesperia Planum, Mars, *Lunar Planet. Sci. Conf. XXXIII*:#1135.

Gregg, T.K.P., D.A. Crown and S.E.H. Sakimoto, 2002, Volcanic evolution and erosion at Hadriaca and Tyrrhena Paterae, Mars, *Lunar Planet. Sci. Conf. XXXIII*:#1560.

Gregg, T.K.P., M.R. Bulmer and N.H. Warner\*, 2002, Lava flow field at Sabancaya volcano, Peru: Analog for extraterrestrial lavas?, *Lunar Planet. Sci. Conf. XXXIII*:#1565.

Warner, N.H.\* and T.K.P. Gregg, 2002, Lava flow field southwest of Arsia Mons, Mars: Estimates and comparisons of rheologic properties, *Lunar Planet. Sci. Conf. XXXIII*:#1324.

***2001***

Goudy, C.L.\* and T.K.P. Gregg, 2001, Possible mechanisms of stress in Hesperia Planum, Mars: Digital analysis of mare-type wrinkle ridges, *Lun. Planet. Sci. Conf. XXXII:*#1393.

Gregg, T.K.P, D.A. Crown and S.E.H. Sakimoto, 2001, Evolution and erosion of Tyrrhena and Hadriaca Paterae, Mars: New insights from MOC and MOLA, *Lun. Planet. Sci. Conf. XXXII*:#1628.

Meyer, B.R.\* and T.K.P. Gregg, 2001, Inferring lava flow-field emplacement using MOLA: Topography of Tyrrhena Patera’s flow field, *Lun. Planet. Sci. Conf. XXXII*:#1849.

Sakimoto, S.E.H., T.K.P. Gregg and S.J. Reidel, 2001, Channel, lava tube, and edifice flow models: Developments and recent applications for Mars, *Eos Trans. AGU, 82(47), Fall Meet. Suppl.*, Abstract P22D-07.

Warner, N.H.\*, T.K.P. Gregg and M.R. Bulmer, 2001, Textured lava flows on Earth, Mars and Venus, *Lunar Planet. Sci. Conf. XXXII*:#1693.

***2000***

Adams, D.M.\* and T.K.P. Gregg, 2000, How long can you go? Cooling history of lava flows of the Young Sheet Flow, Juan de Fuca Ridge, *Eos, Tran. Am. Geophys. Union,* *81*:S441.

Bulmer, M.H. and T.K.P. Gregg, 2000, Fold generation on a silicic lava flow: A planetary analog, *Lun. Planet. Sci. XXXI* #1469.

Gregg, T.K.P. and S.E.H. Sakimoto, 2000, Marte Valles lava flow rates and rheology from MOC and MOLA data, *Lun. Planet. Sci. XXXI* #1758.

Gregg, T.K.P. and M.F. Sheridan, 2000, Volcanoes as meteorologists: Using volcanic morphology to constrain paleoenvironments on Earth and Mars, *Lun. Planet. Sci. XXXI* #1657.

***1999***

Gregg, T.K.P. and D.J. Fornari, 1999, Looking for a needle in a haystack: Lessons for extraterrestrial geologic and biologic discovery from deep submergence vehicle surveys, *Lun. Planet. Sci. XXX* #2011.

Gregg, T.K.P. and D.K. Smith, 1999, How to make a dome: Puna Ridge seamounts as analogs for Venusian domes? *Lun. Planet. Sci. XXX* #1784.

Gregg, T.K.P. and S.E.H. Sakimoto, 1999, Reality check: Using analytic rectangular channel flow solutions to interpret and predict channelized lava flow behavior on Earth and Mars, *Lun. Planet. Sci. XXX* #1490.

***1998***

Gregg, T.K.P. and S.E.H. Sakimoto, 1998, Inside the "black box": Velocity distributions and flow rates in lava channels from laboratory, analytic and computational fluid dynamics methods, *Lun. Planet. Sci. XXIX* #1499.

