



PLANETARY GEOLOGY DIVISION NEWSLETTER

The Planetary Geology Division of the Geological Society of America

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digging into their research, whether in the field or at the computer. We've had a tremendous amount of data beaming back from all regions of the solar system in just the last few years. So much cool planetary science!

Please take note of the 25(!) planetary-related sessions proposed for the GSA Annual Meeting in Denver, September 25-28, 2016. These sessions represent the breadth of geologic topics, applied to asteroids, dwarf planets, terrestrial planets, and icy moons and shows just how active our community is at GSA. I encourage everyone to consider submitting an abstract to one of these great topic areas and presenting your research in Denver. I also want to encourage everyone attending GSA this year to swing by our exhibition booth, diligently staff by your PGD board, to offer outreach and education to the larger geology community, as well as raise funds for our student travel grants. We always enjoy talking shop with PGD members!



Message from the Chair

Danielle Y. Wyrick
Space Science and Engineering Division, Southwest Research Institute

Greetings fellow terrans! I hope this summer finds our planetary geology community

Congratulations to Dr. M. Darby Dyar, Professor, Mount Holyoke College, the 2016 PGD G.K. Gilbert Award recipient. Dr. Dyar was selected this year's G.K. Gilbert Awardee for her outstanding contributions in mineralogy and spectroscopy, especially in respect to planetary applications. We will honor Dr. Dyar at our annual PGD Banquet and hope to see everyone there! I also want to congratulate our 2016 Dwornik award winners, based on the judges' results from the 47th LPSC this past March. We had 135 applicants this year, and thus a very competitive round with many great presentations. A special thanks to all the Dwornik judges who volunteered their time to make this award possible.

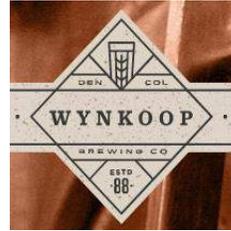
Please check out the rest of the newsletter for details on all the PGD activities going on between now and the Annual Meeting. Don't forget to check out our call for Applications and Nominations – student travel grant applications and the Eugene M. Shoemaker Award deadlines are right around the corner. I hope to see many of you this fall at GSA and learn more about the exciting research our PGD community has been involved in this year!

Upcoming 2016 Annual Meeting



The [2016 GSA Annual Meeting](#) will be held in Denver, Colorado from September 25-28. [Abstract submission](#) is now open and closes at **11:59pm PDT on July 12** (check out the great lineup of planetary geology topical sessions listed below). [Early registration deadline](#) is **August 22**. [Applications for Student Travel grants](#) are due **August 3** (see page 8 for more details).

The Planetary Geology Division Banquet



Join us in the Mercantile Room at the [Wynkoop Brewery](#) on **Tuesday, September 27th at 6pm** for our annual banquet. Tickets include dinner, appetizers, and dessert.

Student tickets are \$30 and Professional tickets are \$45. The number of student tickets is limited – once they are sold out only professional tickets will be available.

PGD Exhibition Hall Booth

Our division continues the tradition of hosting a booth in the Exhibition Hall where we sell planetary-related gear and have daily meteorite raffles. This year we plan to have merchandise including t-shirts, tote bags, water bottles and baseball caps with the PGD logo, as well as spacecraft earrings, meteorites and assorted toys.



Staffed by PGD officers throughout the conference poster sessions, the booth constitutes our chief fundraising effort for the year and is the primary means by which our division pays for student travel awards to the annual GSA meeting. Providing exemplary students the means to present their best work at a national conference is a powerful career

development tool, and we look forward to continuing to support their endeavors. **Please share with us any feedback you might have about the booth!**

PGD Sponsored Sessions at the 2016 Annual GSA Meeting:

T39. Go Small or Go Home: Microbeam Techniques Applied to Igneous, Metamorphic, and Sedimentary Petrology of Earth and Planetary Materials. Kate Souders, Paul J. Sylvester. *We highlight method development and novel application of in-situ microbeam techniques in Earth and planetary sciences. Presentations on chemical mapping and elemental/isotopic analyses are welcome. Submit an abstract to this session*

T76. Digital Poster Session: Training Preservice Teachers to Apply Digital Technology across the Geoscience Curriculum (Posters), Declan G. De Paor, Steven J. Whitmeyer, Callan Bentley. *To attract students into geoscience, we need to spark interest at school. This digital poster session will focus on ways of training pre-service teachers to make effective use of digital technology in geoscience education. Submit an abstract to this session*

