

ALEX J. EVANS, PHD

Curriculum Vitae

Department of Earth, Environmental and Planetary Sciences
Brown University
324 Brook Street
Providence, RI 02912

P 401.863.1287
F 401.863.3978
alex_evans@brown.edu
alexjevans.com

RESEARCH INTERESTS

Statistical, predictive, and analytical modeling of global-scale tectonic, geodynamic, and geophysical processes; analyses of altimetry, gravity, geomorphology, and tectonics to determine the structure, atmospheric, and internal evolution of solid planets; geobiology and microbiology work focused on understanding the emergence and persistence of early life on Earth and other worlds.

EMPLOYMENT

Brown University – Earth, Environmental, and Planetary Sciences July 2023 – Present
Thomas J. and Alice M. Tisch Assistant Professor of Earth, Environmental, and Planetary Sciences
Principal Investigator of LunaSCOPE NASA SSERVI Team

Brown University – Earth, Environmental, and Planetary Sciences July 2018 – June 2023
Assistant Professor of Earth, Environmental and Planetary Sciences

University of Arizona – Lunar and Planetary Lab. January 2017 – August 2018
Postdoctoral Research Associate; Advisor: Prof. Jeffrey C. Andrews-Hanna

Southwest Research Institute – Planetary Sci. Dir. January 2016 – January 2017
Postdoctoral Researcher; Advisor: Jeffrey C. Andrews-Hanna

Colorado School of Mines – Department of Geophysics October 2015 – January 2016
Postdoctoral Researcher; Advisor: Prof. Jeffrey C. Andrews-Hanna

Columbia University – Lamont-Doherty Earth Obs. October 2013 – October 2015
Postdoctoral Research Scientist; Advisor: Director Sean C. Solomon

Massachusetts Institute of Technology July 2007 – September 2013
Research Assistant; Advisor: Prof. Maria T. Zuber

NASA Jet Propulsion Laboratory November 2006 – December 2007
Lunar and Mars Mission Concepts – Systems Engineer

Ball Aerospace and Technologies Corporation May 2006 – August 2006
Legislative Affairs (Intern)

The Boeing Company – Integrated Defense Systems May 2005 – August 2005
NASA Launch Systems, Space Shuttle Ascent – Guidance, Navigation, and Control (Intern)

EDUCATION

Massachusetts Institute of Technology (Cambridge, MA) July 2007 – September 2013
Department of Earth, Atmospheric and Planetary Sciences
Doctor of Philosophy in Planetary Geophysics; Advisor: Vice President and Prof. Maria T. Zuber
Thesis: “Geophysical Evolution of Planetary Interiors and Surfaces: Moon and Mars”
Master of Science in Geobiology; Advisor: Prof. Tanja Bosak
Thesis: “Characteristics of Cone-forming Cyanobacteria and Implications for the Origin of Conical Stromatolites”

University of Michigan (Ann Arbor, MI) August 2002 – May 2006
Department of Aerospace Engineering
Bachelor of Science in Engineering – Aerospace Engineering

ALEX J. EVANS, PHD

Curriculum Vitae

(continued)

MISSION INVOLVEMENT

- Mercury, Surface, Space Environment, Geochemistry, and Ranging (MESSENGER) – Team Affiliate, 2013–2016
- Gravity Recovery and Interior Laboratory (GRAIL) – Team Affiliate, 2007–2016
- Lunar Reconnaissance Orbiter (LRO) Lunar Orbiter Laser Altimeter (LOLA) – Team Affiliate, 2007–2016

RESEARCH TOOLS

- Numerical modeling: predictive modeling, parallel processing, finite element modeling, spherical harmonic analysis
- Data analysis: gravity, topography, image, and spectral data
- Laboratory collection of biological samples from field environments, extraction and analysis of RNA, DNA, proteins, and chlorophyll

TEACHING

- 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)

FUNDING

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

ALEX J. EVANS, PHD

Curriculum Vitae

(continued)

Quantitative Assessment of the Distribution of Lunar KREEP Material (\$380K)

