

Prof. Ali M. Bramson

Purdue University
Dept. of Earth, Atmospheric, and Planetary Sciences (EAPS)
550 Stadium Mall Dr. West Lafayette, IN 47907

BramsonA@purdue.edu
+1 (765) 494-0279
www.eaps.purdue.edu/bramson

EDUCATION

University of Arizona, Tucson, AZ 2012–2018
Ph.D. Planetary Sciences, minor in Geosciences (Aug. 2018)
M.S. Planetary Sciences (Dec. 2015)

University of Wisconsin-Madison, Madison, WI 2007–2011
B.S. Physics and Astronomy-Physics, certificate (minor) in Computer Science (Dec. 2011)
Graduated with distinction (honor's thesis); named on UW's Dean's List 6 semesters

PROFESSIONAL POSITIONS HELD

Assistant Professor Aug. 2020–present
Department of Earth, Atmospheric and Planetary Sciences (EAPS), Purdue University

Postdoctoral Research Associate Sept. 2018–Aug. 2020
Lunar & Planetary Laboratory (LPL), University of Arizona
Advisor: Prof. Lynn Carter

Graduate Research Associate Aug. 2012–Aug. 2018
Lunar & Planetary Laboratory, University of Arizona
Advisor: Prof. Shane Byrne
Dissertation Title: “Radar Analysis and Theoretical Modeling of the Presence and Preservation of Ice on Mars”

Undergraduate Research Assistant Dec. 2008–May 2012
Astronomy Department, University of Wisconsin-Madison
Advisor: Prof. Eric M. Wilcots
Senior Thesis Title: “Using networking algorithms to assess the environments of galaxy groups”

REU Student June 2010–Aug. 2010
SETI Institute
Advisor: Dr. Cynthia Phillips
Searching for ongoing geologic activity on Jupiter's satellites

REU Student May 2009–Aug. 2009
Arecibo Observatory/Cornell University
Advisors: Dr. Michael Nolan and Dr. Ellen Howell
Modeling of 25143 Itokawa to improve radar-based shape estimation methods

Undergraduate Research Assistant June 2007–May 2009
Nanoscale Science and Engineering Center (NSEC), University of Wisconsin-Madison

Advisors: Dr. Kevin M. Metz and Prof. Joel A. Pedersen

Environmental transformations of metal nanoparticles and solution-based growth of nanoparticles

HONORS, AWARDS, and FELLOWSHIPS (Total value: \$409,183)

Faculty:

- EAPS Teaching Honor Roll (Fall 2020)

Postdoctoral:

- Named a 2019 “Forward Under 40” awardee by the Wisconsin Alumni Association

Graduate (\$352,583):

- Gerard P. Kuiper Memorial Award (2018) - \$1,000
- Student Travel Grant from NASA’s MEPAG (Mars Exploration Program Analysis Group) to attend the Mars Workshop on Amazonian and Present-Day Climate (2018) - \$1,200
- University of Arizona (UA) Graduate and Professional Student Council Travel Grant (2018) - \$741
- LPI (Lunar and Planetary Institute) Career Development Award (2017) - \$1,000
- Wisconsin Alumni Association Presidents’ Circle of Excellence (2017)
- NASA Earth and Space Science Fellowship (NESSF) (awarded 2016) - \$30,000/year for up to 3 years
- LPL Shirley D. Curson Travel Award in Planetary Science (2015) - \$1,500
- UA Graduate and Professional Student Council Travel Grant (2015) - \$739
- Student Travel Grant from NASA’s MEPAG to attend the 8th Intl. Conference on Mars (2014) - \$1,000
- Roy P. Drachman Galileo Scholarship for the College of Science Outstanding Graduate Student Teaching Award (2014) - \$1,000
- Lunar and Planetary Laboratory Teaching Award (2014)
- UA Galileo Circle Scholarship (2014 & 2017) - \$2,000
- Outstanding Student Paper Award at the American Geophysical Union (AGU) Fall Meeting (2013)
- National Science Foundation (NSF) Graduate Research Fellowship (2013–2016) - \$194,859
- Lieut. Colonel Kenneth Rondo Carson and Virginia Bryan Carson Graduate Fellowship (2012–2013)
- Arizona Space Grant Consortium Assistantship (2012–2013); combined with Carson - \$57,544

