MARTHA SCOTT GILMORE

George I. Seney Professor of Geology
Department of Earth and Environmental Sciences
Wesleyan University, 265 Church St.
Middletown, CT 06459

Phone: (860) 685-3129
Fax: (860) 685-3651
E-mail: mgilmore@wesleyan.edu
http://www.wesleyan.edu/planetary/

DEGREES

Ph.D. Geological Sciences, Brown University, September 1997
Sc.M. Geological Sciences, Brown University, May 1995
B.A. Geology (Astronomy minor), Franklin and Marshall College, Dec. 1991
M.A. ad eundem gradum Wesleyan University, May 2015

PROFESSIONAL EXPERIENCE

- Professor, 2014-present, Chair 2012 – 2016, Associate Professor 2007 – 2014, Assistant Professor 2000 - 2007, Dept. of Earth and Environmental Sciences, Wesleyan University.
- Director of Graduate Programs, Wesleyan University, 2017-2020.
- Wesleyan University Campus Director, NASA Connecticut Space Grant College Consortium, 2006-2013.
- Postdoctoral Researcher, Earth and Planetary Science Division, Jet Propulsion Laboratory, 1998 - 2000.
- Instructor, Washington and Lee University, 1996 – 1997.

HONORS, AWARDS AND DISTINGUISHED APPOINTMENTS

- Recipient of the Claudia J. Alexander Prize from the Division of Planetary Sciences of the American Astronomical Society, 2022.
- Selected to give the 30th Masursky Lecture, Lunar and Planetary Science Conference, 2022.
- Co-Chair, Committee on Astrobiology and Planetary Sciences, Space Studies Board, National Academies of Sciences, Engineering, and Medicine, 2021-2023.
- Board of Directors, Talcott Mountain Science Center, 2022 – present.
- Recipient of the Wesleyan University Faculty Prize for Excellence in Research, 2021.
- Recipient of the Women of Innovation® Research Innovation and Leadership Category Award, Connecticut Technology Council and Connecticut Center for Advanced Technology, 2021.
- Appointed to the Universities Space Research Association Lunar and Planetary Science Institute Science Council, 2021-2024.
- Elected 2020 recipient of the Geological Society of America Randolph W. "Bill" and Cecile T. Bromery Award for the Minorities.
- Science Advisor, *Worlds Beyond Earth*, American Museum of Natural History Hayden Planetarium Space Show, 2018 – 2020.
- Elected Fellow of the Geological Society of America, 2017.
- Recipient of the Geological Society of Connecticut Joe Webb Peoples Award, for outstanding contribution to the field of geology in Connecticut, 2016.
- Vice-Chair of Venus Exploration Analysis Group (VEXAG), an advisory board to NASA, 2016 – 2018.
- Science Advisory Board Member, NASA Glenn Extreme Environment Rig (GEER), 2016-present.
- Appointed the George I. Seney Professor of Geology, 2014.
- Member, Inner Planets Panel, Planetary Science Decadal Survey, established by the National Research Council Space Studies Board, 2009-2011.

- Member, Committee on Planetary and Lunar Exploration (COMPLEX) of the National Research Council Space Studies Board, an advisory body of the National Academy of Sciences on NASA's Solar System Exploration Program 2003-2006.
- Member, Solar System Exploration Panel of the Committee on Priorities in Space Science Enabled by Nuclear Power and Propulsion: A Vision Beyond 2015, Space Studies Board, National Research Council 2004-2006.
- Member, Panel E: Robotic Access and Human Planetary Landing Systems, supporting the NRC review of NASA's Capability Roadmaps, 2005.
- Secretary of the Planetary Sciences Section of the American Geophysical Union, 2002 – 2004.
- Recipient of the Jessie Ball duPont All-But-Degree (ABD) Fellowship for Eminent Black Scholars - Washington and Lee University, 1996-1997.
- Elected Full Member of Sigma Xi, 1997.
- Recipient of the Geology Award (top graduating senior), Franklin and Marshall College, May 1991.

Invited Talks

- "Venus – Why We're Going Back", Frontiers Lecture, American Museum of Natural History, New York, November 2022.
- "Current Constraints on Ancient Venus", Plenary Talk, Division of Planetary Sciences of the American Astronomical Society, October 2022.
- "Contemplating Earth-sized Planets as we Embark on our Journey to Venus", Keynote Lecture, Northeastern Section Meeting of the Geological Society of America, March 2022.
- "Radiophysical Properties of Venus Highlands", Geochemistry Seminar, Lamont-Doherty Earth Observatory of Columbia University, February 2022.
- "Venus Flagship Mission Planetary Decadal Study", Decadal Survey on Planetary Science and Astrobiology: Steering Group, The National Academies of Science, Engineering and Medicine, May 2021.
- "Venus: One Fate of a Habitable World", 41st Annual Central Pennsylvania Astronomers' Meeting, April 2021.
- "Radiophysical Properties of Venus Highlands", Dept. of Geosciences, Univ. of Massachusetts, Amherst, April 2021.
- "The Ancient History of Venus is Recorded in the Tesserae", Decadal Survey on Planetary Science and Astrobiology: Venus Panel, The National Academies of Science, Engineering and Medicine, March 2021.
- "Radiophysical Properties of Venus Highlands", Dept. of Geology and Environmental Science, Univ. of Pittsburgh, March 2021.
- "Radiophysical Properties of Venus Highlands", 41st Woodford-Eckis Lecture, Geology Department, Pomona College, February 2021.
- "Radiophysical Properties of Venus Highlands", Earth and Planetary Sciences Department Hewett Club Seminar, UC Riverside, February 2021.
- "Radiophysical Properties of Venus Highlands", Department of Earth, Planetary and Space Sciences Colloquium, UCLA, January 2021.
- "Venus Flagship Mission", 18th Meeting of the Venus Exploration Analysis Group, November 2020.
- "Radiophysical Properties of Venus Highlands", Department of Earth, Atmospheric, and Planetary Sciences Seminar, Purdue University, November 2020.
- "Intersections of Research and Identity", Women Mentoring Women STEMinar, Caltech, November 2020.
- "Radiophysical Properties of Venus Highlands", Division of Geological and Planetary Sciences Seminar, Caltech, November 2020.
- "Venus Flagship Mission", Decadal Survey on Planetary Science and Astrobiology: Venus Panel, The National Academies of Science, Engineering and Medicine, October 2020.
- "A Reassessment of the Microwave Emissivity Signatures of Venus Highlands", Astronomy and

Planetary Sciences Colloquium, Northern Arizona Univ., October 2020.
- "Variations in Radar Emissivity on Venus Highlands", Dept. of Geosciences Colloquium, Penn State University, October 2020.
- "Variations in Radar Emissivity on Venus Highlands", Lunar and Planetary Institute Colloquium, September 2020.
- "Variations in Radar Emissivity on Venus Highlands", Venus Science Today, 2020 Conference, NASA Goddard Institute of Space Studies, September 2020.
- "Venus Flagship Mission Study", Jet Propulsion Laboratory Division 32 Science Seminar, July 2020.
- "Venus, Earth and Mars" Live Watch Party/Scientist Chat via YouTube, EarthFest, American Museum of Natural History April 2020.
- "A Reassessment of the Microwave Emissivity Signatures of Venus Highlands", University of Tennessee, February 2020.
- "The Terrain of Venus", Westport Astronomical Society Public Lecture, Westport, CT May 2019.
- "The Terrain of Venus", Frontiers Lecture, American Museum of Natural History, New York, February 2019.
- "Venus", Hayden Planetarium Space Show VI Colloquium, American Museum of Natural History, New York, October 2018.
- "Venus, the once habitable exoplanet next door", Connecticut Academy of Arts and Sciences, New Haven, CT, April 2018.
- "The Case for Venus", Committee on Astrobiology and Planetary Science, National Academy of Sciences, Washington D.C., March 2018.
- "New Venus Surface Data from VIRTIS", Review of Progress Toward Implementing the Decadal Survey Vision and Voyages for Planetary Sciences, Caltech, July 2018.
- "Black + Woman ≠ Scientist, a Story of Fury and Joy", College of the Holy Cross, March 2017.
- "Martian Carbonates I. Hiding in Plain Sight? II. A New Occurrence", Wellesley College, April 2016.
- "Venus IR Emissivity Observations", 13th VEXAG Meeting, October 2015.
- "Martian Carbonates I. Hiding in Plain Sight? II. A New Occurrence", Dept. of Geological Sciences, Central CT State University, March 2015.
- "The oldest crust on Venus", Annual S. Foster Hewett Seminar, Dept. Earth and Environmental Sciences, Lehigh University, April 2010.
- "The oldest crust on Venus", Dept. of Geosciences, SUNY Stony Brook, April 2009.
- "Integrating multi-temporal spectral and structural information to map wetland vegetation in a lower Connecticut River tidal marsh", American Society for Photogrammetry and Remote Sensing New England Chapter Meeting, Yale University, April, 2009.
- "The oldest crust on Venus", American Museum of Natural History, December, 2008.
- "Origin of Tessera Terrain on Venus" Williams College, October 2005.
- "Venus Sample-Return Mission Concept Study" Committee on the Origin and Evolution of Life, Space Studies Board – Board on Life Sciences (Task: Assessment of Planetary Protection Requirements for Venus Missions), National Research Council, Woods Hole, MA, June 2005.
- "Martian Gullies: A record of recent liquid water on Mars" NY Center for Studies on the Origins of Life, Rensselaer Polytechnic Institute, February 2004.
- "Recent water on Mars and the origin of martian gullies" Five college-university geology lecture series, February 2004.
- "Doing geology on Mars with rovers" Smith College, February 2004.
- "The role of impermeable strata in the formation of recent martian gullies", American Museum of Natural History, March 2003.
- "Martian Gullies", University of Connecticut Geology Seminar Series, April 2002.
- "Liquid water on recent Mars: Climatic excursions exhibited by surface landforms", Yale University, November 2001.

• "New Technology for Mars Sample Return", Committee on Planetary and Lunar Exploration Meeting, Woods Hole, MA, October 2000.
• "Movement and Magnetics of the Martian Crust", Wheaton College, March 2000.
• "Tectonics on an Earth-like planet: Venus", Wesleyan University Dept. of Earth and Environmental Sciences Colloquium, February 2000.
• "Venus Sample Return", Committee on Planetary and Lunar Exploration Meeting, Irvine, CA, November 1999.
• "Strategies for Future Mars Surface Exploration and Site Characterization", Caltech Planetary Seminar Series, May 1999.
• "The Venus Environment and Sample Return Sites", NASA Conference on Electronics for Extreme Environments, Pasadena, CA, 1999.

Reviews and Service

• External Review Committee, Lunar and Planetary Science Laboratory, University of Arizona, 2022.
• Program Committee, Ancient Venus Conference of the Venus Science Initiative, May 2022.
• Reviewer, Advancing Diversity, Equity, Inclusion, and Accessibility in the Leadership of Competed Space Missions, National Academies of Sciences, Engineering, and Medicine, 2022.
• Session Convener, "Stories in Stone: The Legacy of Jelle Zeilinga de Boer", NE GSA meeting, 2021.
• Session Convener, "Preparing for the Next Venus Missions", Fall AGU meeting, 2020.
• Session Convener, "Numerical Modeling and Data Analytics: From Earth-Like to Venus-Like Extrasolar Planets", Fall AGU meeting, 2019.
• Surface Sub-Group Lead, Venus Surface Mission Concept Study requested by NASA, 2018-2021.
• Program Committee, 16th Meeting Venus Exploration Analysis Group (VEXAG), November 6-8, 2018, Laurel, MD.
• Science Organizing Committee Member, International Venus Conference, September 11-14, 2018 and May 31-June 3, 2019, Niseko, Hokkaido, Japan.
• Outside Referee for Academic Promotion Cases: 2015, 2018.
• Co-Lead of "Venus Bridge" Mission Concept Study requested by NASA, 2017-2018.
• Program Committee, 15th Meeting Venus Exploration Analysis Group (VEXAG), November 14-16, 2017, Laurel, MD.
• Science Organizing Committee Member, Venus Modeling Workshop, May 9-11, 2017, Cleveland, OH.
• External Review Committee, Department of Astronomy, Wellesley College, 2017.
• Member of Venus Exploration Analysis Group (VEXAG) Executive Committee, 2014-2016.
• Member of a VEXAG team to develop a Roadmap for Venus Exploration. Roadmaps outline a suggested set of missions to a target body and establish a reference for mission proposers and review panels, 2012-2014.
• Science Organizing Committee Member, Workshop on Venus Exploration Targets, May 19-21, 2014, Houston, TX.
• Member, Geologic Mapping Subcommittee of the Planetary Cartography and Geologic Mapping Working Group, NASA's Planetary Geology and Geophysics Program, 2004-2006.
• Program Committee Member, Lunar and Planetary Science Conference, 2004; American Geophysical Union Fall Meeting, 2002, 2003.
• Review Panelist (~annually) and external reviewer (2-3x/year), NASA Solar System Workings Program, NASA Mars Data Analysis Program, NASA Planetary Geology and Geophysics Program, NASA Solar System Workings Program, NASA Planetary Mission Data Analysis Program, NASA Mars Exploration Rover, Mars Odyssey, Hayabusa Participating Scientist Programs, Small Innovative Missions for Planetary Exploration, Mars and Moon Analog Studies Program, NASA Planetary Data Archiving, Restoration and Tools Program, Mars Exploration Rover Data Archive release, several NASA Mission and Instrument Programs, Long Island

Sound Study Comprehensive Conservation and Management Plan Enhancements Projects grants Program, Planetary Decadal Survey Midterm Report, Space Studies Board Review of the Next Decadal Mars Architecture, 1998-present.

- Reviewer (~5 per year): *J. Geophysical Research - Planets, Icarus, Geophysical Research Letters, Earth and Planetary Science Letters, Planetary and Space Science*, *J. Structural Geology*, *Nature Geoscience*, *Nature Astronomy, Science Advances*, *J. Volcanology and Geothermal Research*, *ISPRS Journal of Photogrammetry and Remote Sensing, Remote Sensing of Environment, Journal of Maps, Planetary Science Journal,* U.S. Geological Survey Planetary Mapping Program (ongoing).
- Session Chair: American Geophysical Union Meeting, Fall 1995, Fall 2002, Fall 2003, Fall 2005, Fall 2013, Fall 2020. Geological Society of America Annual Meeting, October 2013. NE GSA Meeting, March 2021. International Venus Conference, May 2019. Venus Modeling Workshop, May 2017. American Astronomical Union, Division of Planetary Sciences Meeting, October 1999. Brown-Vernadsky Microsymposium, Moscow, Russia, 1992.