P.I. Alexander J. Evans

MENTORING

• Steven Ramirez (PhD, Brown)	Planetary Geophysics	2023–Present
• Dean Khan (Postdoc, Brown)	Exoplanets and habitability	2022–Present
• Imani Guest (PhD, Brown)	Geochemistry and policy	2022–Present
• Carol Hundal (PhD, Brown)	Planetary gravity	2021–Present
• Janie Levin (PhD, Brown)	Planetary geophysics	2021–Present
• Matthew Jones (PhD, Brown)	Planetary geophysics	2018–Present
• Fiona Nichols-Fleming (PhD, Brown)	Planetary geophysics/accretion	2019–2023
• Matthew Weller (Postdoc., Brown)	Venus and Exoplanets	2019–2021
• Evan Bjonnes (PhD, Brown)	Impact cratering	2019–2021
• Eleanor Alvarez (Summer Res., Brown)	Exoplanets and habitability	2020
• Sean Wiggins (PhD, Brown)	Impact cratering	2019–2020
• Joel Wilner (MS, Brown)	Planetary geophysics/cryosphere	2018–2020
• Malik Walker (Summer Res., Brown)	Lunar geophysics	2019
• Anna Zuckerman (BS, Brown)	Solar System chronology	2019
• Sharon Newman (PhD, MIT)	Geobiology	2013–2014
• Xinchu Yin (visiting undergraduate, MIT)	Geobiology and microbiology	2012
• B. Dylan Bannon (undergraduate, MIT)	Geobiology and microbiology	2009–2010

HONORS AND AWARDS

- 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 DEEPS, Freshman Academic Advisor, *Exploratory Advisory*, 2023–Present
- Brown University DEEPS, Planetary Science Reading Group, *Organizer*, 2021–Present
- 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

ALEX J. EVANS, PHD

Curriculum Vitae

(continued)

- 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

- 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
- 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

ALEX J. EVANS, PHD

Curriculum Vitae

(continued)

- 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.

1. **Evans, A. J.**, J. C. Andrews-Hanna, K. Miljkovic, E. Bjonnes, and D. P. Moriarty (*in prep.*), The Lunar Geochemical Asymmetry, *GRL/JGR*.
2. M. J. Jones, F. Nichols-Fleming, **A. J. Evans**, B. C. Johnson, and J. C. Andrews-Hanna (*in prep.*), The Asymmetric Moon: A Solution to the Lunar COM-COF Offset, *GRL*.
3. F. Nichols-Fleming, **A. J. Evans**, B. C. Johnson, and M. M. Sori (*in prep.*), Predictions for the Modern Record of 16 Psyche’s Early Evolution, *JGR Planets*.
4. W. Liang, A. Broquet, J. C. Andrews-Hanna, N. Zhang, M. Ding, and **A. J. Evans** (*submitted*), Vestiges of a lunar ilmenite layer revealed by GRAIL gravity data, *Nature Geoscience*.
5. M. J. Jones and **A. J. Evans** (*submitted*), Origin of the lunar Mg-suite by South Pole–Aitken impact–catalyzed mantle overturn, *GRL*.
6. W. Liang, J. C. Andrews-Hanna, and **A. J. Evans** (*in rev.*), The Missing Craters and Basin Rings Beneath the Lunar Maria, *JGR Planets*.
7. F. Nichols-Fleming, **A. J. Evans**, B. C. Johnson, and S. M. Tikoo (*in rev.*), Short-lived Lunar Dynamos Driven by the Accretion of Cold Impactor Material, *JGR Planets*.
8. 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 (*accepted*), The structure and evolution of the lunar interior, *New Views of the Moon 2*.
9. M. B. Weller, **A. J. Evans**, D. E. Ibarra, and A. V. Johnson (*accepted*), The Ancient Venus Atmosphere: Atmospheric N₂ Explained by Early Plate Tectonics, *Nature Astro*.
10. Jones, M. J., **A. J. Evans**, B. C. Johnson, M. B. Weller, J. C. Andrews-Hanna, S. M. Tikoo, and J. T. Keane (2022), Origin of the Lunar Procellarum KREEP Terrane, *Science Advances*, 8, eabm8475.
11. 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.
12. Nichols-Fleming, F., **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.
13. **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>
14. 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*.
15. Bjonnes, E. M., 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.
16. 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
17. Johnson, B. C., M. M. Sori, and **A. J. Evans** (2019), Ferrovulcanism and the Origin of Pallasites, *Nature Astronomy*, 284, 1–4, doi:10.1038/s41550-019-0885-x

ALEX J. EVANS, PHD

Curriculum Vitae

(continued)