Undergraduate (\$56,600):

- UW-Madison Astronomy Dept. Lowell Doherty Award for Excellence in Astronomy recognizing a graduating senior's exceptional performance in astronomical research and in the classroom (2012) - \$500
- Phi Beta Kappa Honor Society (joined 2011)
- NSF Undergraduate Research and Mentoring (URM) Fellow at UW-Madison (2008–2011) - \$36,000
- Wisconsin Space Grant Consortium Undergraduate Research Grant (2011) - \$3,500
- David H. Durra Scholarship for undergraduates pursuing degrees in the physical sciences (2011) - \$2,000
- Wisconsin Space Grant Consortium Undergraduate Scholarship (2010–2011) - \$1,500
- SETI Institute’s 2010 Research Experiences for Undergraduates (REU) in Astrobiology - \$5,600
- Bernice Durand Undergraduate Scholarship for undergraduate women or minorities majoring in Physics or Astronomy (2009) - \$1,900
- Arecibo Observatory’s 2009 Research Experiences for Undergraduates (REU) - \$4,500
- William F. Vilas Scholarship to freshman who demonstrate strong academic performance (2007) - \$400
- Verona Area Community Theater Fine Arts Scholarship (2007) - \$700

RESEARCH GRANTS FUNDED (Total value of PI budgets + Co-I subcontracts exceeds \$747k)*As the PI:*

- The Mass Balance of Polar Ice on Mars from the Migration of Spiral Troughs, funded by NASA's Mars Data Analysis Program

As a Co-I:

- Microstructural evolution of solar system ices through sintering, PI: Jamie Molaro, funded by NASA's Solar System Workings Program
- Mars Orbiter for Resources, Ices, and Environments (MORIE), PI: Wendy M. Calvin, funded by NASA's Planetary Mission Concepts Studies (PMCS) Program
- Global Extension to Subsurface Water Ice Mapping (SWIM), PIs: Nathaniel E. Putzig and Gareth A. Morgan, funded by JPL to support NASA's Mars Exploration Program
- Subsurface Water Ice Mapping (SWIM) in the Northern Hemisphere of Mars, PIs: Nathaniel E. Putzig and Gareth A. Morgan, funded by JPL to support NASA's Mars Exploration Program

As Science Team Member:

- NASA Lunar Reconnaissance Orbiter Extended Mission 4, Mini-RF instrument science team, PI: Wes Patterson

SKILLS AND ASSOCIATED ACTIVITIES*Spacecraft:*

- Science team participant for NASA's Mars Reconnaissance Orbiter's (MRO) Shallow Radar (SHARAD) and High Resolution Imaging Science Experiment (HiRISE) instruments
- Funded science team member for NASA's Lunar Reconnaissance Orbiter's Miniature Radio Frequency (Mini-RF) radar instrument
- Invited member of the Caltech W. M. Keck Institute for Space Studies (KISS) "Next-Generation Planetary Geodesy" workshop
- Co-I on a lunar lander mission concept submitted to NASA's "Payloads and Research Investigations on the Surface of the Moon" (PRISM)
- Co-I on the MORIE (Mars Orbiter for Resources, Ices, and Environments) planetary mission concept study provided by NASA as input to the 2023 Planetary Science Decadal Survey
- Co-I on COMPASS (Climate Orbiter for Mars Polar Atmospheric and Subsurface Science), a mission concept proposed to the 2019 NASA Discovery Program AO (not selected)
- Selected participant of NASA's "PI Launchpad: Getting Your Mission Idea Off The Ground"
- Selected participant of the 2016 Planetary Science Summer School at NASA's Jet Propulsion Laboratory
 - Role: Project/Proposal Manager
 - Mission Concept: New Frontiers-class Uranus orbiter mission
- Produced 11 HiRISE Digital Terrain Models archived on the Planetary Data System (PDS)
- Attended science team meetings for the HiRISE, CaSSIS, SHARAD, MARSIS, Dawn, and Mini-RF missions/instruments
- Attended and presented at Project Science Group meetings for the Mars Reconnaissance Orbiter
- Attended the Navigation and Ancillary Information Facility (NAIF)'s SPICE training workshop
- Has conducted analysis of data from the Context Camera (CTX), HiRISE, and SHARAD instruments onboard MRO; the Mini-RF radar instrument onboard LRO; the Solid State Imager (SSI) onboard Galileo; the Long-Range Reconnaissance Imager (LORRI) onboard New Horizons; and shape models of asteroid 25143 Itokawa from Arecibo Observatory and JAXA's Hayabusa spacecraft