***1997***

Gregg, T.K.P. and J.H. Fink, 1997, Variations in flow width controlled by effusion rates, *Lun. Planet. Sci. Conf. XXVIII*, 461-462.

Gregg, T.K.P. and P.H. Schultz, 1997, Ridged martian lava flows: Intrusions or Extrusions?, *Lun. Planet. Sci. Conf. XXVIII*, 463-464.

***1996***

Gregg, T.K.P. and D.J. Fornari, 1996, The great (potential) length of submarine lava flows, in *Chapman Conference on Long Lava Flows Abstract Volume*, July 12-20, 1996, Townsville, Australia.

Gregg, T.K.P. and S.E.H. Sakimoto, 1996, Venusian lava flow morphologies: Variations on a basaltic theme, *Lun. Planet. Sci. Conf. XXVII*:459-460.

***1995***

Gregg, T.K.P. and J.H. Fink, 1995, Quantification of extraterrestrial lava flows through analog experiments, *Lun. Planet. Sci. Conf. XXVI*:507-508.

***1994***

Gregg, T.K.P. and J.H. Fink, 1994, Ratio of first and second generation fold wavelengths on lavas may indicate flow composition, *Lun. Planet. Sci. Conf. XXV*:473-474.

***1993***

Gregg, T.K.P. and S.N. Williams, 1993, Explosive mafic volcanism on Earth and Mars, *Lun. Planet. Sci. Conf. XXIV*:575-576.

***1992***

Gregg, T.K.P. and R. Greeley, 1992, Formational constraints on venusian "canali", *Lun. Planet. Sci. Conf. XXIII*:449-450.

***1991***

Crown, D.A., T.K. Porter (Gregg) and R. Greeley, 1991, Physical properties of lava flows on the southwest flank of Tyrrhena Patera, Mars, *Lun. Planet. Sci. Conf. XXII*:261-262.

Gregg, T.K.P. and R. Greeley, 1991, Formational constraints on thermally eroded lava channels, *Geol. Soc. Amer. Abstracts with Programs 23*:A276-A275.

Porter (Gregg), T.K., D.A. Crown and R. Greeley, 1991, Timing and formation of wrinkle ridges in the Tyrrhena Patera region of Mars, *Lun. Planet. Sci. Conf. XXII*:1085-1086.

***1990***

Porter (Gregg), T.K. and P.H. Schultz, 1990, Formation of rhyolitic ridges on martian basalts, *Lun. Planet. Sci. Conf. XXI*:973-974.

**Abstracts and Conference Presentations (by year)**

*These are short (1-2 paragraph) abstracts that are peer-reviewed prior to acceptance as oral or poster presentations at national conferences.*

***2018***

Gregg, T.K.P., S.E.H. Sakimoto, and I. Shmelkina,\* Titans’ channels: What’s underneath?, *Geological Society of America Abstracts with Programs 50(3),* ISSN 0016-7592, doi: 10.1130/abs/2018SE-312430.

Sakimoto, S.E.H. and T.K.P. Gregg, Titan’s channels: Velocity distributions, sediment transport, and erosional implications, *Geological Society of America Abstracts with Programs 50(3)*, ISSN 0016-7592, doi: 10.1130/abs/2018SE-312207.

Sare, Hadarou\* and T.K.P. Gregg, Yearly changes in dust-devil tracks within Malea Planum, Mars, *Geological Society of America Abstracts with Programs 50(3),* ISSN 0016-7592, doi: 10.1130/abs/2018SE-312226.

Schiff, N.L.\* and T.K.P. Gregg, Formation and evolution of the summit region of Albus Mons, Mars, *Geological Society of America Abstracts with Programs 50(3),* ISSN 0016-7592, doi: 10.1130/abs/2018SE-312241.

Suter, P.F.\* and T.K.P. Gregg, Lunar highlands meets lunar maria: Mapping part of the western boundary of Oceanus Procellarum in Lunar Quadrangle 10, *Geological Society of America Abstracts with Programs 50(3),* ISSN 0016-7592, doi: 10.1130/abs/2018SE-312329.