18. 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.
19. **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.
20. **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.
21. **Evans, A. J.** (2017), The GRAIL Mission, In *Encyclopedia of Lunar Science*, edited by B. Cudnik, Springer International Publishing, Cham.
22. 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.
23. **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.
24. 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.
25. **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.
26. 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.
27. 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.
28. **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.
29. 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.** (2023), Geophysics of the Early Moon, Department of Geophysics, Stanford University, Stanford, CA
- 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

ALEX J. EVANS, PHD

Curriculum Vitae

(continued)

- 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.
- Evans, A. J.** (2019), The First Billion Years of Lunar Evolution: A Geophysical Perspective, University of Rhode Island, South Kingstown, RI.
- Evans, A. J.** (2019), Legacy of Apollo: Exploring the Dark Side of the Moon with GRAIL and LOLA, WaterFire Arts Center, Providence, RI.
- Evans, A. J.** (2019), Transformative Lunar Science: Lunar Geophysics, Microsymposium 60, Houston, TX.
- Evans, A. J.** (2019), The First Billion Years of Lunar Evolution: A Geophysical Perspective, University of Texas – Institute for Geophysics, Austin, TX.
- Evans, A. J.** (2018), The Curious Case of the Lunar Dynamo, Fall Meeting of the American Geophysical Union, San Francisco, CA.
- Evans, A. J.** (2018), Early History of Rocky Worlds: Moon and Mercury, Department of Sciences and Mathematics, Mississippi University for Women, Columbus, MS.
- Evans, A. J.** (2018), Structures of Rocky Worlds, Mississippi School for Mathematics and Sciences, Columbus, MS.
- Evans, A. J.** (2017), Structures of Rocky Worlds, Department of Earth, Environmental and Planetary Sciences, Brown University, Providence, RI.
- Evans, A. J.** (2017), Early History of the Moon: Crust to Core. Insights from the LOLA and GRAIL Investigations, Department of Earth, Environmental and Planetary Sciences, Brown University, Providence, RI.
- Evans, A. J.** (2017), Early History of the Moon and Mercury: Merging Magma Ocean Models with GRAIL and MESSENGER Data, Division of Geological and Planetary Sciences, California Institute of Technology, Pasadena, CA.
- Evans, A. J.** (2017), Early History of the Moon and Mercury: Merging Magma Ocean Models with GRAIL and MESSENGER Data, Northwestern University, Evanston, IL.
- Evans, A. J.** (2016), Merging Magma Ocean Theory with GRAIL and MESSENGER Data, NASA Jet Propulsion Laboratory, Pasadena, CA.

PRESENTATIONS AND ABSTRACTS

Underline indicates students and postdoctoral associates advised by me.

- M. J. Jones and **A. J. Evans** (2023), Fate of Th- and Ti-bearing Lunar Magma Ocean Cumulates in the Aftermath of Major Basin-Forming Impacts, 54th Lunar and Planetary Science Conference, Houston, TX.
- J. C. Andrews-Hanna, **A. J. Evans**, and A. Mallik. (2023), Forming the Lunar Asymmetries, 54th Lunar and Planetary Science Conference, Houston, TX.
- J. N. Levin, **A. J. Evans**, J. C. Andrews-Hanna, and I. J. Daubar (2023), Bounding and Contextualizing Vertical Distribution of KREEP in the Moon's Upper Crust, 54th Lunar and Planetary Science Conference, Houston, TX.

ALEX J. EVANS, PHD

Curriculum Vitae

(continued)