Remote Sensing:

- Esri's geospatial ArcGIS software
- SeisWare seismic software
- USGS's image processing software Integrated Software for Imagers and Spectrometers (ISIS)
- Socet Set digital mapping software
- HiRISE Digital Terrain Model (DTM) creation
- SHAPE asteroid shape modeling software

Computer:

- Languages: Java, Matlab, Maple, MIPS R2000 Assembly Language, BASIC, Visual Basic, C, C++, and IDL

Field Work:

- Ice coring and Ground Penetrating Radar (GPR) at 200, 350, and 900 MHz of the Langjökull glacier, Iceland with Dr. Lynn Carter and colleagues
- Differential GPS of lava flow margins, surface roughness and stereophotogrammetric ground control points at:
 - Craters of the Moon, Idaho with NASA's 2016 FINESSE (Field Investigations to Enable Solar System Science and Exploration) field campaign
 - Iceland's Holuhraun 2014–2015 lava flow and the Laki lava flow with Dr. Christopher Hamilton's 2015 field workshop on active lava-water interactions
- Participated in 12 semesters of Planetary Geology Field Studies to study the local geology and planetary analogs in: Tucson; Flagstaff; the Mojave Desert; Northern New Mexico and the K/T Boundary; Hawaii; Southern New Mexico; Southeastern Utah and Canyonlands; the Salton Sea; the Chiricahua Mountains and San Bernardino Valley; Southwestern Utah, and Bryce and Zion Canyons; Page, AZ; Death Valley; Canyon de Chelly
- Participated in field trips to explore Mars analogs at the HiRISE team meetings to Utah, Idaho, Iceland, and Flagstaff

Lab:

- Scanning electron microscopy
- Dynamic light scattering
- UV-Visible spectroscopy
- Aqueous synthesis of metal nanoparticles

Group Management and Interpersonal Training:

- URGE (Unlearning Racism in Geoscience) participant in the Midwest Equity in Geosciences Alliance (MEGA) pod and a faculty advisor for the Purdue EAPS grad student/postdoc pod
- Intergroup Dialogue Facilitation – Office of Inclusion and Multicultural Engagement, U. of Arizona
- Safe Zone Training – Purdue University; U. of Arizona; UW-Madison
- Workshops by the Gay, Lesbian, and Straight Education Network (GLSEN) of South-Central Wisconsin

PROFESSIONAL ACTIVITIES and DEPARTMENTAL INVOLVEMENT

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| • Served on NASA Review Panels | ongoing |
| • Reviewer for <i>Nature</i> , <i>Nature Astronomy</i> , <i>Geophysical Research Letters</i> , <i>Icarus</i> , <i>Advances in Space Research</i> , <i>Radio Science</i> , <i>Journal of Geophysical Research: Planets</i> , and <i>Geoscience and Remote Sensing Letters</i> | ongoing |
| • Diversity, Equity, and Inclusion Committee, Purdue EAPS | 2021–present |
| • Graduate Committee, Dept. EAPS, Purdue EAPS | 2020–2021 |
| • Honors Committee, Dept. EAPS, Purdue EAPS | 2020–2021 |
| • Member of the Federal Relations Subcommittee for the Division of Planetary Sciences of the American Astronomical Society | 2019–present |

