aero.alex@gmail.com

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### HIGHLIGHTS

Accomplished planetary scientist and research leader with expertise in geophysics, planetary exploration, data analytics, and computational modeling. Over \$10M+ in competitive research funding secured from NASA, NSF, and corporate sponsors. Extensive experience leading cross-functional teams of 40+ researchers in space science, AI applications, and predictive modeling. Passionate about tackling interdisciplinary challenges that require innovative thinking, data-driven insights, and cross-sector collaboration to drive meaningful advancements in research, technology, and policy.

### EDUCATION

2013	Ph.D. in Geophysics and Planetary Science, <b>Massachusetts Institute of Technology</b>
	Dissertation. Geophysical evolution of planetary interiors and surfaces, moon & mars
0040	C.M. in Cashielawy Massashusatta Institute of Tashuslawy

- 2013 S.M. in Geobiology, **Massachusetts Institute of Technology** Thesis: "Characteristics of cone-forming cyanobacteria and implications for the origin of conical stromatolites"
- 2006 B.S.E. in Aerospace Engineering, **University of Michigan Ann Arbor**

Principal Research Advisors: Maria Zuber, Sean Solomon, Jeffrey Andrews-Hanna

### **ADMINISTRATIVE & EXECUTIVE POSITIONS**

Executive Committee	07/2023 – Present
NASA SSERVI Lunar Structure, Composition, and Processes for Exploration Director & Principal Investigator	12/2022 – Present
Brown University Geophysics of Stellar System Targets Computational Lab. Director	10/2017 – Present
Massachusetts Institute of Technology – Graduate Student Council President	04/2011 - 04/2012
National Association of Graduate-Professional Students, Inc. (NAGPS) President & CEO	12/2009 - 01/2011
National Association of Graduate-Professional Students, Inc. (NAGPS) Director & Ombudsman	01/2009 — 12/2009
ACADEMIC POSITIONS	
ACADEMIC POSITIONS Brown University – School of Science Thomas J. and Alice M. Tisch Assistant Professor of Earth, Environmental, and Planetary Sciences Center for the Fundamental Physics of the Universe (CFPU)	06/2023 – Present
ACADEMIC POSITIONS Brown University – School of Science Thomas J. and Alice M. Tisch Assistant Professor of Earth, Environmental, and Planetary Sciences Center for the Fundamental Physics of the Universe (CFPU) Brown University – School of Science Assistant Professor of Earth, Environmental and Planetary Sciences	06/2023 – Present 07/2018 – 05/2023
ACADEMIC POSITIONS Brown University – School of Science Thomas J. and Alice M. Tisch Assistant Professor of Earth, Environmental, and Planetary Sciences Center for the Fundamental Physics of the Universe (CFPU) Brown University – School of Science Assistant Professor of Earth, Environmental and Planetary Sciences University of Arizona – Lunar and Planetary Laboratory Postdoctoral Research Associate; Advisor	06/2023 – Present 07/2018 – 05/2023 07/2017 – 08/2018

Colorado School of Mines – Department of Geophysics Postdoctoral Researcher; Advisor	10/2015 - 01/2016
Columbia University – Lamont-Doherty Earth Observatory Postdoctoral Research Scientist	10/2013 - 10/2015
Massachusetts Institute of Technology Research Assistant	07/2007 - 10/2013

