

Dr. Susanne P. Schwenzer

AstrobiologyOU, School of Earth, Environment and Ecosystem Sciences, The Open University, Walton Hall, Milton Keynes MK76AA, UK, susanne.schwenzer@open.ac.uk

October 2021

Key points

- Senior lecturer (equivalent to associate professor)
- Associate director of AstrobiologyOU
- PhD supervision (five to completion, two current)
- Visiting scientist at Lunar and Planetary Institute, Houston;
- Team member of the NASA Mars Science Laboratory mission to Gale Crater, Mars
- PhD at University of Mainz/Max Planck Institute for Chemistry, Mainz, 2004

Degrees and certifications

Teaching qualification: 13. October 2017
Fellow of the Higher Education academy

PhD: 13. May 2004

Dr. rer. nat. (Max-Planck-Institut für Chemie Mainz, University of Mainz, Germany)

Title of thesis: Marsmeteorite: Edelgase in Mineralseparaten, Gesamtgesteinen und terrestrischen Karbonaten (Martian meteorites: Noble gases from mineral separates, whole rocks and terrestrial carbonates)

Diplom (Masters level): 8. April 1998

Mineralogy (University of Mainz, Germany)

Title of thesis: $^{87}\text{Sr}/^{86}\text{Sr}$ - und $^{143}\text{Nd}/^{144}\text{Nd}$ -Isotopenuntersuchungen an Karbonaten und Fluoriten aus postvariscischen Gangmineralisationen in SW-Deutschland ($^{87}\text{Sr}/^{86}\text{Sr}$ - and $^{143}\text{Nd}/^{144}\text{Nd}$ -isotopic investigations of carbonate und fluorite from post-variscan vein-type mineralization in SW-Germany)

Career and professional experience

2019-...

Associate Director of AstrobiologyOU, The Open University, Milton Keynes (UK),
Interdisciplinary work on the crossovers between biology and geochemistry,
Interdisciplinary work in International Development (technology transfer) and governance
Focus on Early Career Researcher support and administration; PhD student administration
Co-supervision of PhD students whose main topic is in Biology, International Development, respectively Governance

2018-...

Senior Lecturer (equivalent to associate professor in the US), The Open University, Milton Keynes (UK),
Department of Earth, Environment and Ecosystem Sciences;
Research on Mars (meteorites, Mars Science Laboratory mission, future missions, including field trial and ExoMars preparation, analog geology on Earth) and wider planetary science, grant writing, teaching (S209, S283, S818, SXPS288)

2015-2018

Lecturer, The Open University, Milton Keynes, Dept. of Earth, Environment and Ecosystem Sciences
Research on Mars (meteorites, Mars Science Laboratory mission, future missions, including field trial and ExoMars preparation, analog geology on Earth) and wider planetary science, grant writing, teaching (S209, S283, S818), lead of the Virtual Microscope facility (www.virtualmicroscope.org)

2009-...

Visiting Scientist, Lunar and Planetary Institute, Houston (USA) (since 10/2009)
Maintaining collaboration with the LPI on research on Martian topics

2017-2018

Visiting adjunct professor at Southern Illinois University, Carbondale, US

2013-2015

Research Investment Fellow, The Open University, Milton Keynes (UK),
Department of Physical Science (02/2013-04/2015);
Research on Mars (meteorites, Mars Science Laboratory mission, future missions, including field trial and ExoMars preparation, analog geology on Earth) and wider planetary science, grant writing, teaching (MOOC, course work, PhD supervision)

2011-2017

Guest Lecturer at Space Research Centre, University of Leicester (since 2011)
Teaching impact processes for a planetary science course

2014

Visiting Lecturer at International Space University (May 2014)
Teaching basics in planetary geology within the 'Astrobiology' elective

2012-2013

Postdoctoral Research Associate, The Open University, Milton Keynes (UK),
Department of Physical Science, Discipline of Planetary Science (10/2012-02/2013)
Research on Mars (meteorites, noble gases, Mars Science Laboratory mission, Earth analogs) and wider planetary science, co-supervision of PhD students