PROFESSIONAL AFFILIATIONS

Member, American Geophysical Union, Planetary Sciences Section
Member, Geological Society of America, Planetary Geology Division

MISSION & INSTRUMENT DEVELOPMENT

Science team member, NASA Discovery candidate mission: VERITAS mission to Venus, S. Smrekar, PI, 2020. ***Selected for Flight!***

Science team member, NASA Discovery candidate mission: DAVINCI+ mission to Venus, J. Garvin, PI, 2020. ***Selected for Flight!***

Co-I, NASA Small Business Innovation Research Phases I & II: Venus In-Situ Mineralogy Reaction Array (VIMRA), D. Makel, 2019 & 2020. ***Selected.***

PI, NASA Planetary Mission Concept Studies: Venus Flagship Mission Study, 2019-2020. ***Selected.***

Co-I, NASA Planetary Instrument Concepts for the Advancement of Solar System Observations (PICASSO): Venus In-Situ Surface Imager (VISSI), J. Balcerski, PI, 2018. ***Selected***.

Science team member, NASA Maturation of Instruments for Solar System Exploration (MatISSE) Program candidate instrument, Venus Surface Mineralogy In-Situ Instrument System (V-Lab), D. Makel, PI, 2018. *Not selected.*

Science team member, NASA New Frontiers Phase A candidate mission: VICI mission to Venus, L. Glaze, PI, 2017. ***Selected for technology funding***. *Not selected for flight.*

Science team member, NASA New Frontiers Phase A candidate mission: VOX mission to Venus, S. Smrekar, PI, 2017. *Not selected.*

Science team member, NASA Planetary Science Deep Space SmallSat Studies: Seismic and Atmospheric Exploration of Venus (SAEVe), T. Kremic, PI, 2016. ***Selected***.

Co-I, NASA Maturation of Instruments for Solar System Exploration (MatISSE) Program candidate instrument, The Flying InfraRed Spectrograph for Surface Thermal Emission (FIRSSTE) G. Holsclaw, PI, 2016. *Not selected.*

Science team member, NASA Discovery Phase A candidate mission: VERITAS mission to Venus, S. Smrekar, PI, 2013-2016. ***Selected for Phase A study***. *Not selected for flight.*

Science team member, NASA Discovery Phase A candidate mission: DAVINCI mission to Venus, L. Glaze, PI, 2013-2016. ***Selected for Phase A study***. *Not selected for flight.*

Co-I, NASA Homesteader Program candidate instrument, The Flying InfraRed Spectrograph for Surface Thermal Emission (FIRSSTE) G. Holsclaw, PI, 2015. *Not selected.*

Co-I, NASA Mars 2020 candidate instrument, The mineralogy and chemistry analyser (MARS-XRD), L. Marinangeli, PI, 2013-2014. *Not selected.*

Science team member, NASA Discovery Phase A candidate mission: RAVEN mission to Venus, V. Sharpton, PI, 2009-2010. *Not selected.*

Science team member, NASA Discovery Phase A candidate mission: VISAx mission to Venus, J. Garvin, PI, 2009-2010. *Not selected.*

Co-I, ESA ExoMars 2018 candidate instrument, The mineralogy and chemistry analyser (MARS-XRD), L. Marinangeli, PI, 2010-2012. *Not selected.*

AWARDED GRANTS Sums are full funded amount if PI, my portion if Co-I.

External (Total > $3.4M)

$50K NASA Topical Workshops, Symposia, and Conferences, "Venus Experimental Capabilities and Calibrations" (PI: M. Dyar, PSI), 2023-present.

$224K NASA Planetary Data Archiving, Restoration, and Tools, "Dielectric Permittivity and Magnetic Permeability Measurements on Likely Venus Surface Materials" (PI: M. Barmatz, JPL), 2022-present.

$883K NASA Discovery Program, "VERITAS (Venus Emissivity, Radio science, InSAR, Topography And Spectroscopy" (PI: S. Smrekar, JPL), 2021-present.

$552K NASA Discovery Program, "Deep Atmosphere of Venus Investigation of Noble gases, Chemistry, and Imaging Plus (DAVINCI+)" (PI: J. Garvin, NASA Goddard), 2021-present.

$121K NASA Small Business Innovation Research Phase II, "Venus In-Situ Mineralogy Reaction Array (VIMRA)" (PI: D. Makel, Makel Engineering), 7/20-6/22.

$146K NASA Planetary Mission Concept Studies, "Venus Flagship Mission Study" 10/19-6/20.

$~2K NASA PI Launchpad: Getting Your Mission Idea Off the Ground, "Venus Tessera Explorer Mission", Travel costs awarded to M. Gilmore to support attendance at PI Launchpad Conf. Nov. 17-20, 2019, Tucson, AZ.

$20K NASA Small Business Innovation Research Phase I, "Venus In-Situ Mineralogy Reaction Array (VIMRA)" (PI: D. Makel, Makel Engineering), 8/19-2/20.

$24K NASA Planetary Instrument Concepts for the Advancement of Solar System Observations (PICASSO), "Venus In-Situ Surface Imager (VISSI)" (PI: Jeffrey Balcerski, Ohio Aeronautics Institute), 10/19-9/22.

$431K NASA Solar System Workings, "Radar Emissivity and Dielectric Permittivity of the Venus Surface Beneath Crater Parabolas" 2/19-4/23.

$26K NASA Planetary Geology and Geophysics, "Rock Weathering on Venus: Experimental Constraints on Products and Kinetics of Basalt-Atmosphere Interactions" (PI: Allan Treiman, LPI), 2/18-1/21.

$20K NASA Planetary Science Deep Space SmallSat Studies, "Seismic and Atmospheric Exploration of Venus (SAEVe)", (PI: T. Kremic, NASA Glenn), 6/17- 2/18.

$8K Connecticut Space Grant College Consortium, "Identifying Mineral Signatures in the Reflectance Spectrum of a Pre-Planetary Stellar Disk", (Co-PI: Bill Herbst, Wesleyan) 6/15– 5/16.

$5K NASA Advanced Multi-Mission Operations System, "Automated Hyperspectral Search" (PI: D. Thompson, JPL), 6/12 -9/12.

$36K NASA Advanced Multi-Mission Operations System, "An Intelligent Software Assistant for Automatic Focus of Attention in Hyperspectral Image Analysis" (PI: D. Thompson, JPL), 10/09-9/11.

$214K NASA Planetary Geology and Geophysics, "Mapping and Structural Analysis of Fold Belts in Tessera Terrain, Venus", 2/09-1/13.

$6K Connecticut Space Grant College Consortium, "The Ancient Geological History of Venus as Recorded in Tessera Terrain", 4/08 – 3/09.

$25K NASA Interplanetary Network Technology Program, "Automated Target Selection for Orbital Assets" (PI: R. Castaño, JPL), 10/06-9/09.

$13K Connecticut Space Grant College Consortium, Wesleyan University Campus Director Subcontract (U. Hartford, Consortium Director), 5/06–4/11.
$228K EPA Long Island Sound Study, "Application of Remote Sensing Technologies for the Delineation and Assessment of Coastal Marshes and their Constituent Species" (co-PI: D. Civco, UConn), 4/04-12/06.
$400K NASA Applied Information Systems Research, "Autonomous Mineral Detectors for Mars Rovers and Landers" 4/02-9/05.
$10K Connecticut NASA Experimental Program to Stimulate Competitive Research (EPSCoR), "Characterization of Mars Gullies" 3/03-11/03.
$45K NASA Research in Intelligent Systems, "An On-Board Scientist for Multi-Rover Scientific Exploration" (PI: T. Estlin, JPL), 1/01-12/03.
$30K NASA Mars Data Analysis Program, "Mars GIS database on the Web for landing-site studies" (PI: K. Tanaka, USGS), 7/00 – 6/03.
~$45K NASA Graduate Research Fellowship Program, 9/93-5/96.

Internal (Total = $151K)
$8K Wesleyan University match for Connecticut Space Grant College Consortium, "Identifying Mineral Signatures in the Reflectance Spectrum of a Pre-Planetary Stellar Disk", (Co-PI: Bill Herbst, Wesleyan) 6/15– 5/16.
$13K Wesleyan University match for Connecticut Space Grant College Consortium (U. Hartford, Consortium Director, 3/12-3/13.
$3K Wesleyan University Lecture on Meteorite Studies (with Profs. Herbst, Redfield, Patton, Greenwood, Varekamp), awarded 2010.
$3K Wesleyan University Project Grant: "Evaporite Deposits (?) on Mars," 6/09.
$2K Wesleyan University Sciences Across the Curriculum Grant, to prepare an interdisciplinary course with Prof. Tucker, History, entitled "Life on Mars? Scientific Data and Popular Knowledge, 1600-Present," 5/09.
$9K Wesleyan University match for Connecticut Space Grant College Consortium, "The Ancient Geological History of Venus as Recorded in Tessera Terrain," 4/08 – 3/09.
$63K Wesleyan University match for Connecticut Space Grant College Consortium (U. Hartford, Consortium Director, 5/06–4/11.
$14K Wesleyan University match for EPA Long Island Sound Study, "Application of Remote Sensing Technologies for the Delineation and Assessment of Coastal Marshes and their Constituent Species" (co-PI: D. Civco, UConn), 4/04-3/06.
$10K Wesleyan University match for Connecticut NASA Experimental Program to Stimulate Competitive Research (EPSCoR), "Characterization of Mars Gullies" 3/03-11/03.
$10K Wesleyan University Seed Grant, "A new course on the use and application of Geographical Information Systems (GIS)" with S. Bischof and J. Varekamp awarded 3/02.
$4K Christian A. Johnson Summer Research Apprenticeship for summer student: "Topographic distribution of recent groundwater features on Mars," 2001.
$10K Wesleyan University Seed Grant, "Development of an Interdisciplinary Course in Planetary Science", with Prof. Bill Herbst, Dept. of Astronomy, awarded 3/01.

COURSES TAUGHT AND OTHER PEDAGOGY

Wesleyan University (2000-present)

E&ES 557	E&ES Advanced Research Seminar (co-taught with E&ES staff)
E&ES/AST 555	Planetary Seminar (co-taught with Planetary Science Group staff)
E&ES 371/571	Planetary Evolution
E&ES 497 & 498	Senior Seminar and Field Course (co-taught with E&ES staff)

E&ES 326 & 328	Remote Sensing and Laboratory
E&ES 220 & 221	Geomorphology and Laboratory
E&ES 195	Sophomore Seminar (co-taught with E&ES staff)
E&ES 151/AST 103	The Planets (co-taught with Bill Herbst, Astronomy dept.)
E&ES/SISP/HIST 143	Interpreting Life on Mars: Scientific Data and Popular Knowledge (co-taught with Jennifer Tucker, History dept.)
E&ES 115	Introduction to Planetary Geology
SCI 642	Rocks in Space: An Introduction to Planetary Geology
SCI 634	The New Solar System (co-taught with Bill Herbst, Astronomy dept.)

Washington and Lee University (1996-1997)

GEOL 397	Planetary Volcanology
GEOL 395	Current Topics in Geology

Faculty, National Education Equity Lab, E&ES 115Q Introduction to Planetary Geology, taught to high school students across the country for Wesleyan credit, Fall 2022.

Co-Instructor, Caltech Summer Undergraduate Research Fellowship Program: "Mars Mission Design Project", with L. French, E. Nielsen, E. Beltran, at the Jet Propulsion Laboratory, Summer 2000.

Co Leader, Keck Geology Consortium Project: "Volcanism and Tectonism on Venus and Mars", with E. Grosfils, L. Reinen, S. Kozak, at Washington and Lee University, Summer 1997.

THESES ADVISED

"Volume of Impact-Derived Ejecta and Constraints on Aeolian Processes and Yardang Formation on Venus"
Terra Ganey, B.A. (with High Honors), 2021, *now a Ph.D. Student at UC Santa Cruz*

"Experimental Evaporation and Spectral Analysis of Martian Analogue Brines"
Emmy Hughes, B.A. (with High Honors), 2020, *now a Ph.D. Student at Georgia Tech*

"Using the Venus Crater Population to Constrain Tesserae Ages and Resurfacing"
Reid Perkins, M.A. 2019, *now a Ph.D. Student at Univ. Western Ontario*

"Weathering and Sulfate Formation in Sulfur Springs St. Lucia; a Mars Analogue Site"
Benjamin McKeeby, M.A. 2017 *Ph.D. U. Pittsburgh, now a postdoc at Georgia Tech.*

"Carbonate and Silicate Minerals in a Gullied Crater within Eridania Basin, Terra Sirenum, Mars"
Lisa Korn, M.A., 2015 *now* a *Project Geologist at HTE Northeast, Inc.*

"Geomorphology of a Crater Region within the Eridania Basin, Mars: Construction of a Geologic Map"
Daniel Brugioni, B.A., 2015 *now a graduate student at CO School of Mines*

"Remote Sensing applied to the Planetary Geology: Looking for water on the Red Planet from the Poles to the Equator"
Maristella Di Primio, Ph.D., 2015 Università degli Studi 'Gabriele d'Annunzio' di Chieti – Pescara (co-advisor), *now a Professional Geologist*

"Modeling and Experimental Analysis of Potential Martian Brines"
Peter Martin, B.A. (with High Honors) 2014, *Ph.D. Caltech, now a postdoc at Univ. Colorado*

"Potential martian evaporates and their spectral signatures"
Patrick Harner, M.A., 2013 *M.S. Univ. of Arizona, JD College of William and Mary*

"Geomorphology of Eridania Basin, Mars: A study of the evolution of chaotic terrain and a paleolake"