## ADMINISTRATIVE & EXECUTIVE EXPERIENCE

- Strategic Research and Development Leadership & Organizational Growth. Led multi-million-dollar R&D initiatives at Brown University, securing over \$10M in competitive research funding to advance planetary science and human exploration, Al-driven analytics, and innovation strategy. Managed crossfunctional teams of 40+ researchers, engineers, and industry experts, ensuring seamless execution of high-impact R&D projects.
- Research Administration & Higher Education Leadership. Oversaw interdisciplinary research collaborations between universities, national labs, and corporate partners, fostering innovation and technology development. Designed and implemented strategic roadmaps for research growth, curriculum innovation, and workforce development in STEM education.
- Budget & Resource Management. 10+ years managing multi-million-dollar research budgets, overseeing grant funding, operational expenses, and technology investments to maximize impact and sustainability. Developed efficient financial oversight structures, ensuring responsible allocation of funds for research, education, and operational growth. Served as budget manager for 15+ local events, regional and national conferences, small- and large- non-profit organizations, and federal funds. Oversaw annual budget reports and expenditures. Successfully established new positions for multiple staff roles. Direct oversight of student funding, awards, and grant funds.
- Congressional & Legislative Advocacy. Significant experience lobbying federal and local agencies and policymakers on research funding, STEM education, and public access to scientific data. Designed and led national advocacy initiatives, influencing science and education policies at state and federal levels. Capitalized on this experience to successfully advocate within universities on behalf of faculty and students.
- Event Management & Planning. Planned and led over 15 national and international conferences, workshops, and networking events for researchers, students, and industry professionals. Spearheaded the development of STEM education programs, research symposia, and interdisciplinary conferences that connected scientists across disciplines. Successfully managed logistics, funding, and programming for major events, including government-funded workshops and symposia. Organized and facilitated collaborative discussions between academia, industry, and government agencies, ensuring meaningful engagement and long-term partnerships.
- Fundraising & Grant Acquisition. Secured and managed over \$10M in external funding from NASA, NSF, and corporate sponsors. Led large-scale grant writing, philanthropic outreach, and donor engagement strategies, successfully increasing research and institutional funding capacity. Experienced in all aspects of fundraising, from individuals to corporations, including marketing, solicitation, grant writing, identifying prospective donors, and donor management and engagement. Proven record of establishing and increasing donor support in budget manager and supervisory roles. As President & CEO, established NAGPS corporate partnership program that resulted in increase in donations (\$50K+).

- Leadership Development & Talent Acquisition. Served as hiring manager for 10+ professionals, overseeing recruitment, onboarding, and mentorship of faculty, researchers, and technical staff. Led initiatives to attract top talent, enhance workforce diversity, and build high-performing interdisciplinary teams. Developed mentorship and professional development programs to support career growth and retention.
- **Professional Development.** Fostered a collaborative and innovation-driven research environment by organizing interdisciplinary research meetings and leadership development workshops. Increased access to professional development funding for faculty, researchers, and graduate students. Led initiatives to enhance mentorship, grant writing support, and career development programs, ensuring long-term success in academia and industry.
- Public Relations & Community Engagement. Developed strong connections with local and national science communities, fostering a public understanding of planetary science and space exploration. Led public engagement programs, science communication initiatives, and outreach partnerships that increased visibility for planetary science research. Worked with national organizations, NASA, and research institutions to develop educational programs, media appearances, and public talks aimed at increasing public interest in space exploration. Organized and led public STEM events, K-12 outreach programs, broadening access to planetary science for diverse audiences.
- STEM Education & Curriculum Development. Designed and implemented new STEM-focused curricula integrating computational modeling, machine learning applications, and planetary science research into higher education programs. Led efforts to modernize course offerings, expanding interdisciplinary coursework and increasing student engagement in STEM fields. Collaborated on curriculum reform initiatives that streamlined academic pathways, improving student retention and reducing time-to-degree. Developed and launched distance learning and hybrid education programs, integrating online coursework and research-based experiential learning. Oversaw the creation of new interdisciplinary courses, broadening access to cutting-edge scientific and technical education.
- **Student Mentoring.** For over 20+ years, have formally and informally mentored students at all levels, from undergraduate researchers to Ph.D. candidates. Provided career and research guidance, helping students successfully secure competitive fellowships, graduate school placements, and industry positions. Designed and implemented structured orientation and onboarding programs for research students, ensuring effective integration into interdisciplinary teams. Advised students on scientific writing, grant applications, and research presentations, leading to multiple student-led publications and conference presentations at major science meetings. Developed research opportunities that helped students transition into industry, academia, and government research careers.
- Student Recruitment, Retention & Diversity. Committed advocate for STEM education access and diversity, spanning roles in higher education, nonprofit leadership, and research administration. Led student recruitment and outreach initiatives, including developing STEM engagement programs, targeted recruitment efforts, and funding opportunities to increase participation in planetary science and technology fields. Spearheaded initiatives that broadened participation from underrepresented groups, increasing retention and long-term success. Worked to develop policies that improve student retention, academic support, and mentoring structures. Created an inclusive research and learning environment, fostering a culture of community, equity, and interdisciplinary collaboration.
- Facilities Management & Resources. Oversaw the development, management, and optimization of research laboratories, computational facilities, and scientific instrumentation to support interdisciplinary research in science and data analytics. Collaborated in strategic planning for lab expansions and

