BP Blakley

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Education

Johns Hopkins University, Baltimore, MD
Doctor of Philosophy (PhD), Earth and Planetary Sciences — Aug. 2024-Present
Advisor: Sarah M. Hörst, PhD.

Pasadena City College, Pasadena, CA
Geology and Physical Sciences Coursework — Feb. 2021-May 2024

School of The Art Institute of Chicago (SAIC), Chicago, IL
Bachelor of Fine Arts (BFA), Concentration in Fashion, Fiber & Material Studies — Aug. 2006-May 2010

Wake Technical Community College, Raleigh, NC
Associate in Arts for transfer (AA), Liberal Arts — Aug. 2005-May 2006

Research Experience

Graduate Research Assistant; National Science Foundation (NSF) Graduate Research Fellow, *Planetary HAZE Research (PHAZER) Laboratory, Johns Hopkins University*, Baltimore MD. Advisor: Dr. Sarah Hörst — Aug. 2024-Present

Visiting Researcher; PRECISE Fellow, *The Laboratory for Origins and Astrobiology Research (LOAR), Purdue University,* West Lafayette, IN. Supervisor: Dr. Ben K. D. Pearce — June 2026

Visiting Researcher, Modern SEM Techniques Workshop, *Lunar and Planetary Institute*, Houston, TX. Supervisor: Dr. Brian Balta — August 2025

Visiting Researcher, *University of Northern Iowa*, Cedar Falls, IA. Supervisor: Dr. Joshua Sebree — June 2025

NSF REU Researcher, *Astrophysical Materials Laboratory, Northern Arizona University*, Flagstaff, AZ. Supervisor: Dr. Will Grundy — June 2023-Feb. 2024

Research Assistant; Science Communications Intern, *Lunar Trailblazer Mission, Caltech*, Pasadena, CA. Supervisor: Dr. Bethany Ehlmann — Jan. 2022-Dec. 2024

Research Assistant, *Pasadena City College*, Pasadena, CA. Supervisor: Dr. Michael Vendrasco — Jan.-May 2023

Research Assistant; Caltech Connections Undergraduate Researcher, *Caltech*, Pasadena, CA. Supervisor: Dr. Sadie Dutton (PhD '23) under the Blake Research Group — Feb.-Jul. 2022

Research Assistant; Maximizing Student Potential in STEM (MSP) Intern, Planetary and Exoplanetary Atmospheres Group, *Jet Propulsion Laboratory (JPL)*, Pasadena, CA. Supervisor: Dr. Glenn Orton — Jan.-June 2022

Research Assistant; Student Independent Research Internship (SIRI), Planetary and Exoplanetary Atmospheres Group, *Jet Propulsion Laboratory (JPL)*, Pasadena, CA. Supervisor: Dr. Glenn Orton — Sep.-Dec. 2021

Honors, Fellowships, and Awards

NSF Graduate Research Fellowship ($159k) — Sep. 2024-May 2029
Modern SEM Techniques Workshop Travel Grant — Aug. 2025
Wayne Loel Scholarship, Geology, Pasadena City College — June 2024
Bruce Carter Field Award, Geology, Pasadena City College — June 2024

Peer-Reviewed Publications

BP Blakley, SM Hörst, C Pesciotta, SM MacKenzie, BKD Pearce, MC Aguilar, JA Sebree, X Yu, MJ Radke, "Fractionation of prebiotic molecules in aqueously processed Titan surface organics." *In prep.*

C Pesciotta, SM Hörst, MJ Radke, SE Moran, **BP Blakley**, C He, V Vuitton, L Flandinet, K Dubuc, "Hydrolyzed Hazes on Water-rich Exoplanets: Composition and Prebiotic Chemistry", *The Astrophysical Journal.* (Accepted Nov. 2026)

BL Ehlmann, RL Klima, …, including **BP Blakley**, "The Lunar Trailblazer Mission: Science Motivation and Implementation of a Pioneering Small Satellite for Lunar Water and Lunar Geology in the NASA SIMPLEx program," *Journal of Geophysical Research: Planets,* 131. DOI: 10.1029/2025JE009300. 2026.

BP Blakley, WM Grundy, JK Steckloff, SP Tan, J Hanley, AE Engle, SC Tegler, GE Lindberg, SM Raposa, KJ Koga, CL Thieberger, "The equilibrium vapor pressures of ammonia and oxygen ices at outer solar system temperatures," *Planetary and Space Science*, 244. DOI: 10.1016/j.pss.2024.105863. 2024.

WM Grundy, SC Tegler, JK Steckloff, SP Tan, MJ Loeffler, AV Jasko, KJ Koga, **BP Blakley**, SM Raposa, AE Engle, CL Thieberger, J Hanley, GE Lindberg, MD Gomez, AO Madden-Watson, "Laboratory measurement of volatile ice vapor pressures with a quartz crystal microbalance," *Icarus*, 410. DOI: 10.1016/j.icarus.2023.115767. 2023.