Keenan Golder, M.A., 2013 *now a Ph.D. student at Univ. Tennessee, Knoxville*
"Using tessera terrain to investigate fold belt topography in Ovda Regio, Venus"
Julia Mulhern, B.A. (with High Honors), 2012, *Ph.D. Univ. of Utah, now in energy industry*
"New geologic constraints on South Polar Layered Deposits (Promethei Lingula region) and Light-Toned Layered Deposits (Iani Chaos region): Two different facets of an ancient water activity and climate dynamic on planet Mars"
Luca Guallini, Ph.D. Università degli Studi 'Gabriele d'Annunzio' di Chieti – Pescara (co-advisor), 2012, *Now a postdoc at University of Bern, Switzerland*
"Characterizing the optical properties of *Coclodinuium polykrikoides*: Implications for the remote sensing of harmful algal blooms in the Peconic Estuary, NY"
Margaret Selzer, M.A., 2011 *in the private sector*
"**Origin and Composition of the Light-Toned Layered Deposits in Iani Chaos, Mars"**
Tanya Harrison, M.A., 2008 *Ph.D. Univ. of Ottawa, now at ASU*
"Temperature analysis of gullied slopes on Mars: Evidence for a thermal control on gully formation"
Ann Ollila, M.A., 2007, *Ph.D., Univ. of New Mexico, now at Chevron*
"**Mapping and structural analysis of SW Tellus Regio, Venus"**
Beck Straley, B.A. (with High Honors), 2007, *now in the environmental sector*
"Geometry of martian hillside gullies in the northern hemisphere: evidence for an insolation-driven mechanism of formation"
Nina Lanza, M.A., 2006, *Ph.D. Univ. of New Mexico, now at Los Alamos National Lab*
"Jarosite formation at Sulfur Springs, St. Lucia, WI, as a Mars Analogue"
Maya Gomes, B.A. (with honors), 2006, *Ph.D., Northwestern, now faculty at Johns Hopkins*
"Foliar accumulation of mercury and its effects on the reflectance spectra of vegetation in Connecticut"
Sarah Dunagan, M.A., 2005 *staff scientist at Silent Spring Institute*
"Autonomous mineral detectors for future Mars exploration missions"
Matthew Merrill, M.A., 2005 *now a geologist at U.S. Geological Survey, Reston*
"Assessing soil loss and its impact on agrarian livelihoods: A case study of the village of Kambi ya Simba, Tanzania"
Carl Cervone, B.A. (with Honors), 2004 *developer in non-profit sector*
"Estimating the coverage of *P. australis* in the wetland regions of the Connecticut River using remotely sensed data"
Cheney Shreve, M.A., 2003 *Ph.D. Univ. of Virginia, now a geospatial analyst*
"Use of ocean color remote sensing in the study of primary productivity and anoxia in Long Island Sound"
Taras Gapotchenko, M.A., 2002 *very sadly, deceased*

WESLEYAN UNIVERSITY SERVICE

Committee Service

Advisory Committee of the Academic Council 2002-2003, 2009-2010, 2017-2019, Provost's Equity Advisory Board 2020-2021, Committee on International Studies, 2008, Honors Committee, 2008, 2015-2017, Library Committee 2001-2006, Department Computer Committee 2001-2009, Graduate Council 2001-2002. Member, Making Excellence Inclusive Presidential Task Force, 2010-2013. Member, Review and Appeals Board, 2012-2013. Member, Allbritton Center for the Study of Public Life Faculty Advisory Board 2014-2016. Member, Wesleyan McNair Program Advisory Group 2009-2010. Search Committees for VPAA and Provost of the University, Vice President of Diversity and Inclusion, three Earth & Environmental Sciences Dept. faculty members and two Astronomy department faculty members. Review and Promotion Committee Member for 4 Earth & Environmental Sciences faculty

members, 2 Astronomy Dept. Faculty members and 1 Physics Dept. Faculty member. Mentor, Mentoring Communities Initiative 2021-present.

Lectures and Other

- "Habitability and Life on Venus" The 18th Annual Where on Earth are We Going? Symposium of the Robert Schumann Institute of the College of the Environment WESeminar, October 17, 2020.
- "Planetary Geology - One Path to a Career among the Stars", Talk and Discussion with McNair Students, October 5, 2020.
- Teacher in Girls in Science Summer Camp, August 5-9, 2019, Wesleyan University, Middletown, CT.
- Teacher in Girls in Science Summer Camp, August 6-10, 2018, McDonough Elementary School, Middletown, CT.
- Co-creator of the Planetary Science Minor, added to the Wesleyan curriculum in Fall 2014.
- Co-creator of the MA Concentration in Planetary Science, added to the Wesleyan curriculum in Fall 2013.
- Invited to present talk "Salts of Mars" for the President's Luncheon Series 11/12 and Natural Sciences and Mathematics Lunch 5/13.
- Featured in "F&M Explores Mars" article in Franklin and Marshall Alumni magazine, Summer 2010.
- Presentation to Wesleyan Board of Trustees, November 2008.
- "Life on Mars?" presentation to Green Street Arts Center Sunday Salon, November 2008.
- Co-developer and advisor for a course cluster in Planetary Science, 2008.
- Co-founder of Planetary Science Group (http://www.wesleyan.edu/planetary) in 2005; help organize ~ 8 meetings/year and co-host speakers.
- Faculty Marshall, Wesleyan University Commencement 2006 – 2010; 2014-2015.
- Cover articles for *Wesleyan University Magazine*: "Valley of Extremes" (2006, Issue #1), "Out of this World", Winter 2003.
- Presentation to Administrators and Faculty of Color Alliance, December 2005.
- Presentation to Wesleyan Science Advisory Council, August 2005.
- Hosted meeting of the Committee on Planetary and Lunar Exploration at Wesleyan University (parts open to the public), July 2005.
- Fireside Chat to Mellon Mays Fellows, September 2005.
- "The view from the surface of Mars: Recent results from the Mars Exploration Rovers" Public Science Lecture, December 2, 2004.
- "Mars as Seen Through the Eyes of Dual Rovers: The Mars Exploration Rovers Mission" 24th Philip B. Brown '44 Memorial Lecture, April 18, 2004, Cosmos Club, Washington, D.C.
- "Mars Night at Wesleyan" public lecture, Sept. 12, 2003.
- "Mars – as you've never seen it" WESeminar, Wesleyan Commencement, May 2003.
- "Mars – as you've never seen it" Talk to Wesleyan Alumni, Providence, RI, February 2003.
- Panelist for *Conference on increasing the number of scientists of color on college and university faculties*, November 2, 2002.
- "Mars – as you've never seen it" WESeminar, Wesleyan Homecoming, October 2002.
- "Moon Rocks (with special guest: a martian meteorite)", Dept. lecture, March 2002.
- "The new Mars revealed by the Mars Global Surveyor and Mars Odyssey spacecraft" Westport Astronomical Society, February 2002.
- "No need to be green with ENVI: Remote Sensing at Wesleyan", Academic Technology Roundtable, October 2001.
- "The Moon and Lunar Thin Sections", Dept. lecture, October 2000.

- Lead a "Geology of Connecticut" field trip during Freshman Orientation, ~annually.

CHILDREN PRODUCED

Two beautiful boys, born 2007 and 2011.

PUBLICATIONS

(#indicates postdoc author, *indicates graduate student author, ^indicates undergraduate student author). http://scholar.google.com/citations?user=NxQ1-3gAAAAJ

Refereed Journal Articles and Book Chapters

44. ^Hughes E. B., **Gilmore M**., ^Martin P. E., *Eleazer M. (2023) Visible to near-infrared reflectance and Raman spectra of evaporites from sulfate-chloride Mars analogue brines, *Icarus*, in press.
43. Herrick, R.R. et al. (2023) Resurfacing history and volcanic activity of Venus. *Space Sci. Rev.* 219, 29. doi:10.1007/s11214-023-00966-y
42. #Santos A. R., **Gilmore M. S.,** Greenwood J. P., Nakley L. M., Phillips K. Kremic T., ^Lopez X. (2023) Experimental weathering of rocks and minerals at Venus conditions in the Glenn Extreme Environments Rig (GEER), *J. Geophys. Res.,* doi:10.1029/2022JE007423.
41. ^Ganey T. M., **Gilmore M. S.,** #Brossier J. F. (2023) Reassessment of the volumes of sediment sources and sinks on Venus, *Plan. Sci. J.*, doi:10.3847/PSJ/aca52.
40. Knicely J., **Gilmore M. S.**, Lynch R. J., Herrick R. R. (2023) Strategies for safely landing on Venusian tesserae, *Plan. Space Sci.,* doi:10.1016/j.pss.2023.105652
39. #Brossier J. F., **Gilmore M. S.,** Head J.W. (2022) Extended rift-associated volcanism in Ganis Chasma, Venus detected from Magellan radar emissivity, *Geophys. Res. Lett.*, 49, e2022GL099765, doi:10.1029/2022GL099765. ***Subject of GRL Commentary****:* D'Incecco, P.et al. (2022) Geologically recent areas as one key target for identifying active volcanism on Venus, *Geophys. Res. Lett.*, 49, e2022GL101813, doi:10.1029/2022GL101813
38. Garvin J. B. et al. (2022) Revealing the mysteries of Venus: The DAVINCI mission, *Plan. Sci. J.*, 3, 117.
37. Resor P. G., **Gilmore M. S.,** ^Straley B., Senske D. A., Herrick R. R. (2021) Felsic tesserae on Venus permitted by lithospheric deformation models, *J. Geophys. Res.,*126, doi:10.1029/2020JE006642.
36. #Brossier J. F., **Gilmore M. S.,** ^Toner K., ^Stein A. (2021) Distinct mineralogy and age of individual lava flows in Atla Regio, Venus derived from Magellan radar emissivity, *J. Geophys. Res.,* 126, e2020JE006722, doi: 10.1029/2020JE006722. ***Subject of JGR Commentary****:* D'Incecco, P.et al. (2021) The geologically supervised spectral investigation as a key methodology for identifying volcanically active areas on Venus. *J. Geophys. Res*., 126, e2021JE006909, doi:10.1029/2021JE006909.
35. Izenberg N. R., Gentry D. M., Smith D. J., **Gilmore M. S.,** Grinspoon D. H., Bullock M. A., Boston P. J., Slowik G. P. (2021) The Venus Life Equation, *Astrobiology* 21, doi:10.1089/ast.2020.2326.
34. #Brossier J. F., **Gilmore M. S.** (2021) Variations in the radiophysical properties of tesserae and mountain belts on Venus: Classification and mineralogical trends, *Icarus* 355, 114161, doi:10.1016/j.icarus.2020.114161
33. Byrne P.K., Ghail R. C., **Gilmore M. S.,** Celâl Şengör A. M., Klimczak C., Senske D. A., Whitten J. L., Khawja S., Ernst R. E., Solomon S. C. (2020) Venus tesserae feature layered, folded, and eroded rocks. *Geology*, doi:10.1130/G47940.1
32. Kremic T., Ghail R., **Gilmore M.,** Hunter G., Kiefer W., Limaye S., Pauken M. and Wilson C. (2020) Long-duration Venus Lander for Seismic and Atmospheric Science, *Plan. Space Sci.*, doi:10.1016/j.pss.2020.104961.
31. #Brossier J. F., **Gilmore M. S.** and ^Toner K. (2020) Low radar emissivity signatures on Venus volcanoes and coronae: New insights on relative composition and age, *Icarus*, 343, doi:10.1016/j.icarus.2020.113693.
30. Filiberto J., Trang D., Treiman A. H. and **Gilmore M. S.** (2020) Present-day volcanism on Venus as evidenced from weathering rates of olivine, *Science Advances*, 03 Jan 2020, 6, eaax7445, doi:10.1126/sciadv.aax7445.
29. *Milligan G., Poulos H. M., **Gilmore M. S**., Berlyn G.P., *Milligan J. and Chernoff B. (2019) Estimation of short-term C-fixation in a New England temperate tidal freshwater wetland, *Heliyon*, 5, e01782.
28. **Gilmore M. S.** and Head J. W. (2018) Morphology and deformational history of Tellus Regio, Venus: evidence for assembly and collision, *Plan. Space Sci.,* 54, 5-20.
27. **Gilmore M. S**., Treiman A., Helbert J. and Smrekar S. (2017) Venus Surface Composition Constrained by Observation and Experiment, *Space Sci. Rev.*, 11, pp. 1-30, in *Venus III* (eds. B. Bézard, C. T. Russell, T. Satoh, S. Smrekar), doi:10.1007/s11214-017-0370-8 (invited review).
26. *Arulanantham N. A., Herbst W., **Gilmore M. S.**, Cauley P. W. and Leggett S. K. (2017) Untangling the near-

IR spectral features in the protoplanetary environment of KH 15D, *Astrophys. J.,* 834, 2, 15 pp.