**2017**

Dunning, I.T.\*, T.K.P. Gregg and J.R. Zimbelman, Mapping the previous extent of the Medusae Fossae Formation, Mars, *Geological Society of America Abstracts with Programs 49(6)*, ISSN 0016-7592, doi: 10.1130/abs/2017AM-300295.

Gregg, T.K.P., Chocolate is my muse: Sugarcoating geoscience concepts in introductory and upper-level classes, *Geological Society of America Abstracts with Programs 49(6)*, ISSN 0016-7592, doi: 10.1130/abs/2017AM-305395.

***2016***

Gregg, T.K.P., Syrtis Major and Hesperia Planum, Mars: Two LIPS (Large Igneous Provinces) telling different stories, Abstract #314-6, *Geological Society of America Annual Meeting*, Sept. 25 – 28, Denver, Colorado.

***2015***

Gregg, T.K.P. and J.R. Zimbelman, 2015, The Medusae Fossae Formation on Mars: How big was it? Geological Society of America *Abstracts with Programs, vol. 47, no. 7*, p. 216, Abstract #71-5.

***2013***

Gregg, T.K.P., Subaerial, submarine and extraterrestrial volcanic morphologies: Comparisons and contrasts, Abstract #V51G-01, presented at *2013 Fall Meeting, AGU, San Francisco, CA, 9 – 13 December.*

Gregg, T.K.P., Benefits and strategies: Implementing planetary geoscience in Geology 101, Abstract #192-1, presented at *2013 GSA Denver Annual Meeting, Oct. 27-30*.

Selvans, M.M., T.K.P. Gregg and E. Kraal, Using extraterrestrial activities in the physical geology classroom to engage critical thinking, Abstract #125-22, presented at *2013 GSA Denver Annual Meeting, Oct. 27-30*.

***2011***

Gregg, T.K.P. and C. Roberts,\* 2011, Sinuous rilles in Hesperia Planum, Mars: Water, lava, or something else?, presented at *2011 GSA Minneapolis Annual Meeting, Oct. 9 - 12,* Abstract #284-6*.*

***2010***

Christle, K.W.\* and T.K.P. Gregg, 2010, Subaerial lava pillars: Evidence for non-explosive magma-water interactions in Iceland, Abstract #NH11B-11137, presented at *2010 Fall Meeting, AGU, San Francisco, Calif., 13 – 17 December*.

Krysak, D.J.\* and T.K.P. Gregg, 2010, The Apollinaris Mons fan-shaped deposit: Characteristics and formation constraints, *2010 GSA Denver Annual Meeting, Oct. 31 – Nov. 3*, Abstract #252-2.

***2009***

Gregg, T.K.P., 2009, Planetary volcanism in “every-day” geoscience curriculum: Examples and lessons learned, *Geol. Soc. Amer. Abstracts with Programs 41(7):*260.

Gregg, T.K.P., 2009, Magmatic processes on planetary bodies: What we (think we) know and how we know it, *Geol. Soc. Amer. Abstracts with Programs 41(7):*707.

Lough, T.\* and T.K.P. Gregg, 2009, A geologic analysis of the Aristarchus plateau region on the Moon, *Geol. Soc. Amer. Abstracts with Programs 41(7):*709.

***2008***

Domagall, A.S. and T.K.P. Gregg, 2008, Commonalities and contrasts in location, morphology and emplacement of large-volume evolved lava flows, *Eos Trans. AGU, 89(53) Fall Meet. Suppl.*, Abstract V11C-2073.

Gregg, T.K.P., 2008, “Volcanic Plains” on the terrestrial planets: Constraints and alternatives, IAVCEI 2008 General Assembly, Reykjavik, Iceland, 17 – 22 August, 2008, http://www.eventure-online.com/eventure/publicAbstractView.do?id=76070.

Gregg, T.K.P., 2008, NASA’s Planetary Geology and Geophysics Undergraduate Research Program (PGGURP): The value of undergraduate geoscience internships, *Eos Trans. AGU, 89(53) Fall Meet. Suppl.*, Abstract ED31A-0610.