Conference Presentations

BP Blakley, SM Hörst, C Pesciotta, JA Sebree, SM MacKenzie, BKD Pearce, MC Aguilar, M Apple, X Yu, MJ Radke, "Aqueous processing and solubility fractionation of Titan's surface organics," Poster, #204.02, *American Astronomical Society (AAS), Division for Planetary Sciences (DPS) 58,* Spokane, WA — Oct. 2026

SM MacKenzie, AG Simmonds, **BP Blakley**, C Pesciotta, SM Hörst, "Investigating the effect of water exposure on tholin solubility in liquid methane," Poster, #204.04, *American Astronomical Society (AAS), Division for Planetary Sciences (DPS) 58,* Spokane, WA — Oct 2026

BP Blakley, SM Hörst, C Pesciotta, JA Sebree, SM MacKenzie, X Yu, MJ Radke, M Apple, "Characterizing Water-soluble vs Water-insoluble Titan Tholins," Poster, #2677, *American Geophysical Union*, New Orleans, LA — Dec. 2025

BP Blakley, WM Grundy, SC Tegler, SP Tan, AN Morgan, AE Engle, CL Thieberger, "Study of Uranian Satellite Volatiles," Oral presentation, #343, *American Astronomical Society (AAS), Division for Planetary Sciences (DPS) 55,* San Antonio, TX — Oct. 2023

BP Blakley, BL Ehlmann, RN Greenberger, VV Kachmar, ES Sosa, "Laboratory Reflectance Study of Water-Ice-Regolith Mixtures for Modeling of Lunar Water Scenarios," Poster, #2578, *Lunar and Planetary Science Conference 54,* Houston, TX — Mar. 2023

Teaching and Mentoring Experience

Johns Hopkins Teaching Academy Certificate program — In progress

Guest Lecture, *The Dynamic Earth: An Introduction to Geology* (AS.270.220), Johns Hopkins University, Baltimore, MD — Sep. 2026

Instructor, *Self-publish Your Own Science "Zine" Workshop*, Baltimore, MD — Mar. 2025
One-day workshop. Designed and prepared course materials.

Teaching Assistant, *Code/Astro*—Python Programming and Open-Source Software Workshop, Pasadena, CA — June 2022
Week-long workshop. Provided one-on-one and group assistance with software development; expertise in documentation, use of git and GitHub, software packaging, and best practices for coding in Python

Academic Service and Leadership

Representation and Leadership

Co-president, *Earth and Planetary Sciences (EPS) Graduate Organizing Committee*, Johns Hopkins University — Sep. 2025-Present
Member, Equity, Diversity & Inclusion Committee; Careers sub-committee; Strengthening Mentoring sub-committee, Johns Hopkins University EPS — Sep. 2025-Present
Organizer, *Summer Weekly Writing Group*, Johns Hopkins University EPS — May-Aug. 2026
Chair, *Planetary People Accomplishing and Learning Side-by-side (Planetary PALS),* Johns Hopkins University EPS — Jan.-May 2025
Undergraduate Liaison/Facilitator, *Caltech Connections*—Astronomy Research Mentorship Program, Caltech — Oct. 2022-May 2024

Mission Involvement

Guest Observer, NASA Dragonfly — Jan. 2026
Student Collaborator, NASA Lunar Trailblazer — Jan. 2022-Dec. 2024

Science Communication and Outreach

Self-published comic book, *Pluto and the Other Habitable Zone* — May 2026
A science communication project to teach the public about subsurface oceans in the Solar System and introduce them to ongoing research about the dwarf planet Pluto.
Congressional Visits, *Scientist Network for Advancing Policy (SNAP)* Washington, DC/Virtual — Aug. 2025
Series of short, small-group meetings with US Representatives and Senators
McClintock Letters Initiative/Science Homecoming — June-Aug. 2025
Participated in nationwide letter writing and peer-editing initiative
Wrote OpEd and published in *IndyWeek*, Durham, NC
Day of Action, *The Planetary Society*, Washington, DC — Mar. 2025
Annual two-day event for Planetary Science advocacy involving strategy sessions and in-person meetings with congresspeople

Professional Affiliations

American Geophysical Union
Division for Planetary Sciences of the American Astronomical Society

Professional Development

Participant, Engage Audiences with NASA's Science Activation Program — Oct. 2024
AAS DPS 56 Splinter Meeting, Boise, ID
Participant, NASA SMD Proposal Writing Workshop — Oct. 2023
AAS DPS 55, Workshop, San Antonio, TX

Selected Work Experience

Digital Marketing Manager, — Oct. 2020-May 2024
Everest Group, Remote Offices, US
Director of Acquisition (Growth), — Jan.-Aug. 2020
Vivante Health, Remote Offices, US
Manager, Campaign Marketing and Brand (2017-2018); Director, Marketing Operations (2018-2020), — Nov. 2018-Jan. 2020
TurnTo Networks, New York, NY/ Remote, US

Web Designer (2014-2016); Senior Specialist, Digital Marketing (2016-2017), *DeVry Medical International/Ross University School of Veterinary Medicine*, North Brunswick, NJ — June 2014-Nov. 2017

References

Sarah Hörst, Professor of Earth & Planetary Sciences, JHU
Email: Sarah.Horst@jhu.edu
Phone: 410-516-5286

Kevin Lewis, Morton K. Blaustein Vice Chair and Professor of Earth & Planetary Sciences, JHU
Email: klewis@jhu.edu
Phone: 410-516-5274

Sabine Stanley, Bloomberg Distinguished Professor in Planetary Science and Vice Provost for Graduate and Professional Education, JHU
Email: Sabine@jhu.edu
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Emmy Smith, Associate Professor of Earth & Planetary Sciences, JHU
Email: efsmith@jhu.edu
Phone: 410-516-8687