technology upgrades, ensuring cutting-edge capabilities for computational modeling and experimental research. Oversaw equipment procurement, resource allocation, and operational logistics to maximize research efficiency and cost-effectiveness. Developed facility safety protocols, compliance measures, and sustainability initiatives to ensure long-term viability of research infrastructure

### **MISSION INVOLVEMENT**

# Mercury, Surface, Space Environment, Geochemistry, and Ranging (MESSENGER) – Team Affiliate, 2013–2016

- Conducted computational fluid dynamics modeling and analyses to investigate Mercury's interior structure, geophysical evolution, and electromagnetic field.
- Utilized spectral data imagery and associated techniques to reproduce surface composition and impact history.

#### Gravity Recovery and Interior Laboratory (GRAIL) - Team Affiliate, 2007-2016

- Developed novel methods within spherical harmonic analysis, pattern recognition, and machine learning to refine understanding of the Moon's gravitational field structure and history.
- Applied computational models for crustal thickness variation and interior mass distribution using gravity data.

#### Lunar Reconnaissance Orbiter (LRO) Lunar Orbiter Laser Altimeter (LOLA) – Team Affiliate, 2007–2016

- Processed and analyzed high-resolution altimetry data to map lunar surface and identify surface features.
- Utilized geospatial analytics and ArcGIS to assess crater characteristics and long-term surface evolution.

### **RESEARCH EXPERTISE**

#### Numerical Modeling & Simulations:

- Predictive modeling, parallel processing, finite element modeling, spherical harmonic analysis
- Computational fluid dynamics (CFD), Monte Carlo simulations, planetary impact and crater evolution modeling

#### Geospatial & Remote Sensing Data Analysis

- Gravity, topography, imaging, spectral, and compositional analysis
- Al-driven geospatial analytics, automated feature detection, remote sensing classification, GIS-based planetary mapping

#### Machine Learning & AI Applications

- Data-driven modeling for planetary surface and subsurface evolution
- Deep learning for feature recognition in planetary imaging and spectral datasets
- Automated planetary terrain classification using convolutional neural networks (CNNs)

#### Laboratory Techniques & Fieldwork

- Biological and geochemical sample collection from planetary analog environments
- Extraction and analysis of RNA, DNA, proteins, and chlorophyll using spectroscopic and chromatographic techniques
- Data processing for automated classification of biological data

### TEACHING

- EEPS 1440: Gravitational Fields and Data Analyses (Brown University, Spring 2025)
- EEPS 0050: Mars, Moon, and the Earth (Brown University, Fall 2024)

- EEPS 1390: Planetary Surface Processes (Brown University, Spring 2023)
- EEPS 2910H: Geophysical Phenomena Across the Solar System (Brown University, Spring 2022)
- EEPS 1745: Team Project Course in Planetary Science (Brown University, Spring 2021)
- EEPS 1810: Physics of Planetary Evolution (Brown University, Fall 2020)
- EEPS 2400: Life Beyond Earth (Brown University, Spring 2020)
- GEOL 1950H: Gravitational Fields and Data Analyses (Brown University, Fall 2019)
- GEOL 2910H: Geophysics of the Inner Solar System (Brown University, Fall 2018)
- Origin and History of the Moon: Core to Crust. The Paradigm for Lunar Formation and Evolution (Rutgers 2017, Guest Lecturer)
- How to Build a Solar System: Physics, Chemistry and Biology of Formation (MS Governor's School 2015, Course Instructor)
- Geodynamics (MIT/WHOI Spring 2010, 2012, 2013, Guest Lecturer)
- Essentials of Geobiology (MIT Fall 2012, Teaching Assistant)
- Physics and Chemistry of the Terrestrial Planets (MIT Fall 2009, Teaching Assistant)
- Building Earth-like Planets (MIT Fall 2008, Guest Lecturer)
- Asteroids and Small Bodies (MIT Fall 2007, Guest Lecturer)