2009-2012

Postdoctoral Research Associate, The Open University, Milton Keynes (UK),
Group of Dr. Sarah Sherlock (10/2009-10/2012)
Research into excess argon, its sources, pathways and sinks

2007-2009

Postdoctoral researcher, Lunar and Planetary Institute, Houston (USA),
Group of Dr. David A. Kring (07/2007-09/2009)
Research into impact-generated hydrothermal systems on Mars

2006-2007

Fellowship, Max Planck Institute for Chemistry Mainz,
DFG (German Science Foundation) "eigene Stelle" (07/2006-06/2007)
Research into noble gas fractionation during desert weathering, with emphasis on cold deserts and Mars analog work

2004-2006

Postdoctoral researcher, Max Planck Institute for Chemistry Mainz,
Group of PD Dr. Ulrich Ott (06/2004-06/2007)
Research into noble gases in Martian meteorites, studying different reservoirs and geologic processes

2000-2004

Research Associate, Max Planck Institute for Chemistry Mainz, PhD project,
Group of Dr. Ulrich Ott (10/2000-05/2004)
PhD on 'Noble Gases in Martian Meteorites'
Laboratory technician, Max Planck Institute for Chemistry Mainz, Geochemistry Department,
Group of Dr. K. P. Jochum (02/2000-09/2000)
Laboratory work in preparation of geochemical measurements, main, minor and trace elements, and isotope work (Pb, Nd, Sr).

“GPoll”-Fellow (European Union Programme on Groundwater Pollution (GPoll)); Project at ETH Zürich: laser-ablation-ICP-mass spectrometry (Group of Prof. Dr. Detlef Günther) (01/2000)
Laboratory work on Laser-Ablation-ICP-MS studies of sulphide minerals

1999-2000

Research associate, project: Arsenic in Wiesbaden thermal (spa) waters (07/1999–09/2000)
Group of Prof. Dr. M. Kersten

Laboratory work to conduct precipitation experiments to co-precipitate As with Fe-oxides/-hydroxides, As-speciation measurements, microprobe work

Teaching assistant, Institute of Mineralogy, University Mainz, for undergraduate (03/1999–12/1999)
Classes on ‘rocks and minerals’, microscopy, and geochemical laboratory practical studies

Laboratory technician, Institute of Mineralogy, University Mainz (03/1999–12/1999)
Preparation of samples for RFA work, microprobe lab technician

1998-1999

Fellow of Römisch-Germanisches Zentralmuseum Mainz, field of archaeometry: investigation of Roman ceramics (05/1998–06/1999)

Inventory of a find site, chemical analyses of artifacts and potential raw mineral source rocks

1991-1998

Assistant curator of the Rock and Mineral collection at Mineralogical Institute of the University of Mainz (1991–1999)

Inventory work, preparation of classroom demonstrations, general collection maintenance

Undergraduate research assistant, Mineralogical Institute, University Mainz, assisting in undergraduate mineralogy teaching (1991–1998)

1988-1990

Freelance journalist (part time) at Mittelrhein Verlag Koblenz (regional offices in Bad Ems, Westerburg and Mainz) (1988–1990)

Awards:

2017: NASA Group Achievement Award presented to the MSL Science Office Development and Operations Team.

OU Group Merit Award for the Mars Rover simulation team exercise integrated into S818 Master in Space Science

2016: OU Merit Award (for student pastoral support)

2015: NASA Group Achievement Award presented to the MSL Science Office Development and Operations Team. 2nd June 2015.

2014: OU Merit Award (for Mars research)

2013: NASA Group Achievement Award presented to the MSL Science Office Development and Operations Team. 18th July 2013.

2012: OU Merit Award (for seminar organization)

2000: Paul-Ramdohr-Award of the Deutsche Mineralogische Gesellschaft for the presentation of the paper: Schwenzer, S. P., Kirnbauer, T., Kritzotakis, K. Schultz-Dobrik, B., Kersten, M., Horn, I. & Günther, D. (2000): “LA-ICP-MS analysis of epithermal deposits from mineral water wells of Wiesbaden” at the annual meeting of the DMG (Heidelberg 2000).