T115. Advances in Cave and Karst: A Tribute to the Distinguished Career of E. Calvin Alexander Jr., Yongli Gao, J.M. Feinberg, Daniel H. Doctor. *This session honors Dr. Calvin Alexander and his contributions in many aspects of cave and karst studies, ranging from hydrogeology, geomorphology, geochemistry, microbiology, resource management, hazard assessment, and extraterrestrial karst. Submit an abstract to this session*

T159. Ceres' Surface Composition as an Indication of Interior Evolution, Jennifer E.C. Scully, Thomas B. McCord, Debra L. Buczkowski, David A. Williams. *The aim of this session is to weave together geochemical, mineralogical, geological and geophysical studies into a coherent evolutionary history of dwarf planet Ceres. Submit an abstract to this session*

T160. Friends of Hoth: Satellites of the Outer Solar System, D. Alex Patthoff, Emily S. Martin. *We seek abstracts relating to surface, structural, and tectonic processes; interior and thermal evolution; and planetary analogs as they pertain to solid bodies in the outer solar system. This includes experimental, observational, and theoretical approaches. Submit an abstract to this session*

T161. From Bouncing Grains to Cemented Sandstones: Aeolian Processes and Stratigraphy in the Solar System, Mathieu G.A. Lapôte, Christy Swann, R. Aileen Yingst. *Wind is an important agent of sediment transport on many planetary bodies. This session seeks contributions to our understanding of aeolian processes and how they inform our interpretation of sedimentary rocks in the Solar System. Submit an abstract to this session*

T162. From Stardust to Planets: A Geological Tour of the Career of Harry Y. McSween Jr. Tasha Dunn, Rhiannon Mayne. *This session will highlight the career of Hap McSween and his contributions to the field of planetary geology. Topics of interest include meteorites (chondrites, HEDs, and SNCs), small bodies (Vesta), and Martian surface petrology. Submit an abstract to this session*

T163. Frontiers in Geochronology: Ancient Systems and Planetary Environments, Dina M Bower. *Geochronology, the calibration of the timing of geologic processes or events, encompasses a wide range of analytical techniques. This session explores the most current advances in geochronology with applications to ancient Earth and exoplanetary systems. Submit an abstract to this session*

T164. Geology of the Pluto System, William B. McKinnon, Jeffrey M. Moore. *The New Horizons mission has revealed surprisingly complex geology on the surfaces of Pluto and Charon. This session highlights the geological diversity of both bodies, as well as evidence for vigorous, ongoing activity on Pluto. Submit an abstract to this session*

T165. Impact Cratering on Earth and throughout the Solar System, Christian Koeberl, Jeffrey Plescia. *This session focuses on the nature of impact craters and processes on Earth and other planets. We solicit contributions regarding shock processes, modeling, geology, and airbursts. Comparisons among different size and composition bodies are encouraged. Submit an abstract to this session*

T166. Large Igneous Provinces (LIPs) in the Solar System, Tracy K.P. Gregg, Richard E. Ernst. *Large Igneous Provinces (LIPs) are common on Earth and the terrestrial planets. This session explores the differences and similarities of LIPs throughout the Solar System. Submit an abstract to this session*

T167. Mineral Spectroscopy—Harnessing Energy to Probe Solid Bodies in the Solar System: The G.K. Gilbert Award Session, Debra L. Buczowski, Rachel L. Klima. *We encourage abstract submissions related to*

mineral spectroscopy, from fundamental laboratory work and modeling through applications using remotely sensed data from orbiters, telescopes, or landers. Submit an abstract to this session

T168. Past and Present Biosignature Recognition on Earth, Mars, and Beyond, Sally L. Potter-McIntyre, Tom M. McCollom, Charity Phillips-Lander. *Diagnosing and interpreting biosignatures is dependent on whether the biota is extant or preserved in the rock record. This forum will discuss advances in the search for life on Earth, Mars, and other planetary bodies. Submit an abstract to this session*

T169. Planetary Geologic Mapping: Exploring the Solar System, Debra L. Buczowski, David A. Williams. *We encourage abstract submissions related to the description of the geologic mapping (and subsequent analysis) of solid solar system bodies, including the terrestrial planets, moons, and asteroids. Submit an abstract to this session*