### SELECTED FUNDING

NASA Solar System Exploration and Research Virtual Institute (SSERVI) LunaSCOPE [Lunar Structure, Composition, and Processes for Evolution] (\$7.5M)	2023–2028
P.I. Alexander J. Evans	
Brown University SEED Program	2022–2023
The Habitability of Exoplanets (\$90K)	
P.I. Alexander J. Evans	
NASA Solar System Workings Program	2020–2024
Origins of the Lunar Asymmetry (\$440K)	
P.I. Alexander J. Evans	
NASA Lunar Data Analysis Program	2020–2024
Quantitative Assessment of the Distribution of Lunar KREEP Material (\$380K)	
P.I. Alexander J. Evans	

### **MENTORING**

Asterisks and plus sign indicate students and postdoctoral associates for which I served as a primary research advisor and co-advisor, respectively.

<ul> <li>*Mike Woodilla (Undergrad, Brown)</li> <li>*Michelle Feng (Undergrad, Brown)</li> <li>*Lyriq Turner (Undergrad, Brown)</li> <li>*Hairuo Fu (Postdoc, Brown)</li> <li>*Andrea Bryant (Postdoc, Brown)</li> </ul>	Impact cratering Impact cratering Public Engagement Lunar geophysics	2025 – Present 2025 – Present 2025 – Present 2024 – Present 2024 – Present
<ul> <li>Hairuo Fu (Postdoc, Brown)</li> <li>*Andrea Bryant (Postdoc, Brown)</li> </ul>	Lunar geophysics	2024 – Present 2024 – Present
• <sup>+</sup> Charlie Detelich (PhD, Cornell)	Icy world geophysics	2023 – Present
<ul> <li>*Steven Ramirez (PhD, Brown)</li> <li>*Carol Hundal (PhD, Brown)</li> </ul>	Planetary geophysics	2023 – Present 2021 – Present
<ul> <li>*Janie Levin (PhD, Brown)</li> </ul>	Planetary geophysics	2021 – Present
*Erik Duchnowski (Undergrad, Brown)     *Erik Duchnowski (Destdee, Brown)	Lunar data analysis	2024 - 2025
• Dean Khan (Posidoc, Brown)		2022 – 2024

Public policy and government	2022 2024
	2022 - 2024
Lunar Data Analysis	2022 – 2023
Planetary geophysics	2018 – 2024
Planetary geophysics/accretion	2019 – 2023
Venus and Exoplanets	2019 – 2021
Impact cratering	2019 – 2021
Exoplanets and habitability	2020
Impact cratering	2019 – 2020
Planetary geophysics/cryosphere	2018 – 2020
Lunar geophysics	2019
Solar System chronology	2019
Geobiology	2013 – 2014
Geobiology and microbiology	2012
Geobiology and microbiology	2009 - 2010
	Public policy and government Lunar Data Analysis Planetary geophysics Planetary geophysics/accretion Venus and Exoplanets Impact cratering Exoplanets and habitability Impact cratering Planetary geophysics/cryosphere Lunar geophysics Solar System chronology Geobiology Geobiology and microbiology

### HONORS AND AWARDS

- Brown University Thomas J. and Alice M. Tisch Assistant Professor of Earth, Environmental, and Planetary Sciences Appointment, 2023–Present
- Columbia University, Provost's Postdoctoral Research Scholar, 2013–2015
- National Association of Graduate-Professional Students, Lifetime Achievement Award, 2011
- Massachusetts Institute of Technology Presidential Fellow Award, 2007–2008
- University of Michigan Outstanding Student Leader, Honorable Mention, 2006
- University of Michigan Dean's List and University Honors, 2003–2006
- University of Michigan ScholarPOWER Banquet, Honoree, 2002–2006
- University of Michigan Aerospace Engineering Landes Class Prize in Technical Communications, 2004