25. O'Connell S., **Gilmore M. S.**, Johnson-Thornton R., Ku T., Patton P., Resor P. and Royer D. (2017) Diverse students can be attracted to geoscience, *GSA Today* 27, doi:10.1130/GSATG288GW.1.
24. Rodríguez A., Varekamp J. C., vanBergen M. J., *Kading T. J. Oonk P., Gammons C. G. and **Gilmore M**. (2016) Acid rivers and lakes at Caviahue-Copahue volcano as potential terrestrial analogues for aqueous paleo-environments on Mars. In: *Copahue volcano* (Tassi et al., eds.) Springer series in Volcanology, p. 141-172.
23. Gilmore M. S., Mueller N. and Helbert J. (2015) VIRTIS emissivity of Alpha Regio, Venus, with implications for tessera composition, *Icarus* 254, 350-361, doi:10.1016/j.icarus.2015.04.008.
22. *Harner P. L. and **Gilmore M. S**. (2015) Visible-near infrared spectra of hydrous carbonates, with implications for the detection of carbonates in hyperspectral data of Mars, *Icarus* 250, 204-214.
21. *Harrison T. N., **Gilmore M. S**. and Greenwood J. P. (2012) Experimental VNIR reflectance spectroscopy of gypsum dehydration: Investigating the gypsum to bassanite transition, *Am. Mineralogist* 97, 598-609. doi:10.2138/am.2012.3667; Erratum published 2013, *Am. Mineralogist* 98, 1083, doi:10.2138/am.2013.623.
20. Gilmore M. S., Thompson D. R., ^Anderson L. J., Karamzadeh N., Mandrake L., Castaño R. (2011) Superpixel segmentation for analysis of hyperspectral datasets, with application to CRISM data, M^3 data, and Ariadnes Chaos, Mars, *J. Geophys. Res*., 116, E07001, doi:10.1029/2010JE003763.
19. Thompson D. R., Mandrake L., **Gilmore M. S**. and Castaño R. (2010) Superpixel endmember detection, *IEEE Trans. Geosci. Remote Sens*., 48, 4023-4033, doi:10.1109/TGRS.2010.2070802.
18. Gilmore M. S., Civco D. L., Wilson E. H., Barrett N., Prisloe S., Hurd J. D. and Chadwick C. (2009) Remote sensing and in situ measurements for delineation and assessment of coastal marshes and their constituent species, in: *Remote Sensing of Coastal Environments* (Y. Q. Wang, ed.), CRC Press, p. 261-280.
17. Gilmore M. S., Wilson E. H., Barrett N., Civco D. L., Prisloe S., Hurd J. D. and Chadwick C. (2008) Integrating multi-temporal spectral and structural information to map wetland vegetation in a lower Connecticut River tidal marsh, *Remote Sensing of Environment* 112, 4048-4060, DOI: 10.1016/j.rse.2008.05.020
16. Hashimoto G. L., Roos-Serote M., Sugita S., **Gilmore M. S.,** Kamp L. W., Carlson R. W. and Baines K. H. (2008) Galileo Near Infrared Mapping Spectrometer (NIMS) data suggest felsic highland crust on Venus, *J. Geophys. Res.* 113**,** doi:10.1029/2008JE003134.
15. Gilmore M. S., Bornstein B., *Merrill M. D., Castaño R. and Greenwood J. P. (2008) Generation and performance of automated jarosite mineral detectors for visible/near-infrared spectrometers at Mars, *Icarus* 195**,** 169-183, DOI: 10.1016/j.icarus.2007.11.025
14. *Dunagan S. C., **Gilmore M. S**. and Varekamp J. C. (2007) Effects of mercury on visible/near-infrared reflectance spectra of Mustard Spinach plants (*Brassica rapa P*.), *Environmental Pollution* 148**,** 301-311, DOI: 10.1016/j.envpol.2006.10.023
13. Gilmore, M. S., G. C. Collins, L. S. Crumpler, J. A. Cutts, A. V. deCharon, J. W. Head, III, K. T. Nock, M. Parry and R. A. Yingst (2005) Investigation of the Application of Aerobot Technology at Venus, *Acta Astronautica* 56**,** 477-494, DOI: 10.1016/j.actaastro.2004.06.005
12. Gilmore M. S., *Merrill M. D., Castaño R., Bornstein B. and Greenwood J., (2004) Effect of palagonite dust deposition on the automated detection of calcite in visible/near-infrared spectra, *Icarus* 172**,** 641-646.
11. Tanaka K. L., Carr M., Skinner J. A., **Gilmore M. S**. and Hare T. M. (2003) Geology of the MER 2003 "Elysium" candidate landing site in southeastern Utopia Planitia, Mars, *J. Geophys. Res.* 108 (E12), 8079, doi:10.1029/2003JE002054.
10. Gilmore M. S. and ^Phillips E. L. (2002) Role of aquicludes in formation of Martian gullies, *Geology* 30**,** 1107-1110.
9. Jolliff, B., Knoll A., Morris R. V., Moersch J., McSween H., **Gilmore M**., Arvidson R. E., Greeley R., Herkenhoff K. and Squyres S. (2002) Remotely sensed geology from lander-based to orbital perspectives: Results of FIDO rover May 2000 field tests, *J. Geophys. Res,* 107**,** 10.1029/2000JE001470.
8. Moersch J. E., Jolliff B. L., McSween H. Y., Morris R. V., **Gilmore M**., Arvidson R. E. and Squyres S. W. (2002) Synthesis of overhead and ground-based infrared spectroscopy at the 2000 FIDO Mars rover field test, *J. Geophys. Res*. 107**,** 10.1029/2001JE001524.
7. Nimmo F. and **Gilmore M. S.** (2001) Constraints on the depth of magnetized crust on Mars from impact craters, *J. Geophys. Res.* 106**,** 12315-12323.
6. Gilmore M. S., Castaño R., Mann T., Anderson R. C., Mjolsness E., Manduchi R. and Saunders R. S. (2000) Strategies for autonomous rovers at Mars, *J. Geophys. Res.* 105**,** 29223-29237.
5. Gilmore M. S. and Head J. W. (2000) Sequential deformation of plains at the margin of Alpha Regio, Venus: Implications for tessera formation. *Meteoritics and Planetary Sci.* 35**,** 667-687.

4. Marinangeli L. and **Gilmore M. S**. (2000) Geologic evolution of the Akna Montes-Atropos Tessera region, Venus. *J. Geophys. Res.* 105**,** 12053-12075.
3. Gilmore M. S., Collins G. C., Ivanov M. A., Marinangeli L. and Head J. W. (1998) Style and sequence of extensional structures in tessera terrain, Venus. *J. Geophys. Res.* 103**,** 16813-16840.
2. Gilmore M. S., Ivanov M. A., Head J. W. and Basilevsky A. T. (1997) Duration of tessera deformation on Venus. *J. Geophys. Res.* 102**,** 13357-13368.
1. Keddie S. T., Antonenko I., Aubele J. C., Burt J. D., Crumpler, L. S., **Gilmore M. S**. and Grosfils E. B. (1995) Volcanoes, in: *The Face of Venus: The Magellan Mapping Mission* (L. E. Roth and S. D. Wall, eds.) NASA Special Publication 20, Washington, D. C., p. 55-80.

Refereed Conference Proceedings

19. Sarli B., Benayas Penas M., Nakamura R., **Gilmore M.**, Lynch R., Hughes K. Beauchamp P. (2021) Mission Design of the Venus Flagship Decadal Study, 72nd International Astronautical Congress (IAC), Dubai, United Arab Emirates, 25-29 October 2021. 16 pp.
18. Beauchamp P., **Gilmore M.S.,** Lynch R. J., Sarli, B., Nicoletti A., Jones A., Ginyard A., Segura M. E. (2021) Venus Flagship Mission Concept: A Decadal Survey Study, *Proc. 2021 IEEE Aerospace Conference (50100), 2021, pp. 1-18, doi: 10.1109/AERO50100.2021.9438335.*– ***winner of the 2021 IEEE Aerospace Conference Best Paper in Track Award***
17. Glaze L. S. et al. (2017) DAVINCI: Deep Atmosphere Venus Investigation of Noble gases, and Imaging, *Proc. 38th IEEE Aerospace Conf.*, 5 pp.
16. Wagstaff K. L., Lanza N., Thompson D. R., Dietterich T. G. and **Gilmore M. S.** (2013) Guiding scientific discovery with explanations using DEMUD, *AAI Conference on Artificial Intelligence,* North America, 7 pp. http://www.aaai.org/ocs/index.php/AAAI/AAAI13/paper/view/6171
15. Bue B., Thompson D., **Gilmore M**. Castaño R. (2011) Metric learning for hyperspectral image segmentation, *Proceedings of the 3rd IEEE Workshop on Hyperspectral Image and Signal processing: Evolution in Remote Sensing (WHISPERS*), 4pp, 10.1109/WHISPERS.2011.6080873.
14. Baker C., **Gilmore M.,** et al. (2010) Venus Intrepid Tessera Lander (VITaL), *Proc. 7th Int. Planetary Probe Workshop*, Barcelona, 9 pp.
13. Mandrake L., Thompson D. R., **Gilmore M. S**., Castaño R. and Noe Dobrea E. (2010) Automated neutral region selection using superpixels, *Proceedings of the 2nd IEEE Workshop on Hyperspectral Image and Signal processing: Evolution in Remote Sensing (WHISPERS),* 4pp, doi:10.1029/WHISPERS.2010.5594856.
12. Thompson D. R., Castaño R. and **Gilmore M. S**. (2009) Sparse superpixel unmixing for exploratory analysis of CRISM hyperspectral images. *IEEE Workshop on Hyperspectral Image and signal Processing: Evolution in Remote Sensing*, 4 pp, doi:10.1109/WHISPERS.2009.5289045
11. Civco D. L., **Gilmore M. S.,** Wilson E. H., Barrett N., Prisloe S., Hurd J. D. and Chadwick C. (2008) Multitemporal spectroradiometry-guided object-oriented classification of salt marsh vegetation. *Proceedings of SPIE – The International Society of Optical Engineering*, vol. 7110, Article # 7110A, DOI: 10.1117/12.800016
10. Gilmore M., D.L. Civco, J.D. Hurd, E. Wilson, S.Prisloe, C. Chadwick, and N. Barrett (2007) Object-oriented classification and mapping of salt marsh vegetation using in situ radiometry and multi-seasonal, high resolution satellite remote sensing data. *Proceedings MultiTemp 2007, The Fourth International Workshop on the Analysis of Multi-temporal Remote Sensing Images*, Leuven, Belgium, 7 p.
9. Civco D. L., Hurd, J. D., Prisloe, S. and **Gilmore, M. S**. (2006) Characterization of coastal wetland systems using multiple remote sensing data types and analytical techniques, *Proc. IEEE International Geoscience and Remote Sensing Symposium*, 3442-3446, doi: 10.1109/IGARSS.2006.883.
8. Bornstein B., Castaño R., **Gilmore M. S**., *Merrill M. D., and Greenwood J. (2006) Onboard detection of jarosite minerals with applications to Mars. *Proc. IEEE Aerospace Conference*, Big Sky, MT, March 4-11, 2006, IEEEAC Article #1656010, 7 pp.
7. Hurd J. D., Civco D. L., **Gilmore M. S**., Prisloe S. and Wilson E. H. (2006) Tidal wetland classification from Landsat imagery using and integrated pixel-based and object-based classification approach, *Proc. 2006 ASPRS Annual Conference*, Reno, NV, 11 pp.
6. Prisloe, S., Wilson E., Civco D. L. Hurd J. D. and **Gilmore M. S**. (2006) Use of LIDAR data to aid in discriminating and mapping plant communities in tidal marshes of the lower Connecticut river: Preliminary results, *Proc. 2006 ASPRS Annual Conference*, Reno, NV, 8 pp.

5. Hurd J. D., Civco D. L., **Gilmore M. S.,** Prisloe S. and Wilson E. H. (2005) Coastal Marsh Characterization Using Satellite Remote Sensing and *In Situ* Radiometry Data: Preliminary Results, *Proc. 2005 ASPRS Annual Convention*, Baltimore, MD, 12 pp.
4. Bornstein B., Castaño R., **Gilmore M. S.**, *Merrill M. D., and Greenwood J. (2005) Creation and Testing of an Artificial Neural Network Based Carbonate Detector for Mars Rovers. *Proc. IEEE Aerospace Conference*, Big Sky, MT, March 5-12, 2005, IEEEAC article #1559330, 7 pp, DOI: 10.1109/AERO.2005.1559330
3. Rodgers D., **Gilmore M.,** Sweetser T., Cameron J., Chen G.-S., Cutts J., Gershman R., Hall J. L., Kerzhanovich V., McRonald A., Nilsen E., Petrick W., Sauer C., Wilcox B., Yavrouian A., Zimmerman W., and the JPL Advanced Project Design Team (2000) Venus sample return: A hot topic. *Proc. IEEE Aerospace Conference*, vol 7, 473-484, doi:10.1109/AERO.2000.879315.
2. Sweetser T., Cameron J, Chen G-S., Cutts J., Gershmann R., **Gilmore M. S**., Hall J., Kerzhanovich V., McRonald A., Nilsen E., Petrick W., Rodgers D., Wilcox B., Yavrouian A., Zimmerman W., and the JPL Advanced Projects Design Team, (1999) Venus surface sample return: A weighty high-pressure challenge. Proc. AAS/AIAA Astrodynamics Conf., Aug. 16-19, 1999, Girdwood, Alaska, *Advances in the Astronautical Sciences*, 103(3), 831-844.
1. Gilmore M. S. and Head J. W. (1992) Sequential deformation of plains on Venus: Evidence from Alpha Regio. *International Colloquium on Venus*, *Pasadena, California, August 10-12, LPI Contribution 789*, 34-36.

Edited Volume

Gilmore M. S. and Resor P. G. editors (2015) *The 107th Meeting of the New England Intercollegiate Geological Conference, Guidebook for Field Trips in Connecticut and Massachusetts*, 362 pp.

Book Review

Gilmore M. S. (2000) Book review: *Venus Revealed: A New Look Below the Clouds of Our Mysterious Twin Planet*, by D. H. Grinspoon, *Meteoritics and Planetary Science*, **35,** 885.

Technical Reports and White Papers

Kremic T., Amato M., **Gilmore M.,** Kiefer W., Johnson N., Sauder J., Hunter G., Thompson T. et al. (2021) Venus Surface Platform Study Final Report, 50 pp.
Cutts, J., Baines, K., Beauchamp, P., Bower, C., Davis, A., Dorsky, L., … Wilson, C. (2021). Venus Corona and Tessera Explorer (VeCaTEx). Bulletin of the AAS, 53(4). https://doi.org/10.3847/25c2cfeb.5aa5704a
Garvin, J., Arney, G., Atreya, S., Getty, S., **Gilmore, M.,** Grinspoon, D., … Lorenz, R. (2021). Deep Atmosphere of Venus Probe as a Mission Priority for the Upcoming Decade. Bulletin of the AAS, 53(4). https://doi.org/10.3847/25c2cfeb.a4985366
Izenberg, N., Gentry, D. M., Smith, D. J., **Gilmore, M. S.,** Grinspoon, D., Bullock, M. A., … Słowik, G. P. (2021). The Venus Life Equation. Bulletin of the AAS, 53(4). https://doi.org/10.3847/25c2cfeb.ee5bd3d1
Kremic, T., Amato, M., Balcerski, J., **Gilmore, M**., Hunter, G., Kiefer, W., … Thompson, T. (2021). Venus Surface Platforms. Bulletin of the AAS, 53(4). https://doi.org/10.3847/25c2cfeb.13f6069d
Santos, A., Filiberto, J., Ganesh, I., **Gilmore, M.,** Lewis, J. A., & Treiman, A. H. (2021). Venus Petrology: The Need for New Data. Bulletin of the AAS, 53(4). https://doi.org/10.3847/25c2cfeb.c73e5040
Smrekar, S., Andrews-Hanna, J., Breuer, D., Byrne, P., Buczkowski, D., Campbell, B., … Zebker, H. (2021). Habitability, Geodynamics, and the Case for Venus. Bulletin of the AAS, 53(4). https://doi.org/10.3847/25c2cfeb.93ec4fee
Unterborn, C., Byrne, P. K., Anbar, A. D., Arney, G., Brain, D., Desch, S. J., … Way, M. J. (2021). Exogeoscience and Its Role in Characterizing Exoplanet Habitability and the Detectability of Life. Bulletin of the AAS, 53(4). https://doi.org/10.3847/25c2cfeb.5209dd13
Whitten, J., **Gilmore, M. S.,** #Brossier, J., Byrne, P. K., Knicely, J. J., & Smrekar, S. E. (2021). Venus Tesserae: The importance of Venus tesserae and remaining open questions. Bulletin of the AAS, 53(4). https://doi.org/10.3847/25c2cfeb.8e2799ae.
Gilmore M. S., Beauchamp P. M. and the Venus Flagship Mission Study Team (2020) Venus Flagship Mission, Concept Study for the Planetary Science and Astrobiology Decadal Survey 2023-2032. https://science.nasa.gov/science-red/s3fs-public/atoms/files/Venus%20Flagship%20Mission.pdf

Thompson D. R., Castaño R., Bue B. and **Gilmore M. S.** (2013) Metric Learning to Enhance Hyperspectral Image Segmentation, *NASA Tech Briefs*, January 2013, 36-37.

