Dr. Roger Blue Stabbins

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Academic Positions

2024 – 2025   PDRA, UK Space Agency Mars Exploration Grant
The Natural History Museum, London, UK
Exploring the Limits of Material Discrimination with CaSSIS Multiband Imaging

2023 – 2024   JSPS Postdoctoral Fellowship for Research in Japan
Department of Physics, Rikkyo University, Tokyo, Japan
Performance Optimization of the Martian Moons Exploration spacecraft Remote Sensing Imaging Systems

2023 – 2024   Honorary Research Fellow
Mullard Space Science Laboratory, University College London, UK

2019 – 2022   PDRA, UK Space Agency Aurora Grant
Earth Sciences Department, The Natural History Museum, London, UK
Geochemistry to Geology for the ExoMars 2020 Rover: Visible to Near-Infrared Spectral Variability

Education

2015 – 2022   PhD Planetary Science, UK Space Agency Aurora Studentship
Mullard Space Science Laboratory, University College London, UK
Spectral Imaging Simulations for Planetary Surface Exploration: Preparing for PanCam on the ExoMars Rover

2010 – 2014   MSci Physics, 1st Class Honours
Department of Physics & Astronomy, University College London, UK

Professional Roles and Memberships

2023 – Present   Science Working Team Member, JAXA Martian Moons eXploration mission
Instrument simulation, calibration, operations planning, and image processing.

2022 – Present   Science Team Member, ESA ExoMars Enfys Infrared Spectrometer
Instrument simulation, performance requirement for Mars surface studies.

2015 – Present   Science Team Member, ESA ExoMars PanCam Multispectral Imager
Instrument simulation, calibration, operations planning, and image processing.

Autumn 2021   Instrument Scientist, ESA RSOWG ExoMars Rover Simulation #4
Observer of rover operations simulation, focusing on PanCam operation.

2018 – 2019   Instrument Scientist, ESA ExoFiT (ExoMars-like Rover Field Trials)
Rover operations, image processing software development, maintenance, and support.

Summer 2018   Lead Convener, Building Habitable Worlds Early Career Meeting, MSSL

Autumn 2016   Instrument Scientist, UK Space Agency MURFI (Mars Utah Rover Field Investigation)
Instrument field deployment, instrument operations support and image processing.

2015 – Present   Royal Astronomical Society Fellow

Funding and Awards

2024 – 2025   UK Space Agency Mars Exploration Post-Doctoral Research Associate
2023 – 2024   JSPS Postdoctoral Fellowship for Research in Japan
2019 – 2022   UK Space Agency Aurora Post-Doctoral Research Associate
2019   Mullard Space Science Laboratory Team Achievement Award
2017   ASB Student Travel Award, Astrobiology Society of Britain 7th Conference
2017   IUGG Student Travel Award, 1st IUGG Planetary Science Symposium, Berlin

2016	1st Prize, Oral Presentation, RSPSoc Wavelength Early Career Annual Meeting
2016	1st Prize, Poster Presentation, UK Planetary Forum 13th Early Career Meeting
2015 – 2019	UK Space Agency Aurora Studentship
2013	Space Placement in Industry Network, Summer Internship Grant, RAL Space

Selected Publications

Grindrod, **Stabbins**, et al, "Optimizing Exomars 2022 Rover Remote Sensing Multispectral Science: Cross-Rover Comparison using Laboratory and Orbital Data" ***Earth & Space Science***, 9, e2022EA002243 (2022). Contribution: Conception, methods, software development, data processing, data analysis, manuscript writing.

Allender, **Stabbins**, et al, "The ExoMars Spectral Tool (ExoSpec): an image analysis tool for ExoMars 2020 PanCam imagery" Proc. SPIE 10789, ***Image and Signal Processing for Remote Sensing XXIV***, 107890I (2018). Contribution: Methods, software development, data processing, and manuscript writing.

Balme et al, incl. **Stabbins**, "The 2016 UK Space Agency Mars Utah Rover Field Investigation (MURFI)" ***Planetary & Space Science***, 165, pp. 31-56 (2019). Contribution: Data processing, data analysis, and manuscript writing.

Coates et al, incl. **Stabbins**, "The PanCam instrument for the ExoMars rover" ***Astrobiology***, 17, 6-7, (2017). Contribution: Methods, manuscript writing.

Selected Conference Presentations

Oral (invited)	MMX 6th Science Working Team Meeting, Tokyo, 28–30/3/2023
Oral	American Geophysical Union Fall Meeting, Chicago, 12–16/12/2022
Poster	52nd Lunar & Planetary Science Conference, The Woodlands, Texas, 15–19/3/2021
Oral	4th Int. Workshop on Instrumentation for Planetary Missions, TUB Berlin, 12/09/2018

Teaching and Supervision

2017 – 2018	Supervisor, MSc Thesis, UCL, D. Bowden (PhD Leicester Uni. awarded 2022)
2016 – 2017	Supervisor, Work Experience Group Research Project
2015 – 2016	Teaching Assistant, UCL MSc Planetary Atmospheres and Space Env. & Orbits

Training

Field	UKSA ExoMars Ancient Lake Sediments Field Training, Thurso, 16–19/09/2019
	UKSA ExoMars Field Training Workshop, Pembrokeshire, 18–21/09/2017
AI/ML	STFC Machine Learning & A.I. Summer School, UCL, 17–25/07/2018
Imaging	Europlanet Planetary Mapping Winter School, Online, 7–11/2/2022

Technical Skills

Field	Mineralogical multispectral imaging and IR Spectral reflectance.
Laboratory	Radiometric and geometric camera calibration and characterisation; spectral BRDF soil and bulk rock measurements.
Computing	Software development with *Python, IDL*, and *ENVI*; programming experience in *MATLAB, PBRT (Physically Based Rendering),* and *C++*; user experience with *Microsoft Office, github, Adobe Suite,* and *UNIX*

Selected Outreach

Media	Research feature in A&G Magazine, "Hunting for Biosignatures on Mars", 1/8/2021
	Radio + Podcast Interview, Radio St Austell Bay, 19/9/2020
Workshops	Roving-with-Rosalind, interactive activity, Great Exhibition Road Festival, 2022
	Mission to Mars, Sutton Scholars, workshops for disadvantaged children, 2016–2018
Talks	Skype-a-Scientist, presentations/Q&A's with international classrooms, Summer 2021
	London International Youth Science Forum, 2/8/2016

References available on request.