Gregg, T.K.P., 2008, Volcanic Variety: The Tyrrhena Patera region of Mars is the candidate for change, *Eos Trans. AGU, 89(53) Fall Meet. Suppl.*, Abstract P43C-1411.

Gregg, T.K.P., 2008, NASA’s Planetary Geology and Geophysics Undergraduate Research Program (PGGURP): The value of undergraduate geoscience internships, *Geol. Soc. Amer. 2008 Joint Annual Meeting, Houston, TX, October 5 – 9, 2008*, Abstract #248-25.

Gregg, T.K.P. and D.A. Crown, Mapping Hesperia Planum, Mars, in L.F. Bleamaster III, K.L. Tanaka and M.S. Kelley, eds., *Abstracts of the annual meeting of planetary geologic mappers, Flagstaff, AZ*, 23 – 26 June, 2008, NASA/CP-2008-215469, pp. 58 – 59.

Gregg, T.K.P. and K.M. Shockey\*, 2008, Distribution of small volcanic constructs on Earth, Mars, Venus and the Moon: Comparisons and contrasts, *Geol. Soc. Amer. 2008 Joint Annual Meeting, Houston, TX, October 5 – 9, 2008*, Abstract #133-4.

Gregg, T.K.P and R.A. Yingst, Geologic mapping of the Marius Quadrangle, in L.F. Bleamaster III, K.L. Tanaka and M.S. Kelley, eds., *Abstracts of the annual meeting of planetary geologic mappers, Flagstaff, AZ*, 23 – 26 June, 2008, NASA/CP-2008-215469, pp. 50 – 51.

Skilling, I.A. and T.K.P. Gregg, Basaltic lava flow-ice contact structures: A distinctive record of former ice, IAVCEI 2008 General Assembly, Reykjavik, Iceland, 17 – 22 August, 2008, http://www.eventure-online.com/eventure/publicAbstractView.do?id=76125.

***2007***

Gregg, T.K.P. and S.E.H. Sakimoto, 2008, Development of shield fields on Earth, Mars, the Moon and Venus, in *Geol. Soc. Amer. Northeastern Section-43rd Annual Meeting*, 27-29 March, 2007, Paper #34-2.

Hughes, S.S., T.K.P. Gregg and S.E.H. Sakimoto, 2007, Low shields on Earth and Mars: A comparative model of petrogenesis and volcanic evolution, in *2007 Geol. Soc. Amer. Denver Annual Meeting, 28-31 October, 2007*, Paper #46-4.

Sakimoto, S.E.H., C. Fagan and T.K.P. Gregg, 2007, Hydraulic and topographic constraints on water levels and longevity of a sea within Elysium Planitia, Mars, *in 2007 Geol. Soc. Amer. Denver Annual Meeting, 28-31 October, 2007*, Paper #16-6.

Sakimoto, S.E.H., S.S. Hughes and T.K.P. Gregg, 2007, An overview of Martian small volcanic vents and vent fields, *in 2007 Geol. Soc. Amer. Denver Annual Meeting, 28-31 October, 2007*, Paper #46-3.

***2006***

Crown, D.A., D. Berman and T.K.P. Gregg, 2006, Hesperia Planum, Mars: New constraints on fluvial modification and history, *Eos Trans. AGU, 87(52), Fall Meet. Suppl*., Abstract P31B-0138.

Gregg, T.K.P., R.M. Lopes, S.R. Black\* and J. Lougen\*, 2006, Ionian paterae: New insights from numerical modeling and laboratory simulations, *Eos Trans. AGU, 87(52), Fall Meet. Suppl*., Abstract P23E-0105.

Sakimoto, S.E.H., S.S. Hughes, B. Schupack, M. Jenkins, T. Carley and T.K.P. Gregg, 2006, Platy lava flows: Contributions of cooling and flow dynamics to surface plate morphologies, *Geol. Soc. America Abstracts with Programs, 38(7)*:308.