- Member of the Science Organizing Committee for the Seventh International Conference on Mars Polar Science and Exploration 2019
- Reviewer for the Ice and Climate Evolution Science Analysis group (ICE-SAG) report conducted by NASA's Mars Exploration Program Analysis Group (MEPAG) 2019
- Reviewer for the GSA Planetary Geology Division's Dwornik Award 2019, 2021
- Session Chair for a variety of conferences, including: LPSC, Mars Polar Science and Exploration, Amazonian Climate, etc. 2016–present
- Wisconsin Alumni Association Tucson Chapter: President 2014–2018
- UA Graduate and Professional Student Council: Travel Grant Reviewer 2015
- UA Lunar and Planetary Laboratory Graduate Student Leadership Activities
 - Representative to the faculty 2016–2018
 - Prospective graduate student visit coordinator 2014, 2015
 - Grad student website webmaster 2014–2017
 - Lunar and Planetary Laboratory Conference (LPLC) session chair 2014, 2016, 2017
 - LPL Bratfest coordinator 2012–2017
- Society of Physics Students, UW-Madison chapter
 - President 2010–2011
 - Vice President 2009–2010
 - Events Coordinator 2008–2009
 - Member 2007–2012
- The Ogg Association at UW-Madison: Educational Programs Coordinator 2007–2008

OUTREACH

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- Indiana Family Star Party* July 2021
 - Invited speaker for Indiana's largest annual gathering of amateur astronomers and families
 - The Diaries of Space Explorers* Feb. 2021
 - Interviewed for this podcast series aimed at bridging the gap between people from the space sector and the general public
 - Purdue EAPS Mars Rover Perseverance Landing Watch Party* Feb. 2021
 - Livestream panelist
 - Mableton Elementary Virtual STEAM Career Day* Nov. 2020
 - Presented about planetary science and academic careers for 150 elementary school students
 - Superheroes of Science* Sept. 2020
 - Interviewed for this youtube/podcast series for middle and high school students/teachers
 - Boston Museum of Science* July 2020
 - Book club Q&A about a career in space science with 80 students, aged 10–13 years old
 - Bringing the Universe to America's Classrooms, K–12 instructional resources by PBS/NASA* 2018, 2019
 - Content advisor, <https://www.pbslearningmedia.org/universe/>
 - Steward Public Evening Lecture Series* March 2019
 - Gave public talk for 115 people in Tucson, Arizona
 - Boise State's First Friday Public Astronomy Event* March 2019
 - Gave public talk for over 150 people in Boise, Idaho
 - "From Madison to Mars", public talk at the Verona Area Community Theater* Oct. 2018
 - Gave public talk for 90 people in my hometown of Verona, Wisconsin
 - Wisconsin Science Festival* Nov. 2017
 - Panelist for the "Mars Invades Madison" event about life on Mars
 - Summer Science Saturday at LPL* July 2017

- Discussed craters and NASA's HiRISE camera with the public
Core Knowledge Charter School Dec. 2016
- Spoke with 44 third-graders about life as a planetary scientist
Deep Astronomy, Live Nov. 2016
- Panelist for the "Footsteps to Mars" live web broadcast about water on Mars
Glacier Edge Elementary School Oct. 2016
- Spoke with 174 fourth and fifth-graders about life as a planetary scientist
Tucson Festival of Books March 2013, 2015, 2016
- Ran activities on comparative planetology, meteorite hunting, exoplanet discovery and characterization, and science art for the public
The Art of Planetary Science Dec. 2013, Oct. 2015, Feb. 2017
- Volunteered with and submitted "data art" to this exhibition to bring together scientists and artists in Tucson
Space Drafts Public Talk Series, Borderlands Brewery Feb. 2015
- Gave public lecture on "Crazy Craters!!! Windows into Martian Ice"
Astronomy Ambassador for the American Astronomical Society Nov. 2014
- <http://aas.org/outreach/aas-astronomy-ambassadors-program>
Arizona Science and Astronomy Expo Nov. 2012
- Explained an impact cratering demo for the public
Sugar Creek Elementary School Nov. 2011
- Read books about the Moon and the Mars rovers and explained various astronomical phenomena to three second-grade classes.
EAGLE Middle School Science Mentor Program (Fitchburg, WI) Spring 2011
- Mentored an 8th grade student
Universe in the Park Summer 2010, 2011
- Gave 30-minute astronomy presentations at WI state parks, preceded by telescope viewings
"SETI Gurls" Summer 2010
- Co-created this video about the SETI REU program that has over 11,000 views on YouTube, and was featured on NPR's Science Friday, the Huffington Post and Astronomy Magazine.
SETIcon Aug. 2010
- Ran planetarium shows and helped with a Build-Your-Own Galileoscope workshop
Wonders of Physics Feb. 2008 & 2009
- Volunteered at this program for the public and supervised/explained topics in the physics museum