T170. Sedimentary Records in the Solar System, R. Aileen Yingst, Melissa S. Rice, Sanjeev Gupta. *This session explores analysis of sedimentary records to decipher surface processes and geological evolution to better understand how reading the sediment record can inform on particulate and fluid flow on planetary surfaces. Submit an abstract to this session*

T171. Small-Scale Records of Impact, Aaron J. Cavosie, *Microstructural and geochemical investigations of impact records at microscopic and smaller scales are providing unprecedented insights on impact histories. This session welcomes contributions describing new approaches to unraveling small-scale records of impact processes. Submit an abstract to this session*

T172. Tectonic, Volcanic, and Volcanotectonic Processes on Rocky Planetary Bodies, Paul K. Byrne, Christian Klimczak. *This session solicits abstracts on tectonic, volcanic, or volcanotectonic landforms or processes on Solar System rocky bodies, and encompasses surface geology, interior and thermal evolution, and comparative planetary studies with observational, experimental, or theoretical approaches. Submit an abstract to this session*

T173. The Evolution of Mars from Mantle through Crust: New Views from Petrology and Geochemistry, Arya Udry, Juliane Gross. *This session solicits abstracts addressing magmatic processes involving the evolution of the martian mantle and crust through petrological and geochemical analyses of martian meteorites, laboratory experiments, and spacecraft data. Submit an abstract to this session*

T174. The Geology of Dwarf Planet Ceres, Debra L. Buczowski, Jennifer E.C. Scully, Thomas B. McCord, David A. Williams. *We encourage abstract submissions related to geomorphic, geophysical, and topographic studies of Ceres, including analyses of Dawn data, telescopic observations, and/or numerical models. Submit an abstract to this session*

T190. Modern and Ancient Sediment Transport on Earth and Planetary Surfaces, Robert C. Mahon, Sheila Trampush, Thomas Ashley. *Sediment transport systems are intrinsically coupled to the evolution of earth and planetary surfaces. This session seeks presentations on sediment transport in both modern and ancient settings—from theoretical, experimental, and field investigations. Submit an abstract to this session*

T217. Earth History in the Broadest Context—Tectonics, Impacts, Mass Extinctions, and Big History: Celebrating the Contributions of Walter Alvarez, David H. Shimabukuro, Philippe Claeys. *This session honors the distinguished career of Walter Alvarez. We encourage a broad and interdisciplinary set of contributions from the fields of tectonics, impacts, stratigraphy, paleomagnetism, the history of geology, and Big History. Submit an abstract to this session*

Additional Planetary Geology Sessions

T40. Non-Traditional Stable Isotope Fractionation at Extreme Conditions: In Honor of Anat Shahar, 2016 MSA Awardee, Edward Young, Craig Manning. *This session is devoted to the continuing development of non-traditional stable isotope systems as tracers of planet formation, differentiation, and subsequent evolution. Studies of stable isotope fractionation applicable to mantle geochemistry, igneous processes, and planetary interiors are appropriate. Submit an abstract to this session*

T119. Pseudokarst: “Ain’t nothin’ like the real thing...” Patricia N. Kambesis, Jason Polk, Max Cooper. *Documentation and study of pseudokarst, a landscape resembling karst in morphology and sometimes function, lags behind that of traditional karst studies. This session provides a venue for research on all aspects of pseudokarst. Submit an abstract to this session*

T129. Mineralogical Evidence for the Co-Evolution of the Geosphere and Biosphere: In Honor of Robert M. Hazen, 2016 Roebling Medalist, Edward S. Grew, John M. Hughes, Nancy L. Ross, Daniel Hummer. *In honor of Robert M. Hazen, 2016*

Roebing Medalist of the Mineralogical Society of America, this session emphasizes Earth's rich mineralogical record through deep time as key to understanding the co-evolution of the geosphere and biosphere. Submit an abstract to this session

T158. Partitioning of Chlorine and Associated Halogens between Minerals, Melts, and Brines

David M. Jenkins, Eric L. Johnson, James D. Webster, Francis McCubbin. *This session encourages abstracts dealing with the interaction of chlorine and associated halogens between minerals, melts, and brines toward understanding the concentrations, cycling, and evolution of chlorine-bearing fluids and melts in terrestrial and planetary settings. Submit an abstract to this session*

2016 Award Recipients

2016 Pellas-Ryder Award

The Pellas-Ryder award is given to the Planetary Science Best Student Paper published during the preceding year. The award is jointly given by the Meteoritical Society and the Planetary Geology Division of the Geological Society of America and consists of a check for \$500 from the Meteoritical Society and a plaque awarded by the PGD.