Science Teams and Analog Mission Simulations

2017- ...: ExoFit, Field geologist for the ESA ExoMars field trail campaign of 2017/18

2015-....: ExoMars WISDOM team member

2013-....: SAM team member for the investigation of heavy noble gas signatures on the NASA Mars Science Laboratory (MSL) mission at Gale Crater, Mars

2012- ...: Member of the consortium to study of Olivine-Phyric Shergottite NorthWest Africa 6234 led by Dr. J. Filiberto (SIU, Cabondale USA) since 2011.

2011-....: Co-I on Mars Science Laboratory Participating Scientist Team (PI Dr. J. C. Bridges, University of Leicester)

2013-2014: PI of Sample return proposal: Desert weathering – sampling Earth to understand Mars.– proposal to the expedition “Prospects for Humans on Mars” (12.-26 January 2014) of the UK Mars Society to the Mars Desert Research Station (MDRS) in Utah, US (Funding obtained so far covers instruments and materials through OU internal funds).

2013: Lead remote geologist in SAFER Remote operations team during ESA Field trials campaign, Harwell, 7th to 13th October 2013.

2004-2007: Member of the German Science Foundation priority programme “Mars and the terrestrial planets“, subgroup “SNC-meteorites”; organizer of the subgroup from 2005 onwards

OU administration, service to the community, adult education, public outreach

2021

- Associate director and board member of the new group AstrobiologyOU, responsible for early career researchers
- NASA Tiger Team (advising NASA on atmospheric sample return for the 2026 ESA/NASA mission)
- Member of the OU Concordat Steering Group (Research Staff Representative)
- Mentor of PhD students and early career researchers outside the AstrobiologyOU group
- Associate Editor at Geochemistry (Chemie der Erde)

2020

- Associate director and board member of the new group AstrobiologyOU, responsible for early career researchers
- Member of the OU Concordat Steering Group (Research Staff Representative)
- Mentor of PhD students and early career researchers outside the AstrobiologyOU group
- Associate Editor at Geochemistry (Chemie der Erde)

2019

- Board member of the new group AstrobiologyOU, responsible for early career researchers
- Member of the OU Concordat Steering Group (Research Staff Representative)
- Member and chair of several hiring committees for posts at PhD student, postdoctoral level and above.
- Mentor of PhD students and early career researchers outside the AstrobiologyOU group

2018

- Academic lead of the Virtual Microscope (www.virtualmicroscope.org)
- Member of the OU Concordat Steering Group (Research Staff Representative)
- MSL and other public talk and school visit activities with one visit or talk per month on average
- Member of several hiring committees for posts at postdoctoral level and above.

2017

- Academic lead of the Virtual Microscope (www.virtualmicroscope.org)
- Member of the OU Concordat Steering Group (Research Staff Representative)
- NASA Review panel member (2 panels, including virtual institute panel)
- MSL and other public talk and school visit activities with one visit or talk per month on average
- CUP: Collaboration between the Open University and Cambridge University Press. It's a 10 week online course called "Practical Mineralogy and Petrology with the Virtual Microscope".

2016

- Member of the OU Concordat Steering Group (Research Staff Representative)
- Meteoritical Society, Pellas-Ryder Award Committee, 2014-2016
- CIRIR (Center for Research on Impacts and on Rochechouart): member of the 'research Task Force' team. 2016-
- Member of the EPSRC (Engineering and Physical Sciences Research Council) peer review college, since October 2016. <https://www.epsrc.ac.uk/funding/assessmentprocess/college/>
- NASA Review Panel member
- Co-organizer of the RAS meeting "Crustal Differentiation on Mars: A new View of the Red Planet Forty Years after Viking" on 11 November 2016 (main organizer J. C. Bridges).
- Participant (one day) in the MURFI rover trial.
- MSL and other public talk and school visit activities with one visit or talk per month on average

2015

- Meteoritical Society, Pellas-Ryder Award Committee, 2014-
- NASA Review Panel member
- Meeting organization: Bridges, J. C., Sefton-Nash, E., and Schwenzer, S. P.: The Fourth UK in Aurora Programme Meeting, 15th May 2015, Burlington House, Piccadilly, London
- Member of the OU Concordat Steering Group (Research Staff Representative)
- MSL and other public talk and school visit activities with one visit or talk per month on average