TEACHING AND CURRICULUM DEVELOPMENT

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- EAPS 35300: Earth Surface Processes (Purdue)* Fall 2020, 2021
 - Co-instructor with Darryl Granger (undergraduate majors course with lab)
 - EAPS 60200: New Grad Student Seminar (Purdue)* Fall 2020, 2021
 - Co-instructor with Brandon Johnson and Xiaotao Yang (graduate student seminar course)
 - Entering Research, 2nd Edition (Publisher: Macmillan; Editors: J. Branchaw, A. Butz, and A. Smith)*
 - Author of active learning materials contributed to this curriculum to support undergraduate and graduate research trainees,
 - <https://store.macmillanlearning.com/us/product/Entering-Research/p/1319263682>
 - Center for the Improvement of Mentored Experiences in Research (CIMER)*
 - Master Consultant: Trained to help individuals and institutions develop their own implementation plan of theoretically-grounded, evidence-based, and culturally-responsive research mentee curricula
 - LASC/SCI 397 B & C: Entering Research I & II (University of Arizona)* 2013–2018

- Instructor of Record; founded this 2-semester workshop for undergraduate researchers at the UA
 - Coordinated and mentored other graduate student facilitators on learner-centered teaching practices and experiential learning involved with teaching this course
- Geology 460:224: Geology of Moons and Planets* (Rutgers University) Spring 2018
- Guest Lecturer (undergraduate non-majors survey course)
- Astro 340: Planetary Astrophysics* (UW-Madison) Fall 2011 and Fall 2017
- Guest lecturer (undergraduate astronomy majors course)
 - Helped develop new final class project
- PTYS 554: Evolution of Planetary Surfaces* (University of Arizona) Fall 2015
- Guest Lecturer (graduate level course)
- Biology 260 & 261: Entering Research I & II* (UW-Madison) Fall 2010–Spring 2011
- Co-facilitated this class for undergraduates beginning independent research projects
- Astro 104: Our Exploration of the Solar System* (UW-Madison) Fall 2010
- Guest lecturer and reviewer of students' final projects on designing a solar system mission (undergraduate general education course)
- Physics Learning Center* (UW-Madison) 2009–2010
- Peer Mentor Tutor (PMT): led 2+ small group sessions per week for introductory physics classes
 - Participated in weekly training seminars on teaching strategies

STUDENT AND POSTDOC MENTORSHIP

PhD Students Supervised

- Kris Laferriere (Purdue EAPS) 2020–present
- Riley McGlasson (Purdue EAPS) 2020–present

Postdocs Supervised

- Kristel Izquierdo (Purdue EAPS) 2021–present

Undergraduate Students Supervised

- Sara Cuevas Quiñones (Purdue Physics & EAPS) Fall 2021–present
- Ashwin Nomi (Purdue AAE) Fall 2021–present
- Nachiket Watane, Helen Herring, Briar Qualizza, Emma Rogers (Purdue AAE & EAPS) Spring 2021
Group project to design and motivate a mission to return a sample of Martian ice
- Phylindia Gant (Purdue EAPS) Fall 2020
- Holden Gehringer (Purdue EAPS) Summer 2020–present
- Claire W. Cook (U. Arizona) 2017–2019
Advisor for Senior Honors Thesis “*Radar Constraints on the Thickness of Subsurface Ice Near Hellas Planitia, Mars*” and NASA Arizona Space Grant Consortium Internship