### UNIVERSITY ACTIVITIES AND SERVICE

- Brown University, Exploratory Advisor, 2023–Present
- Brown University DEEPS, Computing Committee, Member, 2022–2024
- Brown University DEEPS, Planetary Science Reading Group, Organizer, 2021–2022
- Brown University DEEPS, Curriculum Committee, Member, 2021–2022
- Brown University DEEPS, Faculty Search Committees, *Member*, 2020–2022
- Brown University DEEPS, Department Colloquium Series Committee, Member, 2020–2022
- Brown University DEEPS, Lincoln Field Renovation Planning Committee, Member, 2019–2021
- Brown University DEEPS, Department Colloquium Series, Chair, 2020
- Brown University DEEPS, Research Experience for Undergraduates Program, Faculty Advisor, 2019– 2020
- Brown University, Womxn in STEM Symposium, Judge, 2019
- Brown University DEEPS, Space Committee, Member, 2019
- Brown University DEEPS, Department Colloquium Series, Co-Chair, Spring 2019
- University of Arizona LPL, Committee for Red Team Proposal Reviews, Member, 2017–2018
- University of Arizona LPL, Postdoctoral Representative to Faculty, 2017–2018
- MIT Student Advisory Committee on Presidential Search, Member, 2012
- MIT Joint Student Task Force on Presidential Search, Co-Chair, 2012
- MIT Corporation Joint Advisory Committee, *Member*, 2011–2012
- MIT Institute Faculty Meetings, 2011–2012
- MIT Graduate Student Council, President, 2011–2012
- MIT Office of the Dean for Graduate Education Advisory Board, Member, 2011–2012
- MIT Graduate Student Council Student Space Task Force, Co-Chair, 2010–2012

- MIT Walker Memorial Assessment Task Force, Co-Chair, 2010–2012
- MIT Committee on Graduate Programs, Member, 2009–2011
- MIT Graduate Student Council, Chair of Legislative Action, 2008–2011
- MIT EAPS Graduate Student Advisory Council, President, 2008–2009
- MIT Committee on Student Life, Member, 2008–2009
- MIT Graduate Student Council, Chair of Community Engagement Task Force, 2008–2009
- Sigma Gamma Tau (Aerospace Honor Society), Member, 2005–Present
- The Epeians (Leadership Honor Society), Member, 2004–Present
- Students for Exploration and Development of Space (UMSEDS), Co-Founder, 2005–2006
- University of Michigan Engineering Council (UMEC), President, 2005–2006
- University of Michigan Engineering Council (UMEC), Director of University Relations, 2003–2005

### **PROFESSIONAL ACTIVITIES AND SERVICE**

- NASEM Key Non-Polar Destinations Across the Moon to Address Decadal-level Science Objectives with Human Explorers, *Lunar and Planetary Science Panel* Chair, 2025 Present
- European Lunar Symposium, Science Organizing Committee, 2025 Present
- NASA Exploration Science Forum, Science Organizing Committee, 2024 Present
- Advancing IDEA in Planetary Science II, Conference Organizing Committee, 2024
- NASA SSERVI Executive Council, Member, 2023-Present
- Endurance Science Workshop, Session Co-Chair, 2023
- Advancing IDEA in Planetary Science, Panel Member and Session Co-Chair, 2022
- National Society of Black Physicists, Earth and Planetary Sciences Co-Chair, 2020–Present
- KISS Next-Generation Planetary Geodesy Workshop, 2021–2022
- Journal Peer Reviewer (JGR, GRL, Nature, Science), 2018–Present
- International Music by Women Festival, Executive Committee, 2016–Present
- NASEM Planetary Science and Astrobiology Decadal Survey, Mercury and the Moon Panel, 2020–2022
- NASA, Proposal Reviewer, 2014–Present
- Lunar Exploration Analysis Group (LEAG), Working Group Documentarian, 2019
- Deutsche Forschungsgemeinschaft (German Research Foundation), Proposal Reviewer, 2015/2019
- American Association for the Advancement of Science (AAAS), Member, 2012–Present
- American Geophysical Union (AGU), Member, 2012–Present
- AGU Publications, Reviewer, 2014–Present
- Lunar and Planetary Science Conference, Session Co-Chair, 2017.
- American Geophysical Union (AGU) Session 7177: Judging a Book by its Cover: From surface observations to planetary interiors, *Primary Convener*, 2015
- Boston Graduate Leadership Organization, 2010–2013
- Geological Society of America (GSA), Member, 2010–2012
- Ivy+ Graduate Summit, *Host and Organizer*, 2011–2012
- US-Russia Kremlin Fellows Program, Fellow, 2011
- Public Talk for Boston Debate League Public School Outreach, 2011
- MIT Open House Outreach on Planetary Science, 2011
- National Association of Graduate-Professional Students (NAGPS), Imm. Past President, 2010–2011
- National Association of Graduate-Professional Students (NAGPS), National Conference Director, 2010
- National Association of Graduate-Professional Students (NAGPS), President and CEO, 2009–2010
- National Association of Graduate-Professional Students (NAGPS), Ombudsman, 2009
- National Association of Graduate-Professional Students (NAGPS), Regional Conference Comm., 2009
- NASA Jet Propulsion Laboratory Public School Outreach, 2006
- National Association of Engineering Student Councils (NAESC), National Vice President, 2005–2006
- National Association of Engineering Student Councils (NAESC), Regional Vice President, 2003–2005

