



Petra Rettberg

Dr. Petra Rettberg, a bio-/chemist by training, is working at DLR for more than 20 years as head of the Astrobiology Research Group in the Institute of Aerospace Medicine. Her research interests encompass astrobiology, planetary protection, life in extreme environments, microbiology, radiation biology and photobiology. Besides microbiological laboratory work she is PI and Co-I of several space experiments and active in field studies and contract research. She is member of different international scientific committees and working groups related to life sciences in space, astrobiology and planetary protection. Petra Rettberg has authored more than 240 publications in refereed journals in addition to other publications (for details see https://www.dlr.de/me/desktopdefault.aspx/tabid-1943/2742_read-7063/sortby-lastname/ and Research Gate → Petra Rettberg).

1. Personal details

First and family name: **Dr. Petra Rettberg**
 Date of birth: 10.09.1958
 Place of birth: Witten (D)
 Nationality: German
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2. Scientific career

DLR, Institute of Aerospace Medicine, Radiation Biology, Köln, Germany

2005 - Deputy Head of the Radiation Biology Department
 1996 - Head of the Research Group 'Astrobiology'
 1993 - 1995 Junior research scientist

Max-Planck-Institute for Radiation Chemistry, Mülheim, Germany

1988 - 1992 Head of the Research Group 'Radiation Biology'
 1988 Scholar of the Max Planck-Society

3. Education and training

1983 - 1988 Dissertation (Dr. rer. nat.), Ruhr-Universität Bochum, Germany
 1977 - 1983 Study of chemistry (Diplom-Chemist), Ruhr-Universität Bochum, Germany
 1968 - 1977 Secondary school (Gymnasium), Witten, Germany
 1965 - 1968 Primary school, Witten, Germany

4. Professional Experience

- Acquisition, management and scientific realisation of interdisciplinary international research projects
- Supervision of PhD, diploma, master and bachelor students in the disciplines biology, medicine, mechanical, chemical and medical engineering

– **Research interests**

microbiology, life in extreme environments, astrobiology, habitability, radiation biology, photobiology, planetary protection

– **Space experiments - Principal Investigator / team coordinator**

MEXEM (formerly known as MASE-in-Space, EXPO, ISS, in preparation)
 LUX-in-Space (BIOLAB, ISS, in preparation)
 TRIPLELUX C (accepted for ISS in 1997, deselected in 2014)
 BOSS (EXPOSE-R-2, ISS)
 ADAPT (EXPOSE-E, ISS)
 MARSTOX II (BIOPAN, FOTON)
 MARSTOX I (BIOPAN, FOTON)

– **Space experiments - Co-Investigator**

Bacterial Conjugation (FLUMIAS, ISS, in preparation)
 HABIT (ExoMars 2022, in preparation)
 IceCold (EXPO, ISS, in preparation)
 BioRock (KUBIK, ISS)
 EXTREMOPHILES (ISS)
 BIOMEX (EXPOSE R-2, ISS)
 SPORES (EXPOSE-R, ISS)
 Phobos LIVE (Phobos Grunt)
 PROTECT (EXPOSE-E, ISS)
 Lithopanspermia (BIOPAN, FOTON)
 HighRad (BIOPAN, FOTON)
 EXOBIOLOGIE (PERSEUS, MIR space station)
 UVE (Mir'97, MIR space station)
 REPAIR (IML-2, Space Shuttle)
 KINETICS (IML-2, Space shuttle)
 UVRAD (D-2, Space shuttle)
 SURVIVAL II (BIOPAN III, FOTON)
 SURVIVAL I (BIOPAN I and II, FOTON)