Graduate Committees

- Stephanie Menten (Purdue EAPS) 2021–present
- Hannah Gibson (Purdue EAPS) 2019–present

External Examination Committees

- Shannon Hibbard (Western University, Ontario, Canada) 2021

PRESS

- Live guest on morning shows for WMBD/WYZZ News Peoria and WSLM Radio Louisville

- Interviewed by news writer for WBAA public radio about ice on Mars
- Featured in Purdue News about the results of the Subsurface Water Ice Mapping (SWIM) Project
- Interviewed by Futurism about the Mars Krispy Kreme donut in honor of the Perseverance rover landing
- Interviewed by National Geographic, Science News, and others about the possibility of liquid water under the south pole of Mars
- Interviewed for Episode 64 of the WeMartians Podcast, a radio show about the exploration of Mars
- Interviewed for UA News series commemorating LPL's role in the Apollo missions, including articles "*Exploring a Desert Portal to Other Worlds*" and "*Mapping the Moon and Worlds Beyond*"
- Meet 2019 "Forward Under 40" recipient Ali Bramson '11 for the Wisconsin Alumni Association
- Interviewed by NPR's member station BSPR for a segment about finding ice on Mars on the "*Idaho Matters*" podcast
- 2019 GRL paper, *Water on Mars, with a grain of salt: local heat anomalies are required for basal melting of ice at the south pole today*, syndicated by:
 - Space.com, Newsweek, Arizona Daily Star, EurekAlert, Science News, and others
- Profiled in *The Washburn Observer* for "What can you do with a UW degree in astronomy?"
- Featured in *The Verona Press* for the public lecture I gave in my hometown after my PhD defense
- 2018 Nature Astronomy paper, *Cryovolcanic rates on Ceres revealed by topography*, syndicated by:
 - National Geographic, Science News, Gizmodo, Astronomy Magazine, Phys.org, and others
- *Eos Research Spotlight* on 2018 JGR paper on Hrad Vallis lava-ice interactions
- 2018 Science paper, *Exposed subsurface ice sheets in the Martian mid-latitudes*, syndicated by:
 - Time, National Geographic, Washington Post, Gizmodo, Wired, Astronomy.com, and others
- Interviewed for Science's press article about the exposed subsurface ice sheets on Mars paper
- NASA Press Release about the exposed subsurface ice sheets on Mars paper
- 2017 GRL paper on *The Vanishing Cryovolcanoes of Ceres* syndicated by:
 - Space.com, Astronomy.com, UA News, and others
- Arizona Sonora News interview for the article, "*The Space Race of the past launched astronomy's future in Tucson*"
- Profiled for a "Women in Science" article in the Daily Wildcat, the UA's student newspaper
- 2015 GRL paper, *Widespread Excess Ice in Arcadia Planitia*, syndicated by:
 - CBS News, Space.com, UA News, and others
- NASA's JPL Martian Diaries Blog Post about Subsurface Ice and Terraced Craters
- Planetary Society Blog Post about Terraced Craters
- UW Alumni Magazine's Class of 2011 Feature
- Profiled in *The Washburn Observer* (UW-Madison Astronomy Department Newsletter)
- "SETI Gurls" mentioned on NPR's Science Friday and in the Huffington Post

INVITED TALKS

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| • Short Course on Geophysical Observations of Ice and Climate on Mars
Keck Institute for Space Studies, kiss.caltech.edu/short_courses/geodesy.html | June 2021 |
| • Ice+Climate Seminar Series
Dartmouth College, Hanover, NH | Apr. 2021 |
| • Planetary Sciences Seminar Series
California Institute of Technology, Pasadena, CA | Jan. 2021 |
| • Planetary Science Decadal Survey Panel on Mars
The National Academy of Science, Space Studies Board | Nov. 2020 |
| • Physical Geography Research Seminar Series | Oct. 2020 |