2014

- International Space University, Strasbourg, May 2014: Three days in the 'Astrobiology elective' - focusing on the geology that could support habitability (surface processes, mineralogy, water-rock interactions); course planned and delivered, very positive feedback, no formal evaluation.
- MSL and other public talk and school visit activities with one visit or talk per month on average
- Meteoritical Society, Pellas-Ryder Award Committee, 2014-
- NASA Review panel member
- Member of the OU Concordat Steering Group (Research Staff Representative)
- Invitation and organization of the visit of NASA astronaut Dr. Stanley G. Love. public lecture and webcast 14 October 2014
- Guest Lecturer at University of Leicester: Course on planetary surfaces, topic 'impact cratering and its aftermath'; one lecture/year, third presentation in March 2014.
- MGeol 4th year project external advisor for Laura Brooker, University of Leicester (advisor Dr. J. C. Bridges)
- MOOC scientific content coordinator (topic 'Moons'), reached a completion rate of over 40%, which is well above the 7% found by an OU PhD thesis (<http://www.timeshighereducation.co.uk/news/mooc-completion-rates-below-7/2003710.article>)

2013

- Advisor to work experience students (OU undergraduate)
- Presenter at "Postgraduate Research Forum" (topic 'time management')
- Guest Lectures on OULife! for OU science students
- Forum moderator during the trial run of nQuire "The Moon Rock Explorer", January 2013
- Public outreach mainly concerning MSL and Mars, with about 12 public talks, school visits or event participations per year, additional engagement through interviews and media work

- Co-organizer (lead Dr. John Bridges, Leicester) of the RAS Specialist Discussion Meeting, 3rd Aurora Mars workshop in January 2013.
- Training on radiation protection (§ 29 of "Strahlenschutzverordnung") in 2001, in 2011 and 2013 updated in a one day seminar at the OU; badged irradiation worker at the Open University

2009-2012

- Member of the Virtual Microscope team
- Quiz design for e-book on 'Moons'
- UK STEM ambassador
- public outreach work with 4-6 talks or event participations/year

2007-2009

- Supervision of internships (pupils and students); regular outreach activities, e.g., public talks and participation in the LPI kid's day.
- Co-organizer of the workshop "Modeling Martian Hydrous environments", June 1-3, 2009 at LPI in Houston, TX; sponsored by LPI and NASA

2000-2007

- School activities, including girl's day and other gender specific activities at MPI
- Public outreach talks about regional geology and Martian topics (4-6 talks/year)
- Co-organizer (together with Dr. Fritz; Berlin) of the special session "Mars and the terrestrial planets" at the annual conference of the German Mineralogical Society in Hannover (2006) within the framework of the DFG priority programme "Mars and the terrestrial planets"
- Co-organizer (together with Dr. Holzheid; Münster) of the workshop on Mars and Martian meteorites in Mainz (August 2006) within the framework of the priority programme "Mars and the terrestrial planets"
- Co-organizer (together with Dr. Fritz; Berlin) of the special session "Mars and the terrestrial planets" at the annual conference of the German Mineralogical Society in Aachen (2005) within the framework of the DFG priority programme "Mars and the terrestrial planets"
- Organizer of the subgroup "SNC-meteorites" within the framework of the priority programme "Mars and the terrestrial planets" (2004 to 2007)

1994-2000

- Teaching assistant and Tutor at University of Mainz: Geochemical laboratory (General laboratory introduction, C and S determination; Dilution series, Rock processing and dissolution, RFA)
- Introduction to minerals and rocks; first role teaching assistant, later tutorial, whereby I designed and led the tutorial

1998-

- Volunteer principal journal editor (Lahn-Marmor-Nachrichten) for a public outreach journal with geologic, history and mining history topics
- Public lectures and guided tours to geological and mineralogical topics in the framework of the museum (until 2007)

Grant funding summary

- Co-I on the 6.7 Mio GBP 'Research England, Expanding Excellence' grant
- ~£8331k grant funding received since 2004, ~10 % of which as PI/co-PI
- Selected funders: NASA, UKSA, STFC, Research England, Leverhulme