National Research Council. (2011) *Vision and Voyages for Planetary Science in the Decade 2013-2022*. Washington, DC: The National Academies Press, 400pp.

Thompson D. R., Castaño R. and **Gilmore M. S**. (2011) "Superpixel-Augmented Endmember Detection for Hyperspectral Images", *NASA Tech Briefs* v. 35, No. 3, p. 63, March 2011.

Gilmore M. S., Glaze L. S., Baker C. L. and the Goddard Space Flight Center Architecture Design Lab (2010) Venus Intrepid Tessera Lander (VITaL), Mission Concept Study Report to the NRC Decadal Survey Inner Planets Panel, 49 pp.

Castaño R. C., Thompson D. R. and **Gilmore M. S.** (2010) Sparse superpixel unmixing for hyperspectral image analysis, *NASA Tech Briefs*, September 2010, p. 42.

Committee on Priorities for Space Science Enabled by Nuclear Power and Propulsion, National Research Council (2006) *Priorities in Space Science Enabled by Nuclear Power and Propulsion*, National Academies Press, 326 pp, http://books.nap.edu/catalog/11432.html.

Beaty, D.W., McCleese, D.J., Syvertson, M. (eds.) (2003) *Growing and Strengthening the Mars Science Community*. http://mepag.jpl.nasa.gov/reports/index.html

Articles

Gilmore M. S. (2003) Beyond Earth: Planetary Geology. *Geotimes* **48**, no 7, 36-37.
Gilmore M. S. (2002) Beyond Earth: Planetary Geology. *Geotimes* **47**, no 7, 31.

Abstracts (first authorship denotes conference presentation. Invited presentations indicated)

2023

Adeli S. et al. (2023) Reykjanes peninsula, Iceland, as an analog site for Venus; remote sensing investigation and planned field work to support VERITAS mission, *54nd Lunar and Planetary Science Conference, Abstract #2693.*

^Bouwens M.L., **M.S. Gilmore**, #A.R. Santos (2023) Mineral reactions with gases found on Venus surfaces at high temperatures, *54nd Lunar and Planetary Science Conference, Abstract #3009.*

*Deahn M.C., **M.S. Gilmore** (2023) Estimating faulted layer thicknesses of the Alpha Regio tessera in the DAVINCI target descent zone using extensional features, *54nd Lunar and Planetary Science Conference, Abstract #2846.*

#Ganesh I., **M.S. Gilmore** (2023) Detailed Magellan radar reflectivity variations within Sudenitsa Tessera, Venus, *54nd Lunar and Planetary Science Conference, Abstract #1847.*

Garvin J.B. et al. (2023) The DAVINCI mission to Venus: Chemistry, imaging, and environmental assessment of Venus' surface and atmosphere, *Venus Surf. Atm. Conf., Abstract #8070.*

Gilmore M.S. (2023) Current constraints on the mineralogy of Venus, *Venus Surf. Atm. Conf., Abstract #8072.* **[INVITED]**

Gilmore M.S., #A.R. Santos (2023) "Marty's Minerals Test": Hundreds of geologic samples in the NASA Glenn Extreme Environments Rig (GEER) for 60 days at Venus surface conditions, *54nd Lunar and Planetary Science Conference, Abstract #2750.*

Izenberg N.R., **M. S. Gilmore**, #A.R. Santos, G.W. Hunter (2023) V-BOSS: Venus Bridge orbiter and surface system, *Venus Surf. Atm. Conf., Abstract #8041.*

Izenberg N.R., **M. S. Gilmore**, M.D. Sprouse (2023) V*f*Ox in GEER: Functional test of a Venus oxygen fugacity sensor, *54nd Lunar and Planetary Science Conference, Abstract #1277.*

Nunes D.C. et al. (2023) Seeking Venus on Earth: The VERITAS/DLR analog field campaign, *54nd Lunar and Planetary Science Conference, Abstract #2319.*

#Santos A.R., **M.S. Gilmore** (2023) Venus weathering experiments using multiple experimental approaches, *Venus Surf. Atm. Conf., Abstract #8023.*

#Santos A.R., **M.S. Gilmore,** M. Yu. Zolotov, V. Tu (2023) Constraining oxygen and sulfur fugacity in Venus weathering experiments in the Glenn Extreme Environment Rig, *54nd Lunar and Planetary Science Conference, Abstract #2909.*

Smrekar S.E. et al. (2023) VERITAS (Venus Emissivity, Radio science, InSAR, Topography and Spectroscopy): Surface science objectives, *Venus Surf. Atm. Conf., Abstract #8014.*

Smrekar S.E., et al. (2023) VERITAS (Venus Emissivity, Radio science, InSAR, Topography and Spectroscopy): A selected Discovery mission, *54nd Lunar and Planetary Science Conference, Abstract #1198.*

2022

*Deahn M.C., **M.S. Gilmore**, J.B. Garvin, G. Arney, S. Getty (2022) Updated map of the DAVINCI probe descent imaging corridor and touchdown zone: Alpha Regio, Venus, *Abstracts of the Fall AGU Meeting, P52E-1594.*

*Deahn M.C., **M.S. Gilmore**, J.B. Garvin, G. Arney, S. Getty (2022) More than just a big brown blob: Mapping Venus tesserae for the DAVINCI probe, *20th VEXAG Meeting*, Abstract #8025.

*Deahn M.C., **M.S. Gilmore**, J.B. Garvin, G. Arney, S. Getty (2022) A Tectono-Stratigraphic Map of the DAVINCI Probe Descent Imaging Corridor and Touchdown Zone: Alpha Regio, Venus. *2022 Annual Meeting of Planetary Geologic Mappers*, LPI Contributions 2684, Abstract #7033.

*Deahn M.C., **M.S. Gilmore**, J.B. Garvin, G. Arney, S. Getty (2022) Mapping the DAVINCI probe descent imaging corridor and touchdown zone: Alpha Regio, Venus. *53nd Lunar and Planetary Science Conference, Abstract #2101.*

Garvin JB, BA Campbell, G. Arney, S. Getty, **M.S. Gilmore**, E.R. Pimentel, R.C. Dotson (2022) Kilometer-scale topography of Alpha Regio Venus with DAVINCI mission entry corridor science implications, *Abstracts of the Fall AGU Meeting, P55B-01.*

Gilmore M.S. and #A.R. Santos (2022) The mineralogical record of ancient Venus preserved in the tesserae, *Ancient Venus Conf, Abstract #2021.*

^Odabashian C., **M.S. Gilmore**, *M. Deahn, J.B. Garvin (2022) Library reflectance spectra of igneous rocks resampled to DAVINCI bands, *Abstracts of the Fall AGU Meeting, P52E-1596.*

#Santos A.R., **M.S. Gilmore,** J.P. Greenwood, T. Vu (2022) Laboratory investigation of the effect of venusian weathering on mineral spectra, *53nd Lunar and Planetary Science Conference, Abstract #2035.*

Smrekar S.E. et al. (2022) VERITAS (Venus Emissivity, Radio science, InSAR, Topography and Spectroscopy): A selected Discovery mission, *53nd Lunar and Planetary Science Conference, Abstract #1122.*

^Thompson S.Y. and **M.S. Gilmore** (2022) Developing CRISM methods for finding hydrous chlorides on Mars, *53nd Lunar and Planetary Science Conference, Abstract #2839.*

2021

Arney et al. (2021) The DAVINCI Mission to Venus and Connections to Venus Habitability. Venera-D: Venus Cloud Habitability System Workshop, held virtually, November 29-December 3, 2021. LPI Contribution No. 2629.

^Baker A.E. and **M.S. Gilmore** (2021) Searching for Hydrous Carbonates on Mars: Investigation of CRISM Spectral Summary Parameters, *52nd Lunar and Planetary Science Conference, Abstract #1714*.

#Brossier J.F., **M.S. Gilmore** and J.W. Head (2021) Possible Recent or Current Rift-Associated Volcanism in Ganis Chasma, Venus, *52nd Lunar and Planetary Science Conference, Abstract #1187*.

Campbell B. A. et al. (2021) Synergistic Science from the VERITAS, DAVINCI, and EnVision Missions to Venus, *Abstracts of the Fall AGU Meeting*, Abstract #P34B-04.

^Ganey T.M., **M.S. Gilmore** and #J.F. Brossier (2021) Sediment Supply as a Constraint on Yardang Formation Near Mead Crater, Venus, *52nd Lunar and Planetary Science Conference, Abstract #1309*.

^Ganey T.M., **M.S. Gilmore** and #J.F. Brossier (2021) Distribution and Volume of Impact-Generated Sediment on Venus, *52nd Lunar and Planetary Science Conference, Abstract #2271*.

Gilmore M.S. et al. (2021) Seeing Venus Tessera Terrain with the VenDI Camera on DAVINCI, *Geological Society of America Abstracts with Programs*. Vol 53, No. 6, 2021, doi: 10.1130/abs/2021AM-369968, Abstract 200-3 **[INVITED].**

Gilmore M.S. (2021) Radiophysical Properties of Venus Highlands, *National Society of Black Physicists Conference.* **[INVITED].**

Hughes E.M., **M.S. Gilmore** and *M. Eleazer (2021) Experimental Evaporation of Multicomponent Brines Demonstrates Variability in Salt Identification, *Brines Across the Solar System: Modern Brines Conference, Abstract #6030*.

Hughes E.M., **M.S. Gilmore** and *M. Eleazer (2021) VNIR and Raman Spectral Characterization of Martian Analogue Chloride and Sulfate Brines, *52nd Lunar and Planetary Science Conference, Abstract #2050.*

^Lopez X.R., **M.S. Gilmore** and #A.R. Santos (2021) Decomposition of Calcite After 30 Days of Venus Conditions in GEER, *52nd Lunar and Planetary Science Conference, Abstract #1383*.

Smrekar S.E. et al. (2021) VERITAS (Venus Emissivity, Radio Science, InSAR, Topography and Spectroscopy): A Proposed Discovery Mission, *52nd Lunar and Planetary Science Conference, Abstract #2211*.

#Santos A. R. and Gilmore M. S. (2021) Experimental Investigation of Mineral Reaction Rates in Venus-Relevant Gases, *19th VEXAG Meeting*, Abstract #8044.

2020

Arney G. N. et al. (2020) DAVINCI+: Opening the History Book of Venus and Connecting Analog Exoplanets, *Abstracts of the Fall AGU Meeting*, Abstract #P029-05.

Beauchamp P. M., **M. S. Gilmore** and the VFM Study Team (2020) Preparing for a Flagship: Lessons Learned from the Venus Flagship Mission Planetary Decadal Survey Study, *Abstracts of the Fall AGU Meeting*.

#Brossier J.F., **Gilmore M. S**. (2020) Low Radar Emissivity Signatures on Venus Tesserae: Classification and Mineralogical Trends, *51th Lunar and Planetary Science Conference, Abstract #1026*.

#Brossier J.F., **Gilmore M. S**., ^Toner K. (2020) Distinct Mineralogy Associated with Individual Lava Flows in Atla Regio, Venus, *51th Lunar and Planetary Science Conference, Abstract #1063*.

#Brossier J.F., **Gilmore M. S**., ^Toner K., ^Stein A. J. (2020) Distinct Mineralogy Associated with Individual Lava Flows in Atla Regio, Venus, *18th VEXAG Meeting*, Abstract #8012.

Byrne, P. K., R. C. Ghail, **M. S. Gilmore**, A. M. C. Şengör, C. Klimczak, S. C. Solomon, D. A. Senske, J. L. Whitten, S. Khawja, R. E. Ernst (2020) Some Venus Tesserae Feature Layered, Folded, and Eroded Rocks, *51th Lunar and Planetary Science Conference, Abstract #2514*.

Byrne, P. K., R. C. Ghail, **M. S. Gilmore**, A. M. C. Şengör, C. Klimczak, S. C. Solomon, D. A. Senske, J. L. Whitten, S. Khawja, R. E. Ernst (2020) Tesserae on Venus Feature Layered, Folded, and Eroded Rocks, *Abstracts of the Fall AGU Meeting*, Abstract #P029-03.

*****Corrigan S. M. and **Gilmore M. S**. (2020) Spectral Mineral Unmixing Experiments in Eridania Basin, Mars, *51th Lunar and Planetary Science Conference,* Abstract #3032.

Cutts J. et al. (2020) Venus Corona and Tessera Explore (VeCaTEx) Mission Concept: Investigating the Surface of Venus from Beneath the Clouds, *18th VEXAG Meeting*, Abstract #8031.

Diniega S. M. et al. (2020) Recognizing our colleagues of color in Planetary Science, *52nd Meeting of the AAS Division for Planetary Sciences*, Abstract 502.06.

Garvin, J. B., et al. (2020) Deep Atmosphere of Venus Investigation of Noble gases, Chemistry, and Imaging Plus (DAVINCI+): Discovering a New Venus via a Flyby, Probe, Orbiter Mission, *Fall AGU Meeting*, Abstract #P026-0001.

^Ganey T., **M. S. Gilmore,** #J. F. Brossier (2020) Mapping the distribution and global budget of impact-derived sediment on Venus, *Abstracts of the Fall AGU Meeting*.

Getty S. et al. (2020) DAVINCI+ Answers Long-Standing and Emerging Questions About the Venus Atmosphere, *Abstracts of the Fall AGU Meeting*, Abstract #P022-01.

Gilmore M.S. and W. Herbst (2020) Teaching Planetary Sciences across levels and disciplines at Wesleyan University, Geological Society of America Abstracts with Programs. Vol 52, No. 6, 2020 doi: 10.1130/abs/2020AM-358076. **[INVITED]**

Gilmore M. S., Beauchamp P. M., Venus Flagship Study Science Team (2020) Venus Flagship Mission Planetary Decadal Study, 43rd COSPAR Scientific Assembly, B4.4-0018-21.

Gilmore M. S., Beauchamp P. M., Kane S. R., Venus Flagship Study Science Team (2020) Venus Flagship Mission Planetary Decadal Study, a Mission to the Closest Exoplanet, Exoplanets in Our Backyard: Solar System and Exoplanet Synergies on Planetary Formation, Evolution, and Habitability, Abstract #3045.

Gilmore M. S., Beauchamp P. M., Venus Flagship Study Science Team (2020) Venus Flagship Mission Study, Planetary Mission Concept Studies Workshop (virtual), May 26–27, 2020.