- University of Sheffield, Sheffield, United Kingdom
- LPI Virtual Seminar July 2020
Lunar and Planetary Institute, Houston, TX
 - Department Colloquium, Department of Physics Apr. 2020
University of Arizona, Tucson, AZ
 - Invited Talk for the Seventh International Conference on Mars Polar Science and Exploration Jan. 2020
Ushuaia, Tierra del Fuego, Argentina
 - Department Colloquium, Civil Space Group Oct. 2019
Johns Hopkins University Applied Physics Laboratory, Laurel, MD
 - Geology Seminar Series, Department of Geological Sciences Mar. 2019
University of Idaho, Moscow, ID
 - EAS Seminar, Department of Earth and Atmospheric Sciences Mar. 2019
Georgia Institute of Technology, Atlanta, GA
 - Departmental Seminar, Department of Physics Mar. 2019
Boise State University Boise, ID
 - Department Colloquium, Department of Geology and Geophysics Feb. 2019
University of Utah, Salt Lake City, UT
 - EAPS Colloquium, Department of Earth, Atmospheric, and Planetary Sciences Feb. 2019
Purdue University, West Lafayette, IN
 - Department Seminar, Department of Earth and Planetary Sciences Jan. 2019
Rutgers University, New Brunswick, NJ
 - Department Colloquium, Department of Earth, Environmental, and Planetary Sciences Jan. 2019
Brown University, Providence, RI
 - Solicited Presentation for the 42nd Assembly of the Committee on Space Research July 2018
Pasadena, CA
 - Lunch Seminar, Center for Space and Habitability Sept. 2017
University of Bern, Bern, Switzerland
 - Planetary Lunch Colloquium, Earth, Atmospheric and Planetary Sciences Department Mar. 2017
Massachusetts Institute of Technology, Cambridge, MA
 - Lunch Seminar, Department of Astronomy Oct. 2015
University of Wisconsin-Madison, Madison, WI
 - Colloquium, Planetary Science Directorate Sept. 2015
Southwest Research Institute, Boulder, CO

PEER-REVIEWED PUBLICATIONS

Underlined = trainee, Bramson is primary advisor (G = grad student; U = undergrad student; P = postdoc)

* = shared first-authorship

- [24] Menten, S.M., M.M. Sori, **A.M. Bramson** (submitted), Endogenically sourced volatiles on Charon and other Kuiper Belt Objects.
- [23] Heldmann, J., M. Marinova, D. Lim, D. Wilson, P. Carrato, K. Kennedy, A. Esbeck, T. Colaprete, R. Elphic, J. Captain, K. Zacny, L. Stolov, B. Mellerowicz, J. Palmowski, **A. M. Bramson**, N. Putzig, G. Morgan, H. Sizemore, J. Cohan (in revision), Mission architecture using the SpaceX Starship vehicle to enable sustained human presence on Mars with in situ resource utilization of water ice.