Semple, A.M.\*, T.K.P. Gregg, B. Bonnichsen and M. Godchaux, 2006, Lobe emplacement of large-volume, evolved lava flow: Large-scale pahoehoe, *Eos Trans. AGU, 87(52), Fall Meet. Suppl*., Abstract V53C-1764.

***2005***

Hughes, S.S., S.E.H. Sakimoto and T.K.P. Gregg, 2005, Topography, geochemistry and volcanology of ESRP basaltic shields studied as analogs to Mars plains-style volcanoes, *Geol. Soc. Amer. Abstracts with Programs 37(7),* Abstract #22-9.

Gregg, T.K.P., 2006, Incorporating extraterrestrial geology in every classroom: Exciting and effective methods, *Geol. Soc. Amer. Abstracts with Programs 37(7)*, Abstract #222-7.

Gregg, T.K.P., S.E.H. Sakimoto and S.S. Hughes, 2005, Lava flow-field emplacement at Rock Corral Butte, eastern Snake River Plain, Idaho: A new mechanism for “tumuli” formation, *Geol. Soc. Amer. Abstracts with Programs 37(7),* Abstract #84-8.

Gregg, T.K.P. and D.A. Crown, 2005, Geologic Mapping of Hesperia Planum, Mars, in Gregg, T.K.P., K.L. Tanaka and R.S. Saunders, eds., Abstracts of the Annual Meeting of Planetary Geologic Mappers, Washington, DC, 2005, US Geol. Surv. Open-File Report 2005-1271, http://pubs.usgs.gov/of/2005/1271/.

Farley, M.A.\*, T.K.P. Gregg and D.A. Crown, 2005, MTM Quadrangles –15257 and –20257: Western Hesperia Planum, Mars, in Gregg, T.K.P., K.L. Tanaka and R.S. Saunders, eds., Abstracts of the Annual Meeting of Planetary Geologic Mappers, Washington, DC, 2005, US Geol. Surv. Open-File Report 2005-1271, <http://pubs.usgs.gov/of/2005/1271/>.

***2004***

Garry, W.B.\*, T.K.P. Gregg and A.J. Harris, 2004, Channel formation in viscous fluids independent of scale and composition, *Eos Trans. AGU, 85(47), Fall Meet. Suppl*., Abstract V31D-02.

Gregg, T.K.P. and D.A. Crown, 2004, Mafic pyroclastic flows at Tyrrhena Patera, Mars, IAVCEI General Assembley, November 15 – 19, Pucon, Chile, abstract #3b-16.

Gregg, T.K.P. and R.M.C. Lopes, 2004, Gender diversity in planetary geology: Encouraging equality, *Eos Trans. AGU, 85(47), Fall Meet. Suppl*., Abstract ED31B-0744.

Gregg, T.K.P., S. Hughes and S.E.H. Sakimoto, 2004, Lava flow-field emplacement at Rock Corral Butte, Eastern Snake River Plains, Idaho: It doesn’t look like Hawaii from here, *Eos Trans. AGU, 85(47), Fall Meet. Suppl*., Abstract V31D-06.

Lopes, R.M. and T.K.P. Gregg, 2004, Lava lakes on Jupiter’s moon Io, *Eos Trans. AGU, 85(47), Fall Meet. Suppl*., Abstract V32A-06.

Sakimoto, S.E.H., T.K.P. Gregg, S. Hughes, and S. Weren, 2004, Flow emplacement styles and flow rates from flow margin and channel topography: Examples from terrestrial field and martian altimetry data, *Eos Trans. AGU, 85(47), Fall Meet. Suppl*., Abstract V32A-02.

Semple, A.M.\*, T.K.P. Gregg, B. Bonnichsen and M. Godchaux, 2004, Emplacement of large-voluem rhyolite lavas in the Eastern Snake River Plains: The Reynolds Creek flow, *Eos Trans. AGU, 85(47), Fall Meet. Suppl*., Abstract V33A-1457.