#### PUBLICATIONS

Underline indicates students and postdoctoral associates advised by me.

- <u>M. J. Jones</u>, <u>F. Nichols-Fleming</u>, **A. J. Evans**, B. C. Johnson, and J. C. Andrews-Hanna (2025), Can the Moon's Center of Mass-Center of Figure Offset be Explained with a Uniform Primordial Crust?, *JGR Planets*, 130, e2024JE008783.
- 2. <u>J. Levin</u>, **A. J Evans**, J. C. Andrews-Hanna, and I. Daubar (2025), Lunar crustal KREEP distribution, *JGR Planets*, 130, e2024JE008418.
- <u>F. Nichols-Fleming</u>, A. J. Evans, B. C. Johnson, and M. M. Sori (2024), Moment of Inertia and Tectonic Record of Asteroid 16 Psyche May Reveal Interior Structure and Core Solidification Processes, *JGR Planets*.
- 4. W. Liang, A. Broquet, J. C. Andrews-Hanna, N. Zhang, M. Ding, and **A. J. Evans** (2024), Vestiges of a lunar ilmenite layer revealed by GRAIL gravity data, *Nature Geoscience, doi:* 10.1038/s41561-024-01408-2.
- 5. Liang, W., Andrews-Hanna, J. C., & A. J. Evans (2023). The missing craters and basin rings beneath the lunar maria. *Journal of Geophysical Research: Planets*, 128, e2023JE007876.
- 6. Andrews-Hanna, J. C., R. C. Weber, **A. J. Evans**, I. Garrick-Bethell, R. E. Grimm, Y. Ishihara, S. Kamata, J. T. Keane, W. S. Kiefer, M. Laneuville, I. Matsuyama, P. McGovern, G. Neumann, M. Siegler, and P. Warren (2023), The structure and evolution of the lunar interior, *New Views of the Moon 2.*
- 7. <u>M. B. Weller</u>, **A. J. Evans**, D. E. Ibarra, and A. V. Johnson (2023), Venus's atmospheric nitrogen explained by ancient plate tectonics. *Nat Astron* 7, 1436–1444 (2023). 10.1038/s41550-023-02102-w
- 8. <u>Jones, M. J.</u>, **A. J. Evans**, B. C. Johnson, <u>M. B. Weller</u>, J. C. Andrews-Hanna, S. M. Tikoo, and J. T. Keane (2022), Origin of the Lunar Procellarum KREEP Terrane, *Science Advances*, 8, eabm8475.
- Bjonnes, E. M., B. C. Johnson, E. A. Silber, K. N. Singer and A. J. Evans (2022), Ice shell structure of Ganymede and Callisto based on impact crater morphology, *JGR – Planets*, 127, 10.1029/2021JE007028.
- <u>Nichols-Fleming, F.</u>, A. J. Evans, B. C. Johnson, and M. M. Sori (2022), Porosity Evolution in Metallic Asteroids, Implications for the Origin and Thermal History of Asteroid 16 Psyche, *JGR Planets*, 127, e2021JE007028.
- 11. Evans, A. J. and S. M. Tikoo, An episodic high-intensity lunar core dynamo. *Nat Astron* (2022). https://doi.org/10.1038/s41550-021-01574-y
- 12. Tikoo, S. M. and **A. J. Evans**, Planetary Dynamos and Magnetic Fields of the Inner Solar System (2022), *Annual Review of Earth and Planetary Sciences.*
- 13. <u>Bjonnes, E. M.</u>, B. C. Johnson, and **A. J. Evans** (2021) Estimating Venusian Thermal Conditions Using Multiring Basin Morphology, *Nature Astronomy*, doi: 10.1038/s41550-020-01289-6.
- 14. Moriarty, D. P. et al. (with **A. J. Evans**) (2020). Evidence for a Stratified Upper Mantle Preserved within the South Pole Aitken Basin. *JGR Planets*, 121, e2020JE006589, doi: 10.1029/2020JE006589
- 15. Johnson, B. C., M. M. Sori, and **A. J. Evans** (2019), Ferrovolcanism and the Origin of Pallasites, *Nature Astronomy*, 284, 1–4, doi:10.1038/s41550-019-0885-x
- Momper, L., E. Hu, K. R. Moore, E. J. Skoog, M. Tyler, A. J. Evans, and T. Bosak (2019), Metabolic versatility in a modern lineage of cyanobacteria from terrestrial hot springs, *Free Radical Biology and Medicine*, doi:10.1016/j.freeradbiomed.2019.05.036.
- Evans, A. J., Andrews-Hanna, J. C., Head, J. W., III, Soderblom, J. M., Solomon, S. C., and Zuber, M. T. (2018), Reexamination of early lunar chronology with GRAIL data: Terranes, basins, and impact fluxes. *Journal of Geophysical Research: Planets*, 123, 10.1029/2017JE005421.
- 18. Evans, A. J., S. M. Tikoo, and J. C. Andrews-Hanna (2018), The Case Against an Early Lunar Dynamo Powered by Core Convection, *Geophys. Res. Lett.*, *45*, 98–107, doi:10.1002/2017GL075441.
- 19. Evans, A. J. (2017), The GRAIL Mission, In *Encyclopedia of Lunar Science*, edited by B. Cudnik, Springer International Publishing, Cham.