The 2016 Pellas-Ryder award was presented to two students for their outstanding publications in major peer-reviewed journal on a topic of significant importance, and for the perseverance to see it published. Congratulations to **Romy Hanna**, University of Texas, Austin, for his paper “Impact-induced brittle deformation, porosity loss, and aqueous alteration in the Murchison CM

chondrite” published in *Geochimica et Cosmochimica Acta*



Impact-induced brittle deformation, porosity loss, and aqueous alteration in the Murchison CM chondrite

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Abstract

X-ray computed tomographic scanning of a 44 g Murchison stone (USNM 5487) reveals a preferred alignment of deformed, partially altered chondrules, which define a prominent foliation and weak lineation in 3D. The presence of a lineation and evidence for a component of rotational, noncoaxial shear suggest that the deformation was caused by impact. Olivine optical extinction indicates that the sample can be classified as shock stage S1, and electron backscatter diffraction (EBSD) and electron microscopy reveal that plastic deformation within the chondrules was minimal and that brittle deformation in the form of fracturing, cataclasis, and grain boundary sliding was the dominant microstructural strain-accommodating mechanism. Textural evidence such as serpentine veins parallel to the foliation fabric and crosscutting alteration veins strongly suggest that some aqueous alteration post-dated or was contemporaneous with the deformation and that multiple episodes of fracturing and mineralization occurred. Finally, using the deformed shape of the chondrules we estimate that the strain experienced by Murchison was 17–43%. This combined with the current measured porosity of Murchison suggests that the original bulk porosity of Murchison prior to its deformation was 32.7–53.4% and likely at the upper end of this range due to chondrule compressibility, providing a unique estimate of pre-deformation porosity for a carbonaceous chondrite. Our findings suggest that significant porosity loss, deformation, and compaction from impact can occur on chondrite parent bodies whose samples may record only a low level of shock, and that significant chondrite deformation resulting in a chondrite foliation fabric can occur primarily through brittle processes and does not require plastic deformation of grains. © 2015 Elsevier Ltd. All rights reserved.

and to **Tanya Harrison**, University of University of Western Ontario, for her paper “Global documentation of gullies with the Mars Reconnaissance Orbiter Context Camera and implications for their formation” published in *Icarus*.



Global documentation of gullies with the Mars Reconnaissance Orbiter Context Camera and implications for their formation

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ABSTRACT

Hypotheses ranging from fluvial processes and debris flows to CO₂ frost-habitated or entirely dry flows have been proposed for the formation of martian gullies. In order to constrain these potential formation mechanisms, we mapped the global distribution of gullies on Mars using >54,000 images from the Mars Reconnaissance Orbiter (MRO) Context Camera (CTX) covering ~85% of the martian surface at a resolution of ~6 m/pixel. The results of this mapping effort confirm the results of studies using lower resolution and/or less areally extensive datasets that gullies are confined to the martian mid- to high-latitudes (~30–80° in both hemispheres). We also find a clear transition in gully orientation with increasing latitude, from poleward-facing to equator-facing preference. In general, gullies are more developed on poleward-facing walls, and mid-latitude gullies are more developed than those at higher latitudes. Gullies are also found to be strongly correlated with regions of distinct thermophysical properties of sand-to-pulvis-sized grains, low albedo, and higher thermal inertia. These observations all point to climate, insolation, and thermal properties of the substrate playing key factors in gully formation on Mars, supporting either a melting ground ice or snowpack hypothesis as the source for water involved in gully formation. © 2015 Elsevier Inc. All rights reserved.

2016 Dwornik Awards

The judging panel at the 47th LPSC had its hands full with another crop of outstanding entries for the 2016 Dwornik Prize - we received 51 entries for the oral presentations (49 graduate, 2 undergraduate) and 84 entries

for poster presentations (56 graduate, 27 undergraduate). The PGD officers would like to thank all of our members who attended the

47th LPSC and assisted in judging for the 2016 Dworknik awards. It would simply not be possible to judge the student awards without the help of our volunteers.

