

Education

University College London, United Kingdom Ph.D., Space & Climate Physics	2017–22
University of Rochester, Rochester, NY, United States B.A., High Honors in Research, Geology/Music Composition	2012–17

Refereed Scientific Publications

*in preparation**

- *Phillips, C. B., Scully, J., Cameron, M. E., Craft, K., **Persaud, D. M.**, et al., A reconnaissance strategy for landing on Europa based on Europa Clipper data.
- *Daubar, I. J., et al., Planned geological investigations from the Europa Clipper mission, *Space Science Reviews*.
- *Vance, S. D., et al., Investigating Europa's habitability with Europa Clipper, *Space Science Reviews*.
- *Pappalardo, R., et al., Science overview of the Europa Clipper mission, *Space Science Reviews*.
- Persaud, D. M.**, 2022, On Multi-Resolution 3D Orbital Imagery and Visualisation for Mars Geological Analysis. Doctoral thesis (Ph.D), University College London.
- Brydon, G., **Persaud, D. M.**, Jones, G., 2021, Planetary Topography Measurement by Descent Stereophotogrammetry, *Planetary and Space Science*, 202, 105242.
- Xiong, S., Tao, Y., **Persaud, D. M.**, Campbell, J. D., Putri, A.D.R., Muller, J.-P., 2020, Subsurface reflections detected by SHARAD data revealing buried channels and islands over the Elysium Planitia, *Earth and Space Science*.

Selected Scientific Conference Proceedings

- Phillips, C. B., **Persaud, D. M.**, Hand, K. P., Correlation of Surface and Subsurface Properties when Choosing a Sampling Site: Applications from Mars and the Moon to Sampling Locations on Europa and Other Ocean Worlds, 2022 Fall Meeting, AGU, Chicago, IL, 12-16 Dec. Poster.
- Persaud, D. M.**, Barnes, R., Morpho-stratigraphy of Sakarya Vallis, Gale crater, Mars: a virtual outcrop study, 54th Annual Meeting of the Division for Planetary Sciences, London, Ontario, 2–7 October, 2022. Oral presentation.
- Chernetskiy, M., Muller, J.-P., Tao, Y., **Persaud, D. M.**, Malik, R., 3D imaging of the moon for the NASA Artemis human exploration programme, British Planetary Science Conference, 2020. Oral presentation.
- Persaud, D. M.**, Barnes, R., Tao, Y., Muller, J.-P., Stratigraphy in a channel in Gale Crater, Mars, from 3D HiRISE Imagery, British Planetary Science Conference, 2020. Oral presentation.
- Persaud, D. M.**, Tao, Y., and Muller, J.-P., Multi-Resolution, Nested Orbital 3D Images of Gale Crater for Fused MSL Rover-Orbital Image Simulations. European Planetary Science Congress, Geneva, Switzerland, 16-20 September 2019. Abstract #1540. Oral presentation.

Hall, A., et al. ExoFIT: ExoMars-Like Field Trials – a Mission Simulation. In: *15th Symposium on Advanced Space Technologies in Robotics and Automation*, 27-28 May 2019, ESA-ESTEC, Noordwijk, the Netherlands.

Persaud, D. M., Tao, Y., and Muller, J.-P., Super-resolution restored HiRISE images for simulating “rover’s eye” views in 3D. European Planetary Science Congress, TU Berlin, Berlin, Germany, 16-21 September 2018. Abstract #505. Poster.

Persaud, D. M., et al., 2016, HOMER: a smallsat ground penetrating radar sounding fleet to map planetary surfaces at high resolution, 47th Lunar and Planetary Conference. Poster.

Wu, T. S., **Persaud, D. M.**, et al., Subsurface Feature Mapping of Mars using a High Resolution Ground Penetrating Radar System, AGU Fall Meeting, 14-18 December 2015. Poster.

D. M. Persaud, C. B. Phillips, Methods of Estimating Initial Crater Depths on Icy Satellites, Abstract 17043, 2014 Fall Meeting, AGU, San Francisco, CA, 15-19 Dec. Oral presentation.