- Byrne, P. K., L. R. Ostrach, C. I. Fassett, C.R. Chapman, B. W. Denevi, A. J. Evans, C. Klimczak, M. E. Banks, J. W. Head, and S. C. Solomon (2016), Widespread Effusive Volcanism on Mercury Likely Ended by About 3.5 Ga, *Geophys. Res. Lett.*, 43, doi:10.1002/2016GL069412.
- Evans, A. J., J. M. Soderblom, J. C. Andrews-Hanna, S. C. Solomon, and M. T. Zuber (2016), Identification of Buried Lunar Impact Craters from GRAIL Data and Implications for the Nearside Maria, *Geophys. Res. Lett.*, 43, doi:10.1002/2015GL067394.
- Soderblom, J. M., A. J. Evans, R. J. Phillips, J. C. Andrews-Hanna, H. J. Melosh, K. Miljković, F. Nimmo, D. E. Smith, S. C. Solomon, M. M. Sori, M. A. Wieczorek, and M. T. Zuber (2015), The fractured Moon: Production and saturation of porosity in the lunar highlands from impact cratering, *Geophys. Res. Lett.*, doi:10.1002/2015GL065022.
- Evans, A. J., M. T. Zuber, B. P. Weiss, and S. M. Tikoo (2014), A Wet, Heterogeneous Lunar Interior: Lower Mantle and Core Dynamo Evolution, *J. Geophys. Res. Planets*, 119, 1061–1077, doi:10.1002/2013JE004494.
- Bosak, T., S. P. Templer, T.-D. Wu, B. Liang, J.-L. Guerquin-Kern, J. Mui, H. Vali, A. J. Evans, M.S. Sim, J. Friedman, V. Klepac-Ceraj (2012), Cyanobacterial Activity and Composition in Modern Conical Stromatolites, *Geobiology*, 10, 5, p384-401, doi: 10.1111/j.1472-4669.2012.00334.x.
- Sim, M. S., B. Liang, A. P. Petroff, A. J. Evans, V. Klepac-Ceraj, D. T. Flannery, M. R. Walter, and T. Bosak, (2012). Oxygen-Dependent Morphogenesis of Modern Clumped Photosynthetic Mats and Implications for the Archean Stromatolite Record. *Geosciences*, 2(4), 235259. doi: 10.3390/geosciences2040235.
- 26. Evans, A. J., J. C. Andrews-Hanna, and M. T. Zuber (2010), Geophysical Limitations on the Erosion History within Arabia Terra, *J. Geophys. Res.*, 115, E05007, doi:10.1029/2009je003469.
- Sturm II, E. J., M. Deutsch, C. Harmon, R. Nakagawat, R. Kinsey, N. Lopez, P. Kurdle, and A. J. Evans (2007), Mission Options Scoping Tool for Mars Orbiters: Mass-Cost Calculator, Jet Propulsion Laboratory, National Aeronautics and Space Administration, 2007.