- D. Khan, A. J. Evans, D. E. Ibarra, S. W. Parman, and M. B. Weller (2023), Habitability of Mercury Sized Exoplanets with Mobile and Stagnant Lid Regimes, 54th Lunar and Planetary Science Conference, Houston, TX.
- C. B. Hundal, A. J. Evans, and J. F. Mustard (2023), Factor Analysis Applied to Gravity Profiles of Lunar Impact Craters, 54th Lunar and Planetary Science Conference, Houston, TX.
- F. Nichols-Fleming, A. J. Evans, B. C. Johnson (2023), Core Solidification and Contraction on 16 Psyche, 54th Lunar and Planetary Science Conference, Houston, TX.
- W. Liang, A. Broquet, J. C. Andrews-Hanna, N. Zhang, M. Ding, and **A. J. Evans** (2023), Vestiges of a Lunar Ilmenite Layer Revealed by GRAIL Gravity Data, 54th Lunar and Planetary Science Conference, Houston, TX.
- Evans, A. J.** (2022), Origin and Nature of the Lunar Asymmetry, National Society of Black Physicists National Conference, Charlottesville, VA.
- J. A. Rathbun, E. G. Rivera-Valentín, L. C. Quick, O. J. Tucker, F. Rivera-Hernández, K. E. Mandt, and **A. J. Evans** (2022), Equity and Inclusion in Planetary Science: Next Steps for Improvement, Advancing IDEA in Planetary Science Workshop, Houston, TX.
- C. B. Hundal, A. J. Evans, J. F. Mustard, and J. N. Levin (2022), Relative Gravity Profiles of Lunar Impacts in Diverse Geochemical Terranes: Implications for Density and Porosity, 53rd Lunar and Planetary Science Conference, Houston, TX.
- M. J. Jones, A. J. Evans, B. C. Johnson, M. B. Weller, J. C. Andrews-Hanna, S. M. Tikoo, and J. T. Keane, (2022), Impact-Catalyzed Formation of the Lunar Compositional Asymmetry, 53rd Lunar and Planetary Science Conference, Houston, TX.
- J. N. Levin and **A. J. Evans** (2022), Sub-surface Lunar KREEP Thickness Inferred from Thorium Anomalies associated with Impact Craters, 53rd Lunar and Planetary Science Conference, Houston, TX.
- M. M. Sori et al. (w/ **A. J. Evans**) (2022), Compelling Science Enabled by Gravity Investigations at Mars, 53rd Lunar and Planetary Science Conference, Houston, TX.
- J. T. Keane et al. (w/ **A. J. Evans**) (2022), Next-Generation Planetary Geodesy: Results from the 2021 Keck Institute for Space Studies Workshops, 53rd Lunar and Planetary Science Conference, Houston, TX.
- W. Liang, J. C. Andrews-Hanna, and **A. J. Evans**, The Missing Craters in the Lunar Mare Region, 53rd Lunar and Planetary Science Conference, Houston, TX.
- F. Nichols-Fleming, A. J. Evans, B. C. Johnson, and M. M. Sori (2022), Porosity Evolution of Psyche and Other M-Type Asteroids, 53rd Lunar and Planetary Science Conference, Houston, TX.
- M. B. Weller, A. J. Evans, D. E. Ibarra, A. V. Johnson, and T. J. Kukla (2022), Atmospheric Evidence of Early Plate Tectonics on Venus, 53rd Lunar and Planetary Science Conference, Houston, TX.
- Evans, A. J.** (2021), The Paradox of the Lunar Dynamo, National Society of Black Physicists National Conference, *virtual*.
- S. W. Parman, A. J. Evans, M. B. Weller, C. T. Reinhard, D. E. Ibarra, E. C. First, and B. A. Anzures (2021), Assessing the Abundance of Super-Mercuries and Their Habitability, 52nd Lunar and Planetary Science Conference, Houston, TX.
- M. B. Weller, A. J. Evans, D. E. Ibarra, A. V. Johnson, and T. J. Kukla (2021), Early (In)Habitability Among Exoplanets: A 1D Parameterized Approach Linking the Mantle-Tectonics-Atmospherics System, Habitable Worlds Workshop, *virtual*.
- F. Nichols-Fleming, A. J. Evans, and B. C. Johnson (2021), Short-lived Lunar Dynamos Driven by the Accretion of Cold Impactor Material, 52nd Lunar and Planetary Science Conference, Houston, TX.
- E. M. Bjonnes, B. C. Johnson, and **A. J. Evans** (2021), The Effects of Venus' Thermal Conditions on Multiring Basin Formation, 52nd Lunar and Planetary Science Conference, Houston, TX.
- S. Diniega, S. Brooks, **A. J. Evans**, et al. (2020), Recognizing our colleagues of color in planetary science, Division of Planetary Sciences, *virtual*.