The 2016 Dworknik winners are:

Best Graduate Oral Presentation: **Michelle S. Thompson**, University of Arizona, “Simulation of micrometeorite impacts through in situ dynamic heating of lunar soil.”

Honorable Mention Graduate Oral: **Mathieu G. A. Lapotre**, California Institute for Technology, “Orbital and in-situ observations in support of the existence of an unknown stable aeolian bedform regime on Mars.”

Best Graduate Poster: **Cameron M. Mercer**, Arizona State University, “Exploring non-uniform $^{40}\text{Ar}^*$ loss in Apollo 16 impact melt breccias using a laser microprobe.”

Honorable Mention Graduate Poster: **Lauren M. Jozwiak**, Brown University, “Pyroclastic eruptions on Mercury: Insights into eruption mechanisms from vent morphology.”

Best Undergraduate Oral Presentation: **Danielle G. Neighbour**, University of

Arkansas, “Cryogenic viscous liquids on icy moons.”

Best Undergraduate Poster: **Julianne Sweeney**, State University of New York at Geneseo, “Crater degradation and surface erosion rates at the InSight landing site, Western Elysium Planitia, Mars.”

Honorable Mention Undergraduate Poster: **Michael J. O’Shea**, State University of New York at Geneseo, “Using the morphology of impact craters as a relative age indicator for fluvial activity at Xanthe Terra, Mars.”

Background: The Dworknik Award was established in 1991 with a generous endowment by Dr. Stephen E. Dworknik, who wished to encourage students who are U.S. citizens to become involved with NASA and planetary science. Applicants for this award must be a U.S. citizen that is currently enrolled as a student at a U.S. or international institution, or a non-U.S. citizen currently enrolled as a student at a U.S. institution. The award consists of a plaque and a \$500 check (graduate) / \$250 check (undergraduate), and is given for those student presentations (poster and oral) at the annual *Lunar and Planetary Science Conference* (LPSC) hosted by the Lunar and Planetary Institute and NASA Johnson Space Center in Houston, Texas that are judged to be of the highest caliber. The deadline for entry is typically the day after LPSC abstracts are due but check the website for further information: <http://geosociety.org/pgd/dworknik.html>.

ANNOUNCING THE 2016 G.K. GILBERT AWARD WINNER

*Dr. M. Darby Dyer, The Kennedy-Schelkunoff Professor and Chair of
Astronomy, Mount Holyoke College*



Previous Gilbert Award Recipients: E. Shoemaker (1983); G. Wetherill (1984); W. Alvarez (1985); R. Baldwin (1986); D. Gault (1987); D. Wilhelms (1988); H. Schmitt (1989); H. Masursky (1990); J. Guest (1991); J. Wood (1992); M. Carr (1993); S. R. Taylor (1994); B. Lucchitta (1995); R. Sharp (1996); R. Greeley (1997); J. Adams (1998); S. Solomon (1999); L. Soderblom (2000); H. J. Melosh (2001); J. Head (2002); R. Phillips (2003); W. Hartmann (2004); L. Wilson (2005); M. Gaffey (2006); M. Zuber (2007); P. Christensen (2008); R. Strom (2009); C. Pieters (2010); S. Squyres (2011); P. Schultz (2012); A. Howard (2013); B. McKinnon (2014); M. Golombek (2015).

Congratulations to **Dr. Darby Dyer** for receiving the GSA Planetary Geology Division's most prestigious honor, the G.K. Gilbert Award. Dr. Dyer received several nominations for this award and the general sentiment is embodied in the following excerpt from one nomination letter:

“Dr. Dyer’s continuous and productive pursuit of high quality science, her infectious enthusiasm for exploring geological mysteries with mineralogical applications, her broad understanding of the fundamental physical nature of minerals, and her generosity in sharing her knowledge with others and sparking integrative approaches makes her an exceptional candidate for such a prestigious award. Darby is also a dedicated and caring mentor and unselfish supportive role model for countless young scientists.”

Darby received her B.A. in Geology and Art History from Wellesley College and her Ph.D. in Geochemistry from the Massachusetts Institute of Technology.