Gilmore M. S., Beauchamp P. M., Venus Flagship Study Science Team (2020) Venus Flagship Mission Decadal Study, *Abstracts of the Fall AGU Meeting*, Abstract #P077-0008.

Helbert, J., M. D. Dyar, N. R. Izenberg, R. C. Ghail, J. B. Garvin, P. K. Byrne, S. E. Smrekar, **M. Gilmore,** T. Widemann, P. M. Beauchamp, N. Shaji, L. Zasova (2020) Why We Need a Long-Term Sustainable Venus Program, *51th Lunar and Planetary Science Conference, Abstract #1427*.

^Hughes E. B. and **Gilmore M. S.** (2020) Characterization of Martian Salts Through Experimental Evaporation and Spectral Analysis of Analogue Brines, *51th Lunar and Planetary Science Conference, Abstract #2106*.

^Hughes E. B. **Gilmore M. S.,** Martin P. E. (2020) Experimental Evaporation and Spectral Analysis of Martian Analogue Brines, *Abstracts of the Fall AGU Meeting*, Abstract #P079-0010.

Izenberg, N. R., D. M. Gentry, D. J. Smith, **M. S. Gilmore**, D. Grinspoon, M. A. Bullock, P. J. Boston (2020) The Venus Life Equation, *51th Lunar and Planetary Science Conference, Abstract #1512*.

Kiefer, W. S., Garvin, J., Arney, G., Atreya, S., Campbell, B., Cottini, V., Filiberto, J., Getty, S., **Gilmore, M.,** Grinspoon, D., Izenberg, N., Johnson, N., Lorenz, R., Malespin, C., Ravine, M., Webster, C., and Zahnle, K. Venus, Earth's divergent twin?: Testing evolutionary models for Venus with the DAVINCI+ mission, Europlanet Science Congress 2020, online, 21 September–9 Oct 2020, EPSC2020-534, 2020

Kiefer, W S. et al. (2020) Venus, Earth's divergent twin?: Testing evolutionary models for Venus with the DAVINCI+ mission, *Abstracts of the Fall AGU Meeting*, Abstract #P022-05.

Knicely J., R. Lynch, P. A. Mason, N. Ahmad, L. H. Matthies, C. J. Grambling, **M. S. Gilmore**, R. R. Herrick (2020) Strategies for safely landing on Venus tesserae, *Abstracts of the Fall AGU Meeting*, Abstract #P029-04.

Knicely J., R. Lynch, P. A. Mason, N. Ahmad, L. H. Matthies, C. J. Grambling, **M. S. Gilmore**, R. R. Herrick (2020) Strategies for safely landing on Venus tesserae, *18th VEXAG Meeting*, Abstract #8016.

Makel, D. B., **M. S. Gilmore**, N. Izenberg, S. Carranza, E. Kuang (2020) Development of the Venus In-Situ Mineralogy Reaction Array (VIMRA), *51th Lunar and Planetary Science Conference, Abstract #3007*.

^Nutt M. N. and **Gilmore M. S**. (2020) Selection and Preparation of Minerals for Testing Under Simulated Venusian Conditions in GEER, *51th Lunar and Planetary Science Conference, Abstract #2488*.

Smrekar, S. E., S. Hensley, M. D. Dyar, J. Helbert, J. Andrews-Hanna, D. Breuer, D. Buczkowski, B. Campbell, A. Davaille, G. DiAchille, C. Fassett, **M. Gilmore,** R. Herrick, L. Iess, L. Jozwiak, A. Konopliv, M. Mastrogiuseppe, E. Mazerico, N. Mueller, D. Nunes, J. Stock, C. Tsang, J. Whitten, T. Widemann, H. Zebker (2020) Veritas (Venus Emissivity, Radio Science, Insar, Topography, and Spectroscopy): A Proposed Discovery Mission, *51th Lunar and Planetary Science Conference, Abstract #1449*.

Wilson C. F., **M. S. Gilmore** et al. (2020) Scientific goals for the Venus Flagship Mission's Aerobot, *Abstracts of the Fall AGU Meeting*, Abstract #P050-03.

2019

Gilmore M. S., Whitten, J. L., *Perkins R., #Brossier J. F. (2019) The ancient environments of Venus as recorded by tessera terrain, *Abstracts of the Fall AGU Meeting*, Abstract #P51G-3445.

#Brossier J.F., **Gilmore M. S**., ^Toner K. (2019) Radiophysical behaviors of Venus' plateaus and volcanic rises: Updated assessment, *50th Lunar and Planetary Science Conference, Abstract #2531*.

#Brossier J.F., **Gilmore M. S**. (2019) Low radar emissivity signatures on coronae, *Int. Conf. Venus*, Niseko, Hokkaido, Japan, May 2019.

Byrne P. K., Ghail R. C., **Gilmore M. S.,** Smrekar S. E., Treiman A. H., Wilson C. F. and Solomon S. C. (2019) The exploration of Venus: Current understanding and open questions, *50th Lunar and Planetary Science Conference, Abstract #2853*.

Filiberto J., Trang D., Treiman A. H and **Gilmore M. S.** (2019) Weathering on Venus: The effect of oxidation of the VNIR spectra of olivine, *50th Lunar and Planetary Science Conference, Abstract #1062*.

Gilmore M. S., #Brossier J. F., ^Zalewski N. (2019) Variations in the radiophysical properties of Venus tesserae; Could be the rocks? Could be the climate? *50th Lunar and Planetary Science Conference, Abstract #2632*.

Gilmore M. S., A. R. Santos, J. P. Greenwood, N. Izenberg, G. Hunter, A. Treiman and D. Makel (2019) Thirty days on Venus: Chemical and electrical changes in minerals exposed to the Glenn Extreme Environment Chamber (GEER), *Int. Conf. Venus*, Niseko, Hokkaido, Japan, May 2019.

Gilmore M. S., #Brossier J. F., ^Zalweski N. and A. J. Stein (2019) Contrasts between low emissivity tessera and plains materials on Venus mountaintops, *Int. Conf. Venus*, Niseko, Hokkaido, Japan, May 2019.

*Perkins R. P. and **Gilmore M. S.** (2019) Volumes and potential origins of crater dark floor deposits on Venus, *50th Lunar and Planetary Science Conference, Abstract #2032*.

*Perkins R. P., **Gilmore M. S.** and Herrick R. R. (2019) A reassessment of Venus' tessera crater population and implications for tessera deformation, *50th Lunar and Planetary Science Conference, Abstract #2989*.

^Toner K., **Gilmore M. S.,** #Brossier J. F. (2019) Complex radar emissivity variations at some large Venusian volcanoes, *50th Lunar and Planetary Science Conference, Abstract #3153*.

2018

Gilmore M. S., A. R. Santos, J. P. Greenwood, N. Izenberg, G. Hunter, A. Treiman, K. Abe and D. Makel (2018) Thirty days on Venus: Chemical changes in minerals exposed to the Glenn Extreme Environment Chamber (GEER), *16th VEXAG Meeting*, Abstract #8039.

Gilmore M. S., A. R. Santos, J. P. Greenwood, N. Izenberg, G. Hunter, A. Treiman and D. Makel (2018) Thirty days on Venus: Chemical and electrical changes in minerals exposed to the Glenn Extreme Environment Chamber (GEER), *Int. Conf. Venus*, Niseko, Hokkaido, Japan, Sept. 2018.

Gilmore M. S., A. J. Stein and A. Treiman (2018) Contrasts between low emissivity tessera and plains materials on Venus mountaintops, *Int. Conf. Venus*, Niseko, Hokkaido, Japan, Sept. 2018.

Gilmore M. S., A. J. Stein, A. Treiman and J. P. Greenwood (2018) Formation rates and mechanisms for low emissivity materials on Venus mountaintops and constraint on tessera composition, *49th Lunar and Planetary Science Conf.,* Abstract #1229. **[INVITED]**

Kremic T. et al. (2018) SAEVe: Study results for a long duration Venus lander, *16th VEXAG Meeting*, Abstract #8010.

Kremic T. et al. (2018) SAEVe: A concept study for a long duration small sat class Venus lander, *49th Lunar and Planetary Science Conf.,* Abstract #2744.

Jessup K. L., **M. S. Gilmore**, D. Grinspoon, S. Limaye, J. Luhmann (2018) Venus' unique role in solar system history: The five big questions, *16th VEXAG Meeting*, Abstract #8050.

*Luna M., **M. Gilmore**, J. Ortiz and S. O'Connell (2018) Multivariate spectral analysis of CRISM data to characterize the composition of Mawrth Vallis, *49th Lunar and Planetary Science Conf.,* Abstract #1294.

*Perkins R. P. and **Gilmore M. S.** (2018) Where are the missing tessera craters on Venus? *49th Lunar and Planetary Science Conf.,* Abstract #1513.

Resor P. G., **M. S. Gilmore**, ^A. Munro (2018) Convergent tectonics in a hot? Dry? Mafic? Lithosphere: Mapping and modeling of folding in Venus tessera terrain, Abstract DI32A-07, presented at 2018 Fall Meeting, AGU, Washington, D.C., 10-14 Dec.

^Toner K. and **M. S. Gilmore** (2018) The radiophysical properties of some large volcanoes on Venus, *16th VEXAG Meeting*, Abstract #8041.

2017

Cox R. and **Gilmore M. S**. (2017) Madagascar's unusual gullies (lavaka) are a possible analogue for mid-slope alcove gullies on Mars, *48th Lunar and Planetary Science Conf.,* Abstract #2386.

Cutts et al. (2017) Venus exploration to 2050, *Planetary Science Vision 2050 Workshop 2017*, Abstract #8015.

Gilmore M. S. and ^Stein A. J. (2017) Variability of tessera radar emissivity on Venus, *48th Lunar and Planetary Science Conf.,* Abstract #2523.

Glaze L. S., **Gilmore M. S.** and Treiman A. H. (2017) Scientific rationale for selecting landing sites on Venus: so many choices, so few opportunities! Venera-D Venus Modelling Workshop, Moscow.

*McKeeby B. E. and **Gilmore M. S**. (2017) Weathering and sulfate formation in Sulfur Springs, St. Lucia, a Mars analogue site, *48th Lunar and Planetary Science Conf.,* Abstract #2646.

^Stein A. J. and **Gilmore M. S**. (2017) GIS-based data pipeline for the extraction of radar emissivity and dielectric constant values for physiographic surface units on Venus, *48th Lunar and Planetary Science Conf.,* Abstract #1183.

2016

Gilmore M. S. (2016) Which tesserae are the most pristine? *47th Lunar and Planetary Science Conf.,* Abstract #2621.

Gilmore M. S. (2016) The search for unadulterated Venus tessera terrain, *International Venus Conf.* Oxford, UK.

Glaze L. et al. (2016) DAVINCI: Deep Atmosphere Venus Investigation of Noble gases, Chemistry and Imaging, *47th Lunar and Planetary Science Conf.,* Abstract #1560.

Glaze L. et al. (2016) DAVINCI: Deep Atmosphere Venus Investigation of Noble gases, Chemistry and Imaging, *International Venus Conf.* Oxford, UK.

Head J. W. et al. (2016) VERITAS: High-resolution imaging of the surface of Venus to address critical science questions, *International Venus Conf.* Oxford, UK.

Hensley et al. (2016) Single pass x-band radar interferometry for topographic mapping of Venus, *47th Lunar and Planetary Science Conf.,* Abstract #1979.

Hensley et al. (2016) VERITAS: A proposed NASA Discovery mission to Venus with and X-band interferometric mapping radar, *International Venus Conf.* Oxford, UK.

Smrekar et al. (2016) VERITAS (Venus Emissivity, Radio science, InSar, Topography And Spectroscopy): A proposed Discovery mission, *47th Lunar and Planetary Science Conf.,* Abstract #2439.

Smrekar et al. (2016) VERITAS (Venus Emissivity, Radio science, InSar, Topography And Spectroscopy): A proposed Discovery mission, *International Venus Conf.* Oxford, UK.

2015

Gilmore M. S. (2015) Observational constraints on Venus surface composition and geologic history, *Comparative Tectonics and Geodynamics of Venus, Earth, and Rocky Exoplanets*, Abstract #5025. **[INVITED]**

Gilmore M. S. (2015) Elevating Venus observations (of the solid planet) from orbit, *Venus Science Priorities for Laboratory Measurements and Instrument Definition Workshop*, Abstract #4025.

*Guallini L., **Gilmore M. S**., Marinangeli L. and Thomas N. (2015) Ancient martian lakestands and fluvial processes in Iani Chaos: Geology of light-toned layered deposits and their relationship to Ares Vallis outflow channels, *European General Assembly Geophysical Research Abstracts*, vol. 17, EGU2015-2675-1.

*Korn L. K. and **Gilmore M. S.** (2015) Possible carbonate minerals within an unnamed gullied crater in Eridania Basin, Mars, *46th Lunar and Planetary Science Conf.,* Abstract #2224.

2014

*DiPrimio M., **Gilmore M**., Marinangeli L. and *Golder K. B. (2014) Past water activity in Ariadnes Colles on Mars, *8th Intl. Conf. on Mars,* Abstract #1248.

Gilmore M. S. (2014) Which tesserae are the best tesserae to measure tesserae composition? *Workshop on Venus Exploration Targets*, Abstract #6038.

Gilmore M.S., *Golder K. B., *Korn L. K. and ^Aaron L. M. (2014) Carbonate associated with gullies in the Eridiana region of Mars, *8th Intl. Conf. on Mars,* Abstract #1388.

Gilmore M. S., Helbert J., Smrekar S. and Treiman A, (2014) Venus surface composition and weathering, *European Planetary Sci. Congress*, EPSC Abstracts Vol. 9, EPSC2014-781.

*Harner P. L. and **Gilmore M.S.** (2014) Visible-near infrared spectra of hydrous carbonates and implications for their detection on Mars, *8th Intl. Conf. on Mars,* Abstract #1415.

*Harner P. L. and **Gilmore M.S.** (2014) Are martian carbonates hiding in plain sight? VNIR spectra of hydrous carbonates, *45th Lunar and Planetary Science Conf.,* Abstract #2728.

^Martin P.E., **Gilmore M.S.** and Greenwood J. P. (2014) Modeling and mineralogical analyses of potential martian chloride brines, *45th Lunar and Planetary Science Conf.,* Abstract #2543.

Smrekar S. E., Elkins-Tanton L. T., Hensley S., Campbell B. A., **Gilmore M. S.**, Phillips R. J. and Zebker H. A. (2014) VERITAS: A mission to study the highest priority Decadal Survey questions for Venus, *Abstracts of the Fall AGU Meeting*, Abstract #P21B-3912.