ALEX J. EVANS, PHD

Curriculum Vitae

(continued)

- E. Alvarez, **A. J. Evans**, and S. W. Parman (2020), Using Stellar Abundances to Identify Potentially Habitable Super-Mercury Exoplanets, Leadership Alliance National Symposium, Hartford, CT.
- J. A. Wilner, **A. J. Evans**, R. E. Milliken, and M. M. Sori (2020), Spectroscopy of Domes on Ceres and Implications for Emplacement, 51st Lunar and Planetary Science Conference, Houston, TX.
- M. B. Weller, **A. J. Evans**, D. E. Ibarra, A. V. Johnson, and T. J. Kukla (2020), Exploring the Evolution and Habitability of Planets: Coupling of the Mantle-Atmosphere System, 51st Lunar and Planetary Science Conference, Houston, TX.
- S. W. Parman, A. J. Evans, M. B. Weller, C. T. Reinhard, D. E. Ibarra, E. C. First, and B. A. Anzures (2020), Abundance and Habitability of super-Mercuries, 51st Lunar and Planetary Science Conference, Houston, TX.
- F. Nichols-Fleming, **A. J. Evans**, and B. C. Johnson (2020), Short-lived Lunar Dynamos Driven by the Accretion of Cold Impactor Material, 51st Lunar and Planetary Science Conference, Houston, TX.
- M. J. Jones, **A. J. Evans**, B. C. Johnson, M. B. Weller, J. T. Keane, and S. M. Tikoo (2020), An Impact Origin of the Lunar Procellarum KREEP Terrane, 51st Lunar and Planetary Science Conference, Houston, TX.
- E. M. Bjonnes, B. C. Johnson, and **A. J. Evans** (2020), Determining Venus' Thermal Conditions through Multiring Basin Formation, 51st Lunar and Planetary Science Conference, Houston, TX.
- Evans, A. J.** (2019), The Lunar Origin Story and Implications for the Dynamo, Brown University STEM Jazz Monthly Meeting, Providence, RI.
- M. Walker, E. M. Bjonnes, and **A. J. Evans** (2019), Geophysical Investigation of Lunar Impact Craters with Anomalous Gravitational Signatures, Annual Conference of the National Society of Black Physicists, Providence, RI.
- M. Walker, E. M. Bjonnes, and **A. J. Evans** (2019), Geophysical Investigation of Lunar Impact Craters with Anomalous Gravitational Signatures, Brown Summer Research Symposium, Providence, RI.
- M. B. Weller, **A. J. Evans**, and A. V. Johnson (2019), Exploring the evolution of the coupled mantle-atmosphere system: A 1D parameterized approach, Fall Meeting of the American Geophysical Union, San Francisco, CA.
- M. Walker, E. M. Bjonnes, and **A. J. Evans** (2019), Geophysical Investigation of Lunar Impact Craters with Anomalous Gravitational Signatures, Leadership Alliance National Symposium, Hartford, CT.
- Evans, A. J.** (2019), The Lunar Geochemical Asymmetry: Implications for KREEP and Magma Ocean Crystallization, 50th Lunar and Planetary Science Conference, Houston, TX.
- Evans, A. J.** (2019), How to Sustain an Early Lunar Core Dynamo via Convection, The Core of the Moon Workshop, Palais du Pharo, Marseille, France.
- M. J. Jones and **A. J. Evans** (2019), Thermal and Chemical Consequences of Large Impacts on the Lunar Interior, 50th Lunar and Planetary Science Conference, Houston, TX.
- B. C. Johnson, M. M. Sori, and **A. J. Evans** (2019), Ferrovolcanism, Pallasites, and Psyche, 50th Lunar and Planetary Science Conference, Houston, TX.
- E. M. Bjonnes, B. C. Johnson, and **A. J. Evans** (2018), Modeling of Mead Impact Basin and implications for planetary heat flow, Fall Meeting of the American Geophysical Union, San Francisco, CA.
- Evans, A. J.** (2018), Ice-Driven Volcanic Eruptions and Habitability on Mars, Conference of the National Society of Black Physicists, Columbus, OH.
- Evans, A. J.** and J. C. Andrews-Hanna (2018), Mars Habitability and the Significance of Obliquity-Driven Coupling of Magmatism and Ice Deposition: A Case Study at Olympus Mons, 49th Lunar and Planetary Science Conference, Houston, TX.
- Evans, A. J.**, S. M. Tikoo, and J. C. Andrews-Hanna (2018), The Lunar Core Dynamo Energy Dilemma, 49th Lunar and Planetary Science Conference, Houston, TX.
- Evans, A. J.** (2017) The Divergent Evolution of Rocky Worlds, Lunar and Planetary Laboratory, University of Arizona, Tucson, AZ.