Call for Applications & Nominations

Student Travel Grants: As in recent years, the PGD is offering two travel grants to help defray costs for PGD student members who are traveling to the GSA Annual Meeting to present first-authored papers. Applicants for student travel awards must:

1. Be first author and presenter of a paper that has been submitted to (and accepted for presentation at) the GSA Annual Meeting.
2. Be a Student Member of both GSA and the Planetary Geology Division.
3. Be registered for the meeting before applying for a travel grant.
4. Submit a completed Travel Grant Application, current CV, and a short justification (~300-500 words) for why travel funding is needed.

Checks will be presented at the meeting, following the student's talk or poster. The Application Form and more information is available at:

<http://geosociety.org/pgd/travel-grants.html>

Completed application materials should be *submitted as a single PDF file*, due **August 3, 2016**, to PGD 2nd Vice-Chair Bradley Thomson (bjt@bu.edu). Travel awards will be announced around August 15.

Eugene M. Shoemaker Award: Dr. Carolyn Shoemaker established the Eugene M. Shoemaker Memorial Fund for Crater Studies in memory of her husband in 1998. She established this endowment so that students will have an opportunity to pursue studies of impact craters, which were the focus of her husband's graduate studies and a large part of his professional career. Friends, scientific colleagues, and companies have contributed to the fund (and continue to do so) to ensure its success.

The Shoemaker Impact Cratering Award is for undergraduate or graduate students, of any nationality, working in any country, in the disciplines of geology, geophysics, geochemistry, astronomy, or biology. The award, which will include \$2500, is to be applied for the study of impact craters, either on Earth or on the other solid bodies in the solar system. Areas of study may include but shall not necessarily be limited to impact cratering processes; the bodies (asteroidal or cometary) that make the impacts; or the geological, chemical, or biological results of impact cratering.

*Applications are due **August 26, 2016**, and must include a CV, research proposal, timeline and budget, and two letters of recommendation.* For more details and to access the online application forms, go to:

[http://www.lpi.usra.edu/science/kring/Awards/Shoemaker Award/](http://www.lpi.usra.edu/science/kring/Awards/ShoemakerAward/). Questions regarding this award should be directed to David Kring, (kring@lpi.usra.edu). The Planetary Geology Division officers strongly encourage all of our Division members to actively recruit promising students to apply for this prestigious award.

G.K. Gilbert Award: The G. K. Gilbert Award will be considered annually in accordance with the bylaws of the Society. The award will be made for outstanding contributions to the solution of a fundamental problem(s) of planetary geology in its broadest sense, including planetary geology, geochemistry, mineralogy, petrology, and tectonics, geophysics, and the field of meteoritics. Such contributions may consist either of a single outstanding publication, or a series of publications that have had great influence on the field. The award is named for G. K. Gilbert, who over one hundred years ago clearly recognized the importance of a planetary perspective in solving terrestrial geological problems.

The award consists of an engraved plaque and an appropriate certificate, which is recommended by the management board of the Division, and approved by the GSA Council. A person selected by and familiar with the Recipient's work presents a citation reviewing the contributions of the Recipient.

The current nomination deadline for the G. K. Gilbert Award is **December 1, 2016**. Nominations should be sent directly to the award committee chair, Danielle Wyrick (danielle.wyrick@swri.org). Electronic submissions are preferred. Nominations should include a cover letter detailing the accomplishments of the nominee, supporting letters from colleagues, and a current CV. See <http://geosociety.org/pgd/gilbert.html> for more information.

Pellas-Ryder Award: This award, offered jointly with the Meteoritical Society, is an opportunity for student first authors publishing their work in English to receive recognition for outstanding scientific achievement. The deadline for nominations is **January 31** (annually). See this link for more details: <http://geosociety.org/pgd/pellas-ryder.html>. To nominate papers published for next year, contact the Danielle Wyrick (danielle.wyrick@swri.org).

Ronald Greeley Award for Distinguished Service: All members are encouraged to submit nominations for the Ronald Greeley Award for Distinguished Service. This award was established in 2011 as the PGD Distinguished Service Award, and in 2012 the PGD membership voted to change the name to commemorate Ronald Greeley and his contributions to the Planetary Geology Division. This award may be given to those members of the PGD, or those outside of the

Division and GSA, who have rendered exceptional service to the PGD over a multi-year period. The award is not open to currently serving Division officers, but may be awarded to past officers who have provided exceptional service to the PGD after their term on the Management Board has ended.