2013

Atreya S. K. et al. (2013) The case for a deep-atmospheric in situ mission to address the highest priority Decadal Survey questions for Venus, *Abstracts of the Fall AGU Meeting*, Abstract #P41D-1953.

*DiPrimio M., **Gilmore M**., Marinangeli L. and *Golder K. B. (2013) Past water activity in Ariadnes Colles, Geological Society of America *Abstracts with Programs*, paper #138-1.

Gilmore M. S. and Glaze L. S. (2013) The oldest rocks on Venus: The importance of tessera terrain for Venus Exporation, *Abstracts of the Fall AGU Meeting*, #P34A-01. **[INVITED]**

*Golder K. B. and **Gilmore M. S.** (2013) Eridania Basin, Mars: Evolution of Electris terrain, chaos, and paleolake, *44th Lunar and Planetary Science Conf*., Abstract #2995.

*Harner P. L., **Gilmore M.S.** and Greenwood J. P. (2013) Laboratory simulations of potential martian evaporates and their spectral signatures, *44th Lunar and Planetary Science Conf.,* Abstract #2714.

2012

*Golder K. B. and **Gilmore M. S**. (2012) Evolution of chaos terrain in the Eridania Basin, Mars, *43th Lunar Plan. Sci. Conf.*, Abstract #2796.

*Golder K. B. and **Gilmore M. S**. (2012) Geomorphological mapping of the eastern Eridania Basin and associated subbasins, Mars, *43th Lunar Plan. Sci. Conf.*, Abstract #2661.

*Guallini L., **Gilmore M. S**., Marinangeli L. (2012) Geologic and geomorphologic map if Iani Chaos (Mars), *43th Lunar Plan. Sci. Conf.*, Abstract #1410.

^Mulhern J., **Gilmore M. S**., Resor P. G. and Herrick R. R. (2012) Using fold geometry to infer tessera folding mechanisms in Ovda Regio, Venus, *Geological Society of America Abstracts with Programs*, Vol. 44, No. 2, p. 74.

Resor P. G., **Gilmore M. S**. and ^Mulhern J. (2012) Constraints on tesserae formation from structural mapping and mechanical modeling, Geological Society of America *Abstracts with Programs*, Vol. 44, No. 2, p. 74.

2011

Gilmore M. S., Mueller N., Helbert J. (2011) VIRTIS emissivity of Alpha Regio tessera, Venus, *42th Lunar Plan. Sci. Conf.*, Abstract #1498.

Gilmore M. S., Resor P. G., Ghent R., Senske, D. A. and Herrick (2011) Constraints on tessera composition from modeling of Tellus Regio, Venus, *42th Lunar Plan. Sci. Conf.*, Abstract #2053.

***Guallini L., **Gilmore M. S.,** Harrison T. N., Marinangeli L. (2011) Ancient martian lakestands in Iani chaos and their relationship to Ares Vallis outflow channels, *42th Lunar Plan. Sci. Conf.*, Abstract #1433.

Marinangeli, L. et al. (2011) The mineralogy and chemistry analyser (MARS-XRD) for the ExoMars 2018 mission, *EPSC-DPS Joint Meeting*, p. 1232.

^Mulhern J., **Gilmore M. S.,** Resor P. G. and Herrick R. R. (2011) Using fold geometry to constrain the formation of tesserae terrain on Ovda Regio, Venus, *Abstracts of the Fall AGU Meeting*, #P41F-01.

Thompson D. R., **Gilmore M. S**., Mandrake L., Castaño R., Bue B. (2011) Automatic detection of water and mafics in M^3 radiance images, Mars, *42th Lunar Plan. Sci. Conf.*, Abstract #2397.

2010

Gilmore M. S., Greenwood J. P. and Bishop J. L. (2010) Sulfates in Iani Chaos, Mars, *41th Lunar Plan. Sci. Conf.*, Abstract #2374.

Gilmore M. S., Resor P. G., Ghent R., Senske D. A. and Herrick R. R. (2010) Mapping and modeling of a tessera collision zone, Tellus Regio, Venus, *41th Lunar Plan. Sci. Conf.*, Abstract #1769.

Mandrake L., Thompson D. R., **Gilmore M**. and Castaño R. (2010) Hii-HAT: an IDL/ENVI toolkit for rapid hyperspectral inquiry, *41th Lunar Plan. Sci. Conf.*, Abstract #1441.

2009

Gilmore M. S. and Greenwood J. P. (2009) Gypsum and associated sulfates in Iani Chaos, Mars, *Eos Trans AGU, 90(52), Fall Meeting Suppl*., Abstract P21C-04.

Gilmore M. S. (2009) Tellus Regio, Venus: Evidence of tectonic assembly of tessera terrain and implications for exploration. *40th Lunar Plan. Sci. Conf.*, Abstract #2015.

Gilmore M. S. (2009) Tessera terrain is a fundamental geochemical target. *Venus Geochemistry: Progress, Prospects, and New Missions*, Abstract #2022.

Herrick R. R., Sharpton V. L., Gens R., Ghent R. R., **Gilmore M. S.**, Grimm R. E., Johnson C. L., McGovern P. J., Meyer F., Mouginis-Mark P. J., Plaut J. J., Sandwell D. T., Simone M. and Solomon S. C. (2009) The rationale for a new high-resolution imaging radar mission to Venus, *Eos Trans AGU, 90(52), Fall Meeting Suppl*., Abstract P33A-1281.

Stofan E. R., Mackwell S. J., Cohen B. A., **Gilmore M. S.**, Glaze L. S. Grinspoon D. H., Hauck S. A., Howard A., Shearer C. R., Stetson D., Stolper E. M. and Treiman A. H. (2009) Mercury, Venus and the Moon: The next decade, *Eos Trans AGU, 90(52), Fall Meeting Suppl*., Abstract P51H-01.

Thompson D. R., De Granville C., **Gilmore M. S.**, Castaño R. (2009) Superpixel segementation for endmember detction in hyperspectral images, *Eos Trans AGU, 90(52), Fall Meeting Suppl*., Abstract IN31C-1012.

2008

Castaño R., **Gilmore M. S.,** Bornstein B., Hojnacki S. and Greenwood J. (2008) A comparison of two methods for automated mineral detection in visible/near-infrared spectra. *39th Lunar Plan. Sci. Conf.,* Abstract #1933.

Gilmore M.S., Wilson E. H., Barrett N., Civco D. L., Prisloe S., Hurd J. D. and Chadwick C. (2008) Integration of multi-temporal spectral and structural information to map wetland vegetation in a brackish Connecticut marsh, *Eos Trans. AGU, 89(53), Fall Meet. Suppl.,* Abstract B33D-07.

*Harrison T. N., **Gilmore M. S**. and Greenwood J. P. (2008) Experimental VNIR reflectance spectroscopy of gypsum dehydration: Constraints on sulfate composition at Iani Chaos, Mars. *39th Lunar Plan. Sci. Conf.,* Abstract #1879.

Ollila A. M., **Gilmore M. S**. and Newsom H. E. (2008) Temperature analysis of gullied and non-gullied slopes on Mars: Evidence for a thermal control on gully formation. *Workshop on Martian Gullies: Theories and Tests*, Abstract # 8037.

2007

Gilmore M. S., *Ollila A. M., *Lanza N. L. and Vasavada A. R. (2007) Geometric and thermal context of gullied slopes in the northern hemisphere of Mars: Prediction and measurement. *7th International Conference on Mars*, Abstract # 3320.

Gilmore M. S., Castaño R., Bornstein B. and Greenwood J. P. (2007) Autonomous mineral detectors for visible/near-infrared spectrometers at Mars. *7th International Conference on Mars*, Abstract # 3160.

Gilmore M. S., *Lanza N. L. and Vasavada A. R. (2007) Comparision of irradiance received on gullied and nongullied slopes in the northern hemisphere of Mars: A three bears scenario? *38th Lunar Plan. Sci. Conf.*, Abstract #2263.

Gilmore M. S. and Saunders R. S. (2007) Geologic mapping of the Hestia Rupes quadrangle (V-22), northern Ovda Regio, Venus, *38th Lunar Plan. Sci. Conf.*, Abstract #1936.

Lanza N. L., Newsom H., Wiens R. and **Gilmore M. S.** (2007) What part of gullies are "special," implications for MSL landing sites, *38th Lunar Plan. Sci. Conf.*, Abstract #1926.

*Ollila A. M. and **Gilmore M. S.** (2007) Thermophysical properties of gullied and nongullied slopes in Acadalia Planitia, Mars, *38th Lunar Plan. Sci. Conf.*, Abstract #1861.

^Straley B. L. and **Gilmore M. S.** (2007) Mapping and structural analysis of SW Tellus Regio, Venus, *38th Lunar Plan. Sci. Conf.*, Abstract #1657.

2006

Gilmore M. S., Bornstein B., Castaño R. and Greenwood J. (2006) Autonomous, rapid classifiers for hyperspectral imagers, *Eos Trans. AGU, 87*(36), Jt. Assem. Suppl., Abstract IN43E-05. **[INVITED]**

Greenwood J. P., **Gilmore M. S.,** Blake R. E., Martini A. M., *Gomes M., Tracy S., Dyar M. D., Gilmore J. A. and Varekamp J. C. (2006) Nascent jarosite mineralization of Sulphur Springs, St. Lucia, W.I.: Implications for Merdiani jarosite formation, *37th Lunar Plan. Sci. Conf.*, Abstract #2230.

*Lanza N. L. and **Gilmore M. S**. (2006) Depths, orientation and slopes of martian hillside gullies in the northern hemisphere, *37th Lunar Plan. Sci. Conf.*, Abstract #2412.

Prisloe M.S., Civco D. L., Hurd J., Arnold C. Wilson E and **Gilmore M.** (2006) Characterization of Coastal Wetland Systems using Multiple Remote Sensing Data Types and Analytical Techniques, *Abstracts of the 2006 IEEE International Geoscience and Remote Sensing Symposium*, July 31 – August 4, 2006, Denver CO.

Wilson E.H., J.D. Hurd, D.L. Civco, S. Prisloe and **M.S. Gilmore** (2006) Classification of Tidal Wetland Communities Using Multi-temporal, Single Season Quickbird Imagery, 2006 ASPRS Annual Convention, Reno, NV.

2005

Gilmore M. S. (2005) Venus Express as a step toward the surface of the planet, *EOS Trans. AGU, 86(52), Fall Meeting Suppl.,* Abstract P23E-07. **[INVITED]**

Gilmore M. S., Castaño R., Bornstein B., *Merrill M. D. and Greenwood J. P. (2005) Onboard autonomous detectors for Mars rovers, *EOS Trans. AGU, 86(52), Fall Meeting Suppl.,* Abstract IN33D-08.

*Dunagan S. C. **Gilmore M. S** and Varekamp J. C. (2005) Remote sensing of mercury-contaminated soils through plant reflection spectra, *EOS Trans. AGU, 86(52), Fall Meeting Suppl.,* Abstract B21C-08.

Gilmore M. S., Bornstein B., *Merrill M. D., Castaño R. and Greenwood J. P. (2005) Generation and performance of automated jarosite mineral detectors for Vis/NIR spectrometers at Mars, *36th Lunar Plan. Sci. Conf.*, Abstract #1155.

Greenwood J. P., **Gilmore M. S.,** *Merrill M. D., Blake R. E., Martini A. M. and Varekamp J. C. (2005) Jarosite mineralization on St. Lucia, W. I.: Preliminary geochemical, spectral and biological investigations of a martian analogue, *36th Lunar Plan. Sci. Conf.*, Abstract #2348.

Hurd J. D., Civco D. L. **Gilmore M. S.** Prisloe S. and Wilson E. H. (2005) Coastal marsh characterization using satellite remote sensing and in situ radiometery data, *ASPRS 2005 Annual Conference*, Baltimore Maryland.

Bornstein B., Castaño R., **Gilmore M. S**., *Merrill M. D. and Greenwood J. (2005) Creation and testing of an artificial neural network-based carbonate detector for Mars rovers, *IEEE Aerospace Conference*, Big Sky, Montana.

2004

Gilmore M. S., Civco D. K. Hurd J. D. Prisloe S. and Wilson E. H. (2004) Application of Remote Sensing Technologies for the Delineation and Assessment of Coastal Marshes and their Constituent Species around Long Island Sound, *Long Island Sound Research Conference*, Nov. 4-5, 2004, SUNY Stony Brook.

Gilmore M. S., *Merrill M. D., Castaño R., Bornstein B. and Greenwood J. (2004) Effect of palagonite dust deposition on the automated detection of carbonate Vis/NIR spectra, *35th Lunar and Planetary Science Conf*., Abstract #1335.

*Merrill M. D., Bornstein B., **Gilmore M. S**., Castaño R. and Greenwood J. (2004) Generation and performance of automated jarosite mineral detectors for Mars rovers. *EOS. Trans. AGU*, *85(47)* Fall Meet. Suppl., Abstract P43A-0911.

Gilmore M. S. and ^Goldenson N. (2004) Depths and geologic setting of northern hemisphere gullies (and comparison to their southern counterparts), *35th Lunar and Planetary Science Conf*., Abstract #1884.

Marinangeli, L., A. Baliva, G.G. Ori, E.I. Alves, R. Amils, J.M. Frias, L. Moroz, A.T. Basilevsky, A. Basu, **M. S. Gilmore** and the MAX team, (2004) A miniaturized x-ray diffractometer (MAX) for the mineralogical analysis of Martian soils, *Geophysical Res. Abstr., 6*, EGU04-A-03584.

^Cervone C. W. and **Gilmore M. S.**, (2004) Estimating Soil Loss Using ASTER and Diffuse Reflectance Spectrometry: a Case Study of the Village of Kambi ya Simba in Northern Tanzania's Rift Valley Highlands, *Eos Trans. AGU, 85*(17), Jt. Assem. Suppl., Abstract H23C-01.

*Merrill M. D., **Gilmore M. S.,** Castaño R., Bornstein B. and Greenwood J. (2004) Generation and Testing of Autonomous Mineral Detectors for Mars Rovers**,** *Eos Trans. AGU, 85*(17), Jt. Assem. Suppl., Abstract P33D-07.

*Dunagan S. C., **Gilmore M. S.** and Varekamp J. C. (2004) Effects of Mercury Contamination on Visible and Near Infrared Reflectance Spectra of Vegetation in Connecticut, *Eos Trans. AGU, 85*(17), Jt. Assem. Suppl., Abstract B21A-01.