ALEX J. EVANS, PHD

Curriculum Vitae

(continued)

- Evans, A. J.**, J. C. Andrews-Hanna, J. M. Soderblom, S. C. Solomon, and M. T. Zuber (2017), Insights into Early Lunar Chronology from GRAIL Data, 48th Lunar and Planetary Science Conference, Houston, TX.
- Evans, A. J.** (2016), Merging Magma Ocean Theory with GRAIL and MESSENGER Data, Southwest Research Institute, Boulder, CO.
- Evans, A. J.**, J. C. Andrews-Hanna, J. M. Soderblom, S. C. Solomon, and M. T. Zuber (2016), Re-Examination of Early Lunar Chronology: Terranes, Basins, and Impactor Distributions from Buried Craters Revealed by GRAIL Data, Spring Science Team Meeting of Gravity Recovery and Interior Laboratory (GRAIL) and Lunar Orbiter Laser Altimetry (LOLA), Southwest Research Institute, Boulder, CO.
- Kiefer W. S., J. C. Andrews-Hanna, **A. J. Evans**, J. W. Head III, I. Matsuyama, P. J. McGovern, F. Nimmo, J. M. Soderblom, M. M. Sori, G. J. Taylor, R. C. Weber, M. A. Wieczorek, J. G. Williams, and M. T. Zuber (2016), GRAIL Mission Constraints on the Thermal Structure and Evolution of the Moon, New Views of the Moon 2, Houston, TX.
- Evans, A. J.** and J. C. Andrews-Hanna (2016), Influence of Basin Impact Heating on Viscous Relaxation of Topography and Thermal Interior State, 47th Lunar and Planetary Science Conference, Houston, TX.
- Byrne, P. K., C. I. Fassett, C. Klimczak, L. R. Ostrach, C. R. Chapman, B. W. Denevi, A. M. Celâl Şengör, S. A. Hauck II, **A. J. Evans**, M. E. Banks, T. R. Watters, J. W. Head, and S. C. Solomon (2016), The Interplay Between Volcanism and Tectonics on Mercury, 47th Lunar and Planetary Science Conference, Houston, TX.
- Evans, A. J.**, S. M. Brown, B. Charlier, T. L. Grove, P. B. James, and S. C. Solomon (2015), Effects of a Compositionally Stratified Mantle: Link to Early Volcanism on Mercury, Fall Meeting of the American Geophysical Union, San Francisco, CA.
- Byrne, P. K., L. R. Ostrach, C. I. Fassett, C. R. Chapman, **A. J. Evans**, Christian Klimczak, and S. C. Solomon (2015), Widespread Effusive Volcanism on Mercury Ended By 3.6 Ga, Fall Meeting of the American Geophysical Union, San Francisco, CA.
- Evans, A. J.**, S. M. Brown, B. Charlier, T. L. Grove, P. B. James, and S. C. Solomon (2015), Mercurian Evolution –Early State of the Mantle and Magmatic Resurfacing, 35th MESSENGER Mission Science Team Meeting, Lamont-Doherty Earth Observatory, Columbia University, Palisades, NY.
- Evans, A. J.**, J. M. Soderblom, S. C. Solomon, and M. T. Zuber (2015), A Re-Examination of the Relative Ages of Mare-Filled Impact Basins on the Lunar Nearside from Gravity Signatures of Buried Craters, Workshop on Issues in Crater Studies and the Dating of Planetary Surfaces, Laurel, MD.
- Evans, A. J.**, S. M. Brown, and S. C. Solomon (2015), Characteristics of Early Mantle Convection and Melting on Mercury, 34th MESSENGER Mission Science Team Meeting, Carnegie Institution of Science – Department of Terrestrial Magnetism, Washington, DC.
- Soderblom, J. M., **A. J. Evans**, B. C. Johnson, H. J. Melosh, K. Miljković, R. J. Phillips, J. C. Andrews-Hanna, C. Milbury, G. A. Neumann, F. Nimmo, D. E. Smith, S. C. Solomon, M. M. Sori, C. J. Thomason, M. A. Wieczorek, and M. T. Zuber (2015), Probing the Structure and Porosity of the Lunar Highlands Crust, European Geosciences Union, Vienna, Austria.
- Evans, A. J.**, S. M. Brown, and S. C. Solomon (2015), Characteristics of Early Mantle Convection and Melting on Mercury, 46th Lunar and Planetary Science Conference, Houston, TX.
- Evans, A. J.**, J. M. Soderblom, S. C. Solomon, and M. T. Zuber (2014), Buried Lunar Craters: Re-Examination of Nearside Basin Ages and Maria Timing, Fall Science Team Meeting of Gravity Recovery and Interior Laboratory (GRAIL) and Lunar Orbiter Laser Altimetry (LOLA), National Academy of Sciences, Falmouth, MA.
- Evans, A. J.**, J. M. Soderblom, S. C. Solomon, and M. T. Zuber (2014), Crater Counts and Relative Ages for the Lunar Nearside, Spring Science Team Meeting of Gravity Recovery and Interior Laboratory (GRAIL) and Lunar Orbiter Laser Altimetry (LOLA), Boulder, CO.