*Nominations for the award, which should include a description of what the nominee has given to the PGD community, may be made by any PGD member prior to **June 30th** (annually). Approval of the award will be by majority vote of the Management Board. The award consists of a certificate signed by the Chair, and will be presented at the Division's Business Meeting/Awards Reception at the Annual Meeting.*

Dwornik Award: This award is open to U.S. citizens that are currently enrolled as students at a U.S. or international institution, or non-U.S. citizens currently enrolled as a student at a U.S. institution. The application form to apply for a Dwornik Award is due round the time of LPSC abstract submission. More information can be found here: <http://geosociety.org/pgd/awards.html>.

Due to the advent of the undergraduate awards, the Dwornik fund is no longer self-sustaining. We hope the fund will continue to grow and provide new opportunities, and thus encourage your donations. You can donate at: <http://www.gsafweb.org/makeadonation.html>

In addition, anyone interested in serving as a judge for the Dwornik competition at next year's LPSC please note that there is now a place on your LPSC abstract submission form where you can indicate your willingness. Thanks in advance.

We Need Your Help!

This would be a great time to make a contribution to the Dwornik, Shoemaker, G. K. Gilbert or student travel grant funds! Unlike many other charitable donations, your donation to these funds will produce positive results you can see for yourself as you encourage and support planetary scientists, both current and future. Donations can either be made online (<https://www.gsafweb.org/donate/>) or by mail. If by mail, please include a check or money order, made payable to *Planetary Geology Division, GSA*.

YES I have enclosed a check as a donation to:

<i>The Dwornik Fund</i>	amount \$(_____)
<i>The Shoemaker Fund</i>	amount \$(_____)
<i>The G. K. Gilbert Fund</i>	amount \$(_____)
<i>PGD Student Travel Grants</i>	amount \$(_____)

WHEN MAKING A DONATION, PLEASE INCLUDE THIS DONATION FORM AND PAYMENT CHECK IN AN ENVELOPE AND MAIL THEM TO:

The Geological Society of America
P.O. Box 9140
Boulder, CO 80301-9140.

Need more information about PGD? Check out our website:
<http://geosociety.org/pgd/index.html>

2015-2016 Division Officers



(Chair) Wyrick, Danielle Y. Research Interests: structural geology, tectonic/ volcanic interaction, fluid and gas migration through fractured reservoirs, analog field investigations of Mars. Affiliation: Southwest Research Institute, San Antonio, TX 78247; danielle.wyrick@swri.org



(Past Chair) Buczkowski, Debra L. Research Interests: structural geology, tectonics and geologic mapping of terrestrial planets and asteroids (Mars, Venus, Mercury, Eros, Vesta and Ceres); spectral analysis of Mars. Affiliation: Johns Hopkins University Applied Physics Laboratory, Laurel, MD 20723; debra.buczkowski@jhuapl.edu



(First Vice-Chair) Wray, James J. Research Interests: chemical/ mineralogical composition, morphology, and stratigraphy of solid surface planetary bodies, focusing on Mars and icy satellites of Jupiter and Saturn. Affiliation: School of Earth and Atmospheric Sciences, Georgia Institute of Technology, Atlanta, GA 30332; jwray@gatech.edu



(Senior Student Advisory Member) Susorney, Hannah C. M. Research Interests: Impact cratering, surface roughness. Affiliation: Earth and Planetary Science, Johns Hopkins University, Baltimore, MD, 21218; hsusorn1@jhu.edu



(Second Vice-Chair) Thomson, Bradley J. Research Interests: Mars surface geology, lunar radar, physical properties measurements, regolith evolution, geologic mapping, Venus shield fields. Affiliation: Center for Remote Sensing, Boston University, Boston, MA 02215; bjt@bu.edu



(Junior Student Advisory Member) Lapotre, Mathieu G. A. Research Interests: planetary surface processes, fluid mechanics, sediment transport, and spectroscopy. Affiliation: California Institute of Technology, Division of Geological and Planetary Sciences, Pasadena, CA 91125; mlapotre@caltech.edu



(Secretary-Treasurer) Wilson Purdy, Sharon A. Research Interests: Mars geology, geomorphology, landscape evolution, climate history and geologic mapping. Affiliation: Center for Earth and Planetary Studies, Smithsonian National Air and Space Museum, Washington, DC 20013; purdys@si.edu