Data Releases

Persaud, D. M. (2021). Unit Map and Dips/Strikes of Sakarya Vallis, Gale Crater, Mars [Data set]. Zenodo. doi:10.5281/zenodo.5819267

Persaud, D. M. (2021). Multi-Resolution Basemap of Northwest Aeolis Mons, Gale Crater, Mars [Data set]. Zenodo. doi: 10.5281/zenodo.5808381

Persaud, D. M. (2021). Co-registered U. Arizona HiRISE DTM and ORI over Sakarya Vallis, Gale Crater, Mars [Data set]. Zenodo. doi: 10.5281/zenodo.5808371

Persaud, D. M., Tao, Y., Muller, J.-P. (2021). CTX DTM and ORI Mosaics over Sakarya Vallis, Gale Crater, Mars [Data set]. Zenodo. doi: 10.5281/zenodo.5808357

Persaud, D. M., Putri, A. D. R., Muller, J.-P. (2021). 30-m HRSC DTM Mosaic of Gale Crater, Mars [Data set]. Zenodo. doi: 10.5281/zenodo.5808354

European Space Agency, 2019, UCL-MSSL_Mars-CERBERUS_CTX-HIRISE-HRSC_V1.0, doi: 10.5270/esa-lqefjdl

Interdisciplinary Publications and Conference Proceedings

Persaud, D. M. and Armstrong, E. S., Space Science in Context: Lessons Learned and Recommendations for IDEA Practice and Beyond, *Advancing IDEA in Planetary Science*, April 25–29, 2022. Abstract #2067 (virtual).

Persaud, D. M., Armstrong, E. S., Access-centred virtual conferencing for planetary science and beyond: reflections from Space Science in Context 2020, *Europlanets Science Congress*, 21 September – 9 October 2020. Abstract #211. Oral presentation, virtual.

Armstrong, E. S., **Persaud, D. M.**, Access-centred virtual conferencing for planetary science and beyond, *The Future of Meetings*, CSIRO, 15th Sept., 2020 (virtual)

Armstrong, E. S., **Persaud, D. M.**, Jackson, C. A.-L. Redefining the scientific conference to be more inclusive, 2020, *Physics World* 33 (9).

Mueck, L., Palacios-Berraquero, C., and **Persaud, D. M.**, Towards a quantum advantage, 2020, *Physics World* 33 (2), 17.

Palacios-Berraquero, C., Mueck, L., and **D. M. Persaud**, Instead of ‘supremacy’ use ‘quantum advantage.’ *Nature* 576, 213 (2019).

Research

Collaborative Research Fellow, School of Geographical & Earth Sciences, University of Glasgow	2023–27
Designing a camera concept for ascent/descent spacecraft and validating with drone imagery, image simulation, and field geology.	
Postdoctoral Scholar, NASA Jet Propulsion Laboratory	2021–22
Using Apollo 16 imagery to constrain future sampling strategy of icy bodies; supporting activities of Europa Lander, Europa Clipper.	
Ph.D. Student, Mullard Space Science Laboratory, University College London	2017–22
Improving 3D image processing to study the morpho-stratigraphy of Sakarya Vallis in Gale crater, Mars. Supported PanCam on the ExoMars rover, development of PRo3D.	
JPL Summer Internship Program, NASA Jet Propulsion Laboratory	2016
Evaluating stereo topography methods for Cassini imagery; estimating viscous relaxation of impact craters on four Saturnian satellites using Cassini ISS DEMs.	
NASA Ames Academy for Space Exploration, NASA Ames Research Center	2015
Geology lead, project co-manager: mission design to detect Mars lava tubes.	
NSF Research Experience for Undergraduates in Astrobiology, SETI Institute	2014
Investigating methods to estimate pre-relaxation crater depths of Saturn's moons.	
NSF Research Experience for Undergraduates in Physics, University of Rochester	2013
Tests on Darwin impact glass samples to constrain impact-generated magnetic fields. Cryogenic magnetometers, petrographic microscopy.	
Research Assistantship, University of Rochester	2012–16
Meteorite sample preparation; identified rare chromite species in the Allende meteorite using SEM/XR spectroscopy; honors thesis on 2015 NASA Academy project.	
High School Internships, NASA Goddard Space Flight Center	2011–12
Adapted a method of passive radiometry for the Mercury Laser Altimeter to generate a reflectance map of Mercury at 1064 nm, in support of the MESSENGER mission.	

Mission Involvement

Postdoc member, Project Science, Europa Lander	2021–22
Postdoc affiliate, Project Science, Europa Clipper	2021–22
Student affiliate, PanCam, ExoMars rover	2017–22
Intern, MESSENGER	2011, 2012

Training and Field Experience

NRS Mission Incubation, Innovation Foundry, JPL, US	2021–22
Europa Lander Design Simulations, JPL, US	2021–22
PanCam team member, ExoFIT ExoMars field trials, Harwell, UK	2019, 2018
GeoPlaNet thematic school: Fluid-Rock Interactions, University of Nantes, France	2018
SPICE Training, ESAC, Madrid, Spain	2018
Comparative planetology & radio astronomy field class, California, US	2014

Awards and Grants

RAS Grant, Space Science in Context 2023 – £2,000	2021
UCL Researcher-led Initiative Award, Space Science in Context 2020 – £1,000	2020
Outreach Development Grant, Spacelink Learning Foundation – £250	2019
Travel Grant, Europlanet Society	2019
Travel Grant, UCL Mullard Space Science Laboratory	2018, 2019
Elizabeth Puchnarewicz Award for Outstanding Contribution to Public Outreach, UCL	2018
Dean's Scholarship, University of Rochester	2012–16