ALEX J. EVANS, PHD

Curriculum Vitae

(continued)

- Evans, A. J.** (2014), Origin and History of the Moon: Core to Crust, Mississippi University for Women – Department of Sciences and Mathematics, Columbus, MS.
- Soderblom, J. M., **A. J. Evans**, R. J. Phillips, J. C. Andrews-Hanna, H. J. Melosh, C. Milbury, K. Miljković, G. A. Neumann, F. Nimmo, D. E. Smith, S. C. Solomon, M. M. Sori, M. A. Wieczorek, M. T. Zuber (2014), Constraints on Impact-Induced Fracturing and Brecciation of the Lunar Crust from GRAIL, 45th Lunar and Planetary Science Conference, Houston, TX.
- Evans, A. J.** (2014), Insights into Early Lunar History using GRAIL and LOLA, Columbia University, New York, NY.
- Evans, A. J.** and M. T. Zuber (2013), Identification of Buried Craters without Surface Expression, Fall Meeting of the American Geophysical Union, San Francisco, CA.
- Evans, A. J.** (2013), Early Lunar History: Implications for Interior and Surface Evolution, Massachusetts Institute of Technology – Department of Earth, Atmospheric and Planetary Sciences, Cambridge, MA.
- Evans, A. J.**, J. M. Soderblom, and M. T. Zuber (2013), Buried Lunar Craters, Fall Science Team Meeting of Gravity Recovery and Interior Laboratory (GRAIL) and Lunar Orbiter Laser Altimetry (LOLA), National Academy of Sciences, Falmouth, MA.
- Evans, A. J.**, J. M. Soderblom, and M. T. Zuber (2013), Buried Lunar Craters, Summer Science Team Meeting of Gravity Recovery and Interior Laboratory (GRAIL) and Lunar Orbiter Laser Altimetry (LOLA), Brown University, Providence, RI.
- Smith, D. E., M. T. Zuber, G. A. Neumann, E. Mazarico, J. W. Head III, **A. J. Evans**, M. A. Wieczorek, S. J. Goossens, J. C. Andrews-Hanna, J. M. Soderblom, and W. S. Kiefer (2013), GRAIL gravity field of the lunar south polar region, 44th Lunar and Planetary Science Conference, Houston, TX.
- Evans, A. J.**, M. T. Zuber, and B. P. Weiss (2013), The Possible Role of Water in Sustaining a Lunar Core Dynamo, 44th Lunar and Planetary Science Conference, Houston, TX.
- Evans, A. J.**, M. T. Zuber, and B. P. Weiss (2013), The Possible Role of Water in Sustaining a Lunar Core Dynamo, Winter Science Team Meeting of Gravity Recovery and Interior Laboratory (GRAIL) and Lunar Orbiter Laser Altimetry (LOLA), Irvine, CA.
- Evans, A. J.** and M. T. Zuber (2012), Viscoelastic Relaxation Modeling of Lunar Basins, Summer Science Team Meeting of Gravity Recovery and Interior Laboratory (GRAIL) and Lunar Orbiter Laser Altimetry (LOLA), Paris, France.
- Evans, A. J.** and M. T. Zuber (2012), The Possible Role of Water in the Early Thermal Evolution of the Moon, 43rd Lunar and Planetary Science Conference, Houston, TX.
- Evans, A. J.**, J. C. Andrews-Hanna, and M. T. Zuber (2009), Quantitative Constraints on Surface Erosion via Admittance Localization for Arabia Terra, 40th Lunar and Planetary Science Conference, Houston, TX.
- Evans, A. J.**, J. C. Andrews-Hanna, and M. T. Zuber (2008), Lithospheric Flexure as a Consequence of Possible Erosion within Arabia Terra, 39th Lunar and Planetary Science Conference, Houston, TX.