***2003***

Farley, M.A.\*, T.K.P. Gregg and D.A. Crown, 2003, The great extent of Tyrrhena Patera, Mars: Mapping MTM quadrangle -20257 in western Hesperia Planum using multiple data sets, #7-2, GSA Annual Meeting, Nov. 1 – 5, 2003, Seattle, Washington.

Garry, W.B.\* and T.K.P. Gregg, 2003, Structural and morphologic zones of channel-levee systems in laboratory simulated flows, #132-11, GSA Annual Meeting, Nov. 1 – 5, 2003, Seattle, Washington.

Sakimoto, S.E.H., S.S. Hughes, T.K.P. Gregg, J. Chadwick and S. Weren, 2003, Field constraints on remote sensing shield volcano interpretations: Quantitative constraints from the Snake River Plains and extensions to Mars, #107-11, GSA Annual Meeting, Nov. 1 – 5, 2003, Seattle, Washington.

***2002***

Garry, W.B.\* and T.K.P. Gregg, 2002, Simulation insight into the construction and cross-sectional morphology of levees, *Eos, Trans. AGU 83(47), Fall Meet. Suppl*., Abstract V12B-1424.

Gregg, T.K.P., Crown, D.A. and S.E.H. Sakimoto, 2002, Between a rock and a hard place: Noachian highlands, Hesperian lowlands, and Tyrrhena Patera, *Abstracts with Programs, vol. 34, no. 6*, p. 71, 2002 GSA Annual Meeting, October 27 – 30, 2002, Denver, Colorado.

Gregg, T.K.P., M.R. Bulmer, S.A. Anderson, N.H. Warner\*, C.L. Goudy\*, S. McColley and I. Turner, 2002, Three types of crust: Inferred emplacement rates and styles of a megablocky flow field surrounding Sabancaya volcano, Peru*, Eos, Trans. AGU 83(47), Fall Meet. Suppl*., Abstract V72C-05.

Hughes, S.S., S.E.H. Sakimoto and T.K.P. Gregg, 2002, Plains volcanism in the eastern Snake River Plain: Quantitative measurements of petrologic contributions to topography with comparisons to Mars, *Abstracts with Programs, vol. 34, no. 6*, p. 77, 2002 GSA Annual Meeting, October 27 – 30, 2002, Denver, Colorado.

Lipkaman, L.J.\* and T.K.P. Gregg, 2002, Pahoehoe flows with a’a margins: Surface morphology, emplacement styles, and fractal dimensions, *Eos, Trans. AGU 83(47), Fall Meet. Suppl*., Abstract P71A-0437.

Sakimoto, S.E.H., S.S. Hughes and T.K.P. Gregg, 2002, Plains volcanism on Mars: Topographic data on shield and flow distributions and abundances, with new quantitative comparisons to the Snake River Plain volcanic province, *Abstracts with Programs, vol. 34, no. 6*, p. 77, 2002 GSA Annual Meeting, October 27 – 30, 2002, Denver, Colorado.

***2001***

Gregg, T.K.P., M.R. Bulmer and N.H. Warner\*, 2001, Lava flow fields on Earth and Mars: Scales of comparison, *Eos Trans. AGU, 82(47), Fall Meet. Suppl.*, Abstract P22D-05.

Gregg, T.K.P., S.E.H. Sakimoto, D.A. Crown and H. Gittings\*, 2001, The Western Hesperia Planum region of Mars: MGS-based revelations, *Eos Trans. AGU, 82(47), Fall Meet. Suppl.*, Abstract P31B-11.

***2000***

Gregg, T.K.P., and S.E.H. Sakimoto, 2001, Martian Lavas: Emplacement parameters using MOLA data and numerical models, *Eos. Trans. AGU,* 82(20), Spring Meet. Suppl., Abstract V42A-05.

Gregg, T.K.P., S.E.H. Sakimoto and D.A. Crown, 2000, Volcanic construction of Tyrrhena and Hadriaca Paterae, Mars: Evidence from MOC and MOLA data, *Geol. Soc. Amer. Annual Meeting Abstracts with Programs*, p.A500.