### SELECTED INVITED PRESENTATIONS

- Evans, A. J. (2024), The Moon and its Ancient Mysteries, Univ. of California San Diego, San Diego, CA.
- Evans, A. J. (2024), The Moon and its Ancient Mysteries, Purdue University, West Lafeyette, IN.
- **Evans, A. J.** (2024), Fate and Consequences of the Lunar Magma Ocean, 19th Symposium of SEDI (Study of the Earth's Deep Interior), Great Barrington, MA.
- **Evans, A. J.** (2024), Fate and Consequences of the Lunar Magma Ocean, Lamont-Doherty Earth Observatory, Columbia University, Palisades, NY.
- **Evans, A. J.** (2023), Lunar Structure, Composition, and Processes for Exploration, NASA Exploration Science Forum, University of Maryland, College Park, MD.
- **Evans, A. J.** (2023), Geophysics of the Early Moon, Department of Geophysics, Stanford University, Stanford, CA.
- **Evans, A. J.** (2023), Dynamos as Probes of Ancient Planetary History, 2023 Interior of the Earth Gordon Research Conference, Mount Holyoke College, South Hadley, MA.
- Evans, A. J. (2023), The Impact Siege of Pre-Habitable Worlds, Bromery Lecture, University of Massachusetts Amherst, Amherst, MA.
- **Evans, A. J.** (2022), The Lunar Nearside-Farside Asymmetry, Fall Meeting of the American Geophysical Union, Chicago, IL.
- **Evans, A. J.** (2022), An episodic high-intensity lunar core dynamo, Fall Meeting of the American Geophysical Union, Chicago, IL.
- **Evans, A. J.** (2021), The First Billion Years of Lunar Evolution: A Geophysical Perspective, Earth and Planetary Laboratory, Carnegie Institute

- Evans, A. J. (2021), The First Billion Years of Lunar Evolution: A Geophysical Perspective, Dept. of Earth Sciences, University of Oxford
- **Evans, A. J.** (2021), The First Billion Years of Lunar Evolution: A Geophysical Perspective, Dept. of Earth and Environmental Sciences, Wesleyan University, Middletown, CT.
- Evans, A. J. (2021), The First Billion Years of Lunar Evolution: A Geophysical Perspective,
- School of Earth and Atmospheric Sciences, Georgia Institute of Technology, Atlanta, GA.
- **Evans, A. J.** (2020), The First Billion Years of Lunar Evolution: A Geophysics Perspective, Lunar and Planetary Institute, Houston, TX.
- **Evans, A. J.** (2020), The Impact Siege of Pre-Habitable Worlds: From the Moon to Our Solar System and Beyond, University of Michigan, Ann Arbor, MI.
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#### PRESENTATIONS AND ABSTRACTS

Underline indicates students and postdoctoral associates advised by me.

- J. C. Andrews-Hanna, W. F. Bottke, A. Broquet, **A. J. Evans**, G. Gowman, B. C. Johnson, J. T. Keane, <u>J. N. Levin</u>, A. Mallik, S. Marchi, S. A. Moruzzi, A. Roy, and S. Wakita (2025), The South Pole-Aitken Basin as a Window into the Early Evolution of the Moon, 56th Lunar and Planetary Science Conference, Houston, TX.
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