Invited Science Seminars and Lectures

Institute for Risk and Uncertainty, University of Liverpool, UK	2022
Herdman Symposium, University of Liverpool, UK	2022
Royal Astronomical Society, London, UK	2021
TIGER in STEMM Summer Webinar Series in Physics, UK	2020
Planetary Science group, University of Glasgow, UK	2020

Interdisciplinary Seminars and Lectures

Panelist, 1014, New York City, US (invited)	2022
Panelist, 42 nd Toronto International Festival of Authors, Toronto, Canada (invited)	2021
Royal Astronomical Society, UK (invited)	2021
Panelist, Centre of Outer Space Studies, University College London, UK (invited)	2020
Space Science in Context, UK	2020
Decolonise STEM Symposium, University College London, UK	2019
Lecture, UCL Horizons Saturdays, University College London, UK (invited)	2019

Selected Public Engagement

Dark Sky Festival, Death Valley National Park, California, US	2022
NASA Space Apps Challenge, New York City, US (invited)	2021
Girls into Geoscience, Geological Society of London, UK	2021
Pint of Science, University College London, UK (invited)	2021
My STEMM Future, Wellcome Connecting Science, UK (invited)	2021
Lunchtime Q&A, Geological Society of London, UK (invited)	2020
GlobalTees, Chapelgarth Estate, North Yorkshire, UK	2020
Mole Valley Geological Society, Dorking, UK	2020
Mentor, MSSL–Kyoto University physics exchange, UK	2019
Mission to Mars, Sutton Scholars Discovery Day, University College London, UK	2018, 2019
Outreach visits, UCL Mullard Space Science Laboratory, UK	2017–2020

Invited Careers, Equity, and Access Speaking

Equitea seminar, Dept. of Physics, University of Warwick, UK	2022
PandA StrIDES seminar, Dept. of Physics & Astronomy, University of St. Andrews, UK	2022
Metas Program, Contra Costa College, California, US	2021
Diversity in Space Careers 2021, UKSEDS, UK	2021
Talking Maths in Lockdown Series, Talking Maths in Public, UK (with Dr. E. Armstrong)	2020
Women in Space Speaker Series, Canada	2020
The Future of Meetings, CSIRO, Australia (with Dr. E. Armstrong)	2020

International Day of Women and Girls in Science, Keele University, UK	2020
Panelist, Women in Physics London 2019, Kings College London, UK	2019
Women in Physics London 2018, Kings College, London, UK	2018

Event Consulting and Organizing

Accessibility consultant, University and College Union, UK	2022–23
Accessibility consultant, Institute for Operations Research and the Management Sciences, US	2021
Code of conduct consultant, British Sedimentological Research Group, UK	2020
Volunteer accessibility consultant, Division of Planetary Sciences, US	2020
Code of conduct consultant, CogX, UK	2020
Co-organizer, Space Science in Context	2019 – present
Organizer, Mission to Mars, Sutton Scholars Discovery Day, University College London, UK	2018, 2019

Other Service Activities

Mentor, Women+ in Geospatial Mentorship Program	2022–23
Session chair (507), Meeting 54 of the Div. of Planetary Sciences	2022
Geologic Mapping Subcommittee, Mapping and Planetary Spatial Infrastructure Team, Lunar and Planetary Institute	2022 – present
Group lead, Accessibility and Safety within the Profession, IDEACon	2022
Co-founder, Disability ERG (D.A.N.G.), Jet Propulsion Laboratory	2021
Session co-convenor (P018), AGU 2021 Fall Meeting	2021
Vice-chair of the Board, JustSpace Alliance	2021 – present
Co-founder and co-organizer, Space Science in Context conference	2020 – present
EDI Committee, UCL Mullard Space Science Laboratory	2019–20
Lead, Mars Group (for students), UCL Mullard Space Science Laboratory	2018–19
Diversity Working Group, Europlanet Society	2017–18

Affiliations and Community Membership

Disabled Academics Collective	2022 – present
Women+ in Geospatial	2022 – present
Asian Americans & Pacific Islanders in Geoscience	2022 – present
Future Leaders of Ocean Worlds	2021 – present
JustSpace Alliance	2021 – present
Centre for Outer Space Studies	2020 – present
UK Planetary Forum	2017 – present
NASA Academy Alumni Association	2015 – present

Professional Membership

AAS Division of Planetary Sciences	2021 – present
Royal Astronomical Society	2021 – present
Institute of Physics	2019 – present
Europlanets Society	2018 – present
European Geosciences Union	2018 – present
American Geophysical Union	2014 – present