Gregg, T.K.P., D.K. Smith, L. Kong, K. Johnson and J. Reynolds, 2000, Mechanics of lava flow emplacement on the Puna Ridge, Hawaii: Roles of underlying slope, effusion rates and lava crusts, *Eos, Trans. Amer. Geophys. Union 81*:F1352.

Sakimoto, S.E.H., T.K.P. Gregg and D.A. Crown, 2000, MOLA topography of the Tyrrhena Patera lava flow field, Mars: Initial results and implications for lava flow emplacement, *Geol. Soc. Amer. Annual Meeting Abstracts with Programs*, p. A394.

Sakimoto, S.E.H., B.A. Bradley and T.K.P. Gregg, 2000, Topographic constraints on eruption parameters: Examples from Arsia Mons, Mars and some regional comparisons, *Eos, Trans. Amer. Geophys. Union 81:*F782.

***1999***

Bergmanis, E.C., J.M. Sinton, S.White, K. Macdonald, R. Batiza, K. Rubin, T.K.P. Gregg, C.L. Van Dover and K. Gronvold, 1999, Anatomy of a mid-ocean ridge volcanic eruption: The Aldo-Kihi flow between 17°24'S and 17°34'S, East Pacific Rise, *Eos, Trans. Am. Geophys. Union 80*:F1075.

Gregg, T.K.P., J.M. Sinton, E.C. Bergmanis, R. Batiza, K. Rubin, S. White, K.C. Macdonald and K. Gronvold, 1999, How lava gets off: Lava distributary systems at the East Pacific Rise 17°-19°S, *Eos, Trans. Am. Geophys. Union 80*:F1097.

Morris, A. and T.K.P. Gregg, 1999, "Zipper" ridges on Hesperia Planum and the long-term effects of the Hellas Impact, *Eos, Trans. Am. Geophys. Union 80*:F628.

Sakimoto, S.E.H. and T.K.P. Gregg, 1999, Lava flow emplacement in tubes, channels and sheets, *Eos, Trans. Am. Geophys. Union 80*:F1100.

Sinton, J.M., R. Batiza, K. Rubin, S. White, K.C. Macdonald, T.K.P. Gregg, K. Gronvold, W. Ryan, M. Cormier, A.Shah, C.L. Vandover and M. Aigner-Torres, 1999, Volcanic eruptions at superfast spreading mid-ocean ridges: Lava flows on the East Pacific Rise, 17-19°S, *Eos, Trans. Am. Geophys. Union 80*:F1097.

***1998***

Gregg, T.K.P. and W.W. Chadwick, Jr., 1998, The origin of lineated lava flow surfaces at mid-ocean ridges and of smooth lava plains on Venus, *GSA Abstracts with Programs* 30:45, October 26-29.

Gregg, T.K.P. and S.E.H. Sakimoto, 1998, High effusion rate channeled lava flows on Mars: Results from laboratory and analytical modeling, *Eos, Trans. Am. Geophys. Union* *79*:F532.

***1997***

Gregg, T.K.P., D.J. Fornari and L.P. Keszthelyi, 1997, Quantifying mid-ocean ridge eruption dynamics: Temporal and spatial variations in submarine lava flow emplacement processes, *GSA Abstracts with Programs 29*:A-138, October, 1997.

Mercer, J.M., T.K.P. Gregg and D.J. Fornari, 1997, Quantitative analysis of subaerial lava flow morphologies constrain emplacement styles of mid-ocean ridge eruptions, *GSA Abstracts with Programs* *29*:A-138, October, 1997.

***1996***

Gregg, T.K.P., D.J. Fornari, S.E. Humphris and M.R. Perfit, 1996, Mapping inner space: Volcanic geology of the sea floor, *Geol. Soc. Amer. Abstracts with Programs 28,* A-127.

Gregg, T.K.P., D.J. Fornari and M.R. Perfit, 1996, Lava pillars: "Rosetta stones" of deep-sea eruption dynamics, *Eos 77*:F664.

***1995***

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.