2003

Gilmore M. S. and ^Goldenson N. (2003) Morphology and depth of Mars northern hemisphere gullies, *EOS. Trans. AGU*, *84(46)* Fall Meet. Suppl., Abstract P11B-1040.

Anderson R. C., Castaño R., Judd M., Estlin T., Gaines D., Mazzoni D., Fisher F., Bornstein B., Castaño A., Scharenbroich L., Song L., and **Gilmore M**. (2003) Maximizing Rover Science Return Through Autonomous Onboard Data Analysis, *EOS. Trans. AGU*, *84(46)* Fall Meet. Suppl. Abstract P41B-0408.

Tanaka K. L., Skinner J. A., Carr M. H., **Gilmore M. S.** and Hare T. M. (2003) Geology of the MER 2003 "Elysium" candidate landing site, *34th Lunar and Planetary Science Conf*., Abstract #1957.

2002

Gilmore M. S. and ^Phillips E. L. (2002) Martian aquicludes required for gullies, *EOS. Trans. AGU*, *83*(47), Fall Meet. Suppl., Abstract P72C-09.

Gilmore M. S. and ^Phillips E. L. (2002) Geologic control of gully depths in three regions of Mars, *33rd Lunar and Planetary Science Conf*., Abstract #1295.

Gilmore M. S. and Tanaka K. L. (2002) Crater counts of MOC images within the Mars Exploration Rover Sinus Meridiani (Hematite Site) landing ellipses, *33rd Lunar and Planetary Science Conf*., Abstract #1881.

Greenwood J. P., Blake R. E., Martini A. A., Coomber S., Surkov A. V., **Gilmore M. S**., Dole H. J., Cameron, Jr. D. P. and Varekamp J. C. (2002) St. Lucia, W.I. sulphur springs: An integrated microbiological and geochemical survey of a possible martian analogue, *33rd Lunar and Planetary Science Conf*., Abstract #2037.

2001

^Phillips E. L. and **Gilmore M. S.** (2001) Trickle down theories: A comparison of gullies in three regions on Mars, *EOS. Trans. AGU, 82*(47*)*, Fall Meet. Suppl., Abstract P42A-0565.

*Gapotchenko T. and **Gilmore M.** (2001) Analysis of the spectral signature of algae-laden turbid waters of Long Island Sound, *Geological Society of America Abstracts with Programs 33; 6*, p. 194-195.

^Stopper A. R. and **Gilmore M. S**. (2001) Geomorphology of (recent?) gullies along Dao Vallis, Mars, *EOS. Trans. AGU, 82*(20*)*, Spring Meet. Suppl., Abstract P31A-10.

Gilmore M. S, Skinner J. A. and Tanaka K. L. (2001) Crater counts of Noachian surfaces at MOC resolution, *32nd Lunar and Planetary Science Conf*., Abstract #2038.

Gilmore M. S. and Tanaka K. L. (2001) Potential Noachian-aged site for MER-B, *1st Landing Site Workshop for 2003 Mars Exploration Rovers*, Jan 24-25, Moffett Field, CA, http://www.lpi.usra.edu/meetings/mer2003/.

Barlow N. G. and 18 other authors (2001) Community decadal panel for terrestrial analogs to Mars, *American Astronomical Society, DPS Meeting* #33, #14.11; *Bulletin of the American Astronomical Society*, Vol. 33, p.1055.

Tanaka K. L., Crumpler L. S., **Gilmore M. S.,** Noreen E., Hare T. M. and Skinner J. A. (2001) Scientific Rationale for Mars Exploration Rovers A and B Landing Sites: Our Biased View, *First Landing Site Workshop for the 2003 Mars Exploration Rovers*, p. 67.

Gilmore M. S. and Tanaka K. L. (2001) Potential Noachian-Aged Sites for MER-B, *First Landing Site Workshop for the 2003 Mars Exploration Rovers*, p. 23.

2000

Carsey F., Brophy J., **Gilmore M.,** Rodgers D., and Wilcox B. (2000) A review of new and developing technology to significantly improve Mars sample-return missions. *Workshop on Concepts and Approaches for Mars Exploration*, *LPI Contribution #1062*, p. 59-60.

Rodgers D. H., Brophy J. R., Wilcox B. H. Carsey F. D. and **Gilmore M. S.** (2000) Mars Sample Return Using Solar Electric Propulsion (SEP), *Workshop on Concepts and Approaches for Mars Exploration*, July 18-20, 2000, Houston, Texas, abstract no.6074.

Castaño R., Anderson R. C., Mjolsness E., Davies A., Fox J., Stough T., and **Gilmore M**. (2000) Autonomous Rock Identification Using Visual Texture, *GSA Abstracts with Programs* Vol. 32, No. 7, p. 305.

Gilmore M. S., and Nimmo F. (2000) Depth of magnetized crust on Mars. *31st Lunar and Planetary Science Conference*, Abstract #2003.

Jolliff, B., Moersch J., Knoll A., Morris R., Arvidson R., **Gilmore M.,** Greeley R., Herkenhoff K., McSween H., and Squyres S. (2000) Remotely-sensed geology from lander-based to orbital perspectives: Results of FIDO rover field tests. *Workshop on Concepts and Approaches for Mars Exploration*, July 18-20, 2000, Houston, Texas, abstract no.6160.

^Krause M. O. and **Gilmore M. S.** (2000) The distribution of magnetic sources on Mars as related to surface geology. *31st Lunar and Planetary Science Conference*, Abstract #1603.

1999

Gilmore M. S. (1999) Craters as an indicator of martian regolith thickness. In *The Fifth International Conference on Mars*, Abstract #6228. LPI Contribution No. 972, Lunar and Planetary Institute, Houston.

Gilmore M. S. (1999) Magnetometer data test models for the origin of the martian crustal dichotomy; dichotomy models constrain timing of martian magnetic field. In *The Fifth International Conference on Mars*, Abstract #6227. LPI Contribution No. 972, Lunar and Planetary Institute, Houston.

Gilmore M. S. (1999) Potential Mars 2001 sites coincident with magnetic anomalies, *2nd Mars 01 Landing Site Workshop*, Buffalo, NY, http://web99.arc.nasa.gov/~vgulick/MSLS99_Wkshp/Gilmore_Mag_Anoms_abs.pdf.

Gilmore M. S., Anderson R. C., Castaño R., Mann T., Manduchi R and Mjolsness E, (1999) Robotic Geologists at Mars, *EOS. Trans. AGU, 80*(46*)*, Fall Meet. Suppl., Abstract P11B-08.

Gilmore M. S., Castaño R., Roush T., Mjolsness E, Mann T., Saunders R. S., Ebel B. and Guinness E. (1999) Effects of distance and azimuth on spectroscopic measurements at Silver Lake, CA, *30th Lunar and Planetary Science Conf*., Abstract #1886.

Gilmore M. S. and ^Krause M. O. (1999) Correlation of martian mapped units and magnetic anomalies, *GSA Abstracts with Programs*, 31; 7, p. A-133.

Gilmore M. S. and ^Krause M. O. (1999) Timing of martian magnetic anomalies. *Bull. Amer. Astronom. Soc., 31*(4), Abstract # 43.05.

Golombek M., Bridges N., **Gilmore M**., Haldemann A., Parker T., Saunders R. Spencer D. and Weitz C. (1999) Preliminary constraints and approach for selecting the Mars Surveyor '01 site. *30th Lunar and Planetary Science Conference*, Abstract #1383.

Golombek M., Bridges N., **Gilmore M**., Haldemann A., Parker T., Saunders R. Spencer D. and Weitz C. (1999) Constraints and Approach for Selecting the Mars Surveyor '01 Landing Site, *Second Mars Surveyor Landing Site Workshop*, p. 37.

Golombek M. et al. (1999) Constraints, Approach, and Status of Mars Surveyor '01 Landing Site Selection, *The Fifth International Conference on Mars*, July 19-24, 1999, Pasadena, California, abstract no. 6068.

Golombek M. et al. (1999) Constraints, Approach and Present Status for Selecting the Mars Surveyor 2001 Landing Site, *Workshop on Mars 2001: Integrated Science in Preparation for Sample Return and Human Exploration*, *LPI Contribution #991*, p. 38-40.

Gulick V. C., Briggs G. Saunders R. S., **Gilmore M.** and Soderblom L. (1999), Mars Surveyor Project Landing Site Activities, *30th Lunar and Planetary Science Conference*, Abstract #2039.

Marinangeli L. and **Gilmore M. S.** (1999) Geologic evolution of the Akna Montes-Atropos Tessera region, Venus, *EOS. Trans. AGU, 80*(46*)*, Fall Meet. Suppl., Abstract P51B-04.

1998

^Cook D. L., ^Chambers N. W., Grosfils E. B., Reinen L. A., **Gilmore M. S**. and Kozak S. J. (1998) Volume, geometry, and depth of magma chambers associated with large volcanoes on Venus. *29th Lunar and Planetary Science Conference*, Abstract #1038.

^Fletcher L., ^Wright H., Grosfils E., Reinen L., **Gilmore M**. and Kozak S. (1998) A possible third festoon flow in Atalanta Planitia, Venus. *29th Lunar and Planetary Science Conference*, Abstract #1188.

^Foxx R., ^Bruegger C., Grosfils E. Reinen L., **Gilmore M**., Kozak S. and Cooper J. (1998) Morphology and possible volcanic origin of sub-kilometer domes in the Arrhenius region, Mars. *29th Lunar and Planetary Science Conference*, Abstract #1561.

Gilmore M. S., Saunders R. S., Castaño R., Mann T., Mjolsness E. and Roush T. (1998) Spectroscopic measurements at Silver Lake, CA, testbed for the FIDO rover, *EOS, Abstracts of the 1998 AGU Fall meeting*.

Gilmore M. S., Saunders R. S. and Head J. W. (1998) Relative displacement at plains-tessera boundaries on Venus. *EOS, Abstracts of the 1998 AGU Spring meeting*

Gilmore M. S., Collins G. C., Head J. W., Ivanov M. A. and Marinangeli L. (1998) Tessera Tectonics. *29th Lunar and Planetary Science Conf.*, Abstract #1943.

Grosfils E. B., Reinen L. A., **Gilmore M. S**. and Kozak S. J. (1998) Volcanism & tectonics on Earth, Venus and Mars; a planetological approach. In*: Eleventh Keck Research Symposium in Geology. 11;* p. 45-49. 1998.

Grosfils E. B., Reinen L. A., **Gilmore M. S**. and Kozak S. J. (1998) The 1997 Keck planets project: Volcanism and tectonism on Venus and Mars. *29th Lunar and Planetary Science Conference*, Abstract #1192.

^King R. L., ^Cruz J., Grosfils E. B., **Gilmore M. S**., Reinen L. and Kozak S. J. (1998) Structural deformation of northern Ovda Regio, Venus: Implications for venusian tectonics. *29th Lunar and Planetary Science Conference*, Abstract #1209.

^Kraal E. R., ^Wong M. P., Grosfils E. B., **Gilmore M. S**., Kozak S. J. and Reinen L. A. (1998) The origin and modification of a trough in the Nili Fossae, Mars. *29th Lunar and Planetary Science Conference*, Abstract #1130.

^Pike W. A., ^Frey H. M., ^Krull A. E., Grosfils E. B. **Gilmore M. S**., Reinen L. A. and Kozak S. J. (1998) Viscosity of venusian lava flows: Constraints from fractal dimension and chemical composition. *29th Lunar and Planetary Science Conference*, Abstract #1055.

^Ristau S., ^Sammons III, J., Grosfils E., Reinen L., **Gilmore M**. and Kozak S (1998) Distribution of intermediate volcanoes on Venus as a function of altitude. *29th Lunar and Planetary Science Conference*, Abstract #1100.

Saunders R. S., **Gilmore M. S**., Briggs G., Carr M., Crown D., Duke M., McKay C., McGill G., Paige D., Rogers P., Squyres S. and Zimbelman J. (1998) Mars Surveyor 2001 Landing Site Selection, *EOS, Abstracts of the 1998 AGU Spring Meeting*.

1996

Gilmore M. S., Mustard J. F., Pratt S., Hiroi T., Patterson W. and Head J. W. (1996) Spectral properties of basalts at venusian surface temperatures from 0.3 to 1.1 microns. *Geological Society of America Abstracts with Programs*.

Gilmore M. S. and Head J. W. (1996) Evidence for collisional tectonics at Tellus Regio tessera, Venus: *27th Lunar and Planetary Science Conference*, p. 415-416.

Gilmore M. S., Ivanov M. A., Head J. W. and Basilevsky A. T. (1996) Deformation of craters on tessera terrain, Venus: *27th Lunar and Planetary Science Conference*, p. 419-420.

Gilmore M. S., Head J. W., Cutts J. A., Nock K. T., Collins C., Crumpler L. S., deCharon A. V., Parry M. and Yingst R. A. (1996) Investigation of the Application of Aerobot Technology at Venus: *27th Lunar and Planetary Science Conference*, p. 417-418.

1995

Gilmore M. S., Ivanov M. A., Head J. W. and Basilevsky A. T. (1995) Deformation of Craters on Tessera Terrain, Venus: *EOS, 76, supplement: Abstracts of the 1995 Fall AGU Meeting*, p. F341.

Gilmore M. S. and Head J. W. (1995) Formation of Tessera on Venus: A Structural Analysis of Tellus Regio: *26th Lunar and Planetary Science Conference*, p. 461-462.

1994

Gilmore M. S. and Head J. W. (1994) Intratessera Volcanism of Alpha and Tellus Tesserae on Venus: *25th Lunar and Planetary Science Conference*, p. 425-426.

Head J., Magee K., Keddie S., **Gilmore M**. and Yingst A. (1994) Geology of the Lavinia Planitia Area, Venus: *25th Lunar and Planetary Science Conference*, p. 529-530.

1993

Gilmore M. S. and Head J. W. (1993) The Formation and Evolution of Alpha and Tellus Tesserae on Venus: *24th Lunar and Planetary Science Conference*, p. 533-534.

1992

Gilmore M. S. (1992) A Petrological and Geochemical Study of the Rye Spur Area, Cascade Range, Southern Oregon: *Abstracts for the Fifth Keck Research Symposium in Geology*, p. 140-144.

Gilmore M. S. (1992) A Petrological and Geochemical Study of the Rye Spur Area, Cascade Range, Southern Oregon: *GSA Abstracts with Programs 24; 3: Northeastern Section*, p. 23.

Gilmore M. S. and Head J. W. (1992) Sequential Deformation of Plains on Venus: Evidence from Alpha Regio: *GSA Abstracts with Programs 24; 7*, p. 195.