- [22] Becerra, P., I. B. Smith, S. Hibbard, C. Andres, J. Bapst, **A. M. Bramson**, P. Buhler, A. Coronato, S. Diniega, J. Emmett, A. Grau Galofre, C. Herny, M. Kahre, J. P. Knightly, S. Nerozzi, A. Pascuzzo, G. Portyankina, J. Rabassa, L. K. Tamppari, T. Titus, J. Whitten, Z. Yoldi (Accepted), [Past, Present and Future of Mars Polar Science: Outcomes and outlook from the 7th International Conference on Mars Polar Science and Exploration](#). *The Planetary Science Journal*.
- [21] Cartwright, R. J., C. B. Beddingfield, T. A. Nordheim, C. M. Elder, J. C. Castillo-Rogez, M. Neveu, **A. M. Bramson**, M. M. Sori, B. J. Buratti, R. T. Pappalardo, J. E. Roser, I. J. Cohen, E. J. Leonard, A. I. Ermakov, M. R. Showalter, W. M. Grundy, E. P. Turtle, and M. D. Hofstadter (2021), [The science case for spacecraft exploration of the Uranian satellites: Candidate ocean worlds in an ice giant system](#). *The Planetary Science Journal*, 2, 120, doi:10.3847/PSJ/abfe12.
- [20] Calvin, W. M., N. E. Putzig, C. M. Dundas, **A. M. Bramson**, B. H. N. Horgan, K. D. Seelos, H. G. Sizemore, B. L. Ehlmann, G. A. Morgan, J. W. Holt, S. L. Murchie, G. W. Patterson (2021), [The Mars Orbiter for Resources, Ices, and Environments \(MORIE\) Science Goals and Instrument Trades in Radar, Imaging, and Spectroscopy](#). *The Planetary Science Journal*, 2, 76, doi:10.3847/PSJ/abe4db.
- [19] Schaefer, E. I., C. W. Hamilton, C. D. Neish, M. M. Sori, **A. M. Bramson**, S. P. Beard (2021), [Reexamining the potential to classify lava flows from the fractality of their margins](#). *Journal of Geophysical Research: Solid Earth*, 126, e2020JB020949, doi:10.1029/2020JB020949.
- [18] Rodriguez, J. A. P., K. L. Tanaka, **A. M. Bramson**, G. J. Leonard, V. R. Baker, M. Zarroca (2021), [North polar trough formation due to in-situ erosion as a source of young ice in mid-latitude mantles on Mars](#). *Scientific Reports*, 11, 6750, doi:10.1038/s41598-021-83329-3.
- [17] Diniega, S., **A. M. Bramson**, B. Buratti, P. Buhler, D. Burr, M. Chojnacki, S. Conway, C. M. Dundas, C. J. Hansen, A. S. McEwen, M. G. Lapôtre, J. Levy, L. Mc Keown, S. Piqueux, G. Portyankina, C. Swann, T. N. Titus, J. M. Widmer (2021), [Modern Mars' geomorphological activity, driven by wind, frost, and gravity](#). *Geomorphology*, 380, 107627, doi:10.1016/j.geomorph.2021.107627.
- [16] Dundas, C. M., M. T. Mellon, S. J. Conway, I. J. Daubar, K. E. Williams, L. Ojha, J. J. Wray, **A. M. Bramson**, S. Byrne, A. S. McEwen, L. Posiolova, G. Speth, D. Viola, M. E. Landis, G. A. Morgan, A. V. Pathare (2021), [Widespread Exposures of Extensive Clean Shallow Ice in the Mid-Latitudes of Mars](#). *Journal of Geophysical Research: Planets*, 126, e2020JE006617, doi:10.1029/2020JE006617.
- [15] Morgan, G. A., N. E. Putzig, M. R. Perry, H. G. Sizemore, **A. M. Bramson**, E. I. Petersen, Z. M. Bain, D. M. H. Baker, M. Mastrogiuseppe, R. H. Hoover, I. B. Smith, A. Pathare, C. M. Dundas, B. A. Campbell (2021), [Availability of subsurface water-ice resources in the northern mid-latitudes of Mars](#). *Nature Astronomy*, 5, 230–236, doi:10.1038/s41550-020-01290-z.
- [14] Martellato, E., **A. M. Bramson**, G. Cremonese, A. Lucchetti, F. Marzari, M. Massironi, C. Re, S. Byrne (2020), [Martian Ice Revealed by Modeling of Simple Terraced Crater Formation](#). *Journal of Geophysical Research: Planets*, 125, 10, e2019JE006108, doi:10.1029/2019JE006108.
- [13] ^U**Cook, C. W.**, **A. M. Bramson**, S. Byrne, J. W. Holt, M. S. Christoffersen, D. Viola, C. M. Dundas, T. A. Goudge (2020), [Sparse subsurface radar reflectors in Hellas Planitia, Mars](#). *Icarus*, 348, 113847, doi:10.1016/j.icarus.2020.113847.
- [12] **Bramson, A. M.**, S. Byrne, J. Bapst, I. B. Smith, T. McClintock (2019) [A Migration Model for the](#)

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