– **ESA projects**

2021 - 2022	PP-VERI-III Agency Level Independent Verification Assays and Validation of New Assay Procedure (contractor)
2011 - 2019	PP-VERI-I and -II, Bioburden and Biodiversity Agency-Level Verification Assays (contractor)
2006 - 2011	BioDiv - Bioburden and Biodiversity Evaluation in Spacecraft Facilities and Lifetime Test of a Rapid Spore Assay (contractor)
2003 - 2005	MiDiv - Determination of the Microbial Diversity of Spacecraft Assembly and Testing Facilities (contractor)
2014 - 2016	BIOMODEXO (team member)
2011 - 2016	ESA Topical Team EANA (coordinator)
2011 - 2014	CAVES (team member)
2012 - 2015	BIOSIS (team member)
2010 - 2011	MICHAm, MARS 500 project (Principal Investigator)

– **EC projects**

2018 - 2022 SALTGIANT (partner)
2016 - 2018 PPOSS (scientific coordinator)
2015 - 2019 EDEN-ISS (team member)
2015 - 2017 EURO-CARES (partner)
2014 - 2017 MASE (team member)
2012 - 2015 Astromap (team member)
2008 - 2010 CAREX (team member)

– **Other projects**

2016 - 2019 Kalte Plasmatechnologie für die Raumfahrt, Bayrisches
Wirtschaftsministerium
2016 - 2018 MOMEDOS, Universität Wien (contractor)
2015 - 2018 BAL S - Bioinspired Antimicrobial Laquer in Space, OHB (contractor)
2011 - 2015 Federal Ministry of Education and Reserch, Verbundforschungsvorhaben
ToxBox – Teilprojekt 4: SWITCH
2011 - 2014 Dekontamination von Raumfahrt-Bauteilen: Einsatz kalter Plasmen, MPI für
extraterrestrische Physik (contractor)

5. Further professional skills and activities

COSPAR: Member of the COSPAR Panel on Planetary Protection on behalf of DLR

COSPAR: Member of the German National COSPAR Committee (COSPAR-Landesausschuss der DFG)

ESA: Member of the ESA Planetary Protection Working Group (ESA PPWG)

IAA: International Academy of Astronautics, Member of Commission 2: Space Life Sciences (since 2011), Chair of Commission 2 (2015 - 2017)

IAF: International Astronautical Federation, Member of the Technical Committee: Space Life Sciences (since 2012), Technical Committee Chair since 2018

EANA: Councillor of the European Astrobiology Network Association (EANA)

ESSC: Member of the European Space Science Committee of the European Science Foundation – Solar System and Exploration Panel (2013 – 2019)

ECSS: Member of the different former Working Groups of the European Cooperation for Space Standardisation

Senior Editor of the journal Astrobiology, Mary Ann Liebert, Inc.

Organiser of COSPAR Symposia for the COSPAR Assemblies since 2006

Organiser of sessions for the IAC (International Astronautical Congress) since 2011

Organiser of EANA'11

2003 Chief biologist at the Mars Desert Research Station (MDRS) in Utah, USA
2000 Visiting scientist at NASA Ames in California, USA
1996 and 1997 Visiting scientist in Okazaki, Japan

Biosafety officer (BBS) at DLR

Project leader of a research project with genetically modified organisms (1994 – 2018)

Radiation protection supervisor at DLR (SSB, 1993 – 2012)

4 patents

6. Awards

2020	International Academy of Astronautics - IAF Distinguished Service Award
2016	Award and title: DLR Senior Scientist
2014/15	DLR-Competition of Visions, 2nd Place, Biopolymer-Aerogel-Filter in Environmental Control Systems
2014	International Academy of Astronautics – IAF Life Sciences Book Award for the book 'Complete Course in Astrobiology', Wiley-VCH Verlag GmbH & Co. KgaA, Germany
2001	DLR-Competition of Visions, 2nd Place, Wegbereitung zur Erschließung des Mars
2000	DLR-Forschungssemester (sabbatical leave at NASA Ames)

7. Membership in Scientific Societies

IAA: International Academy of Astronautics

EANA: European Astrobiology Network Association

VAAM: Vereinigung für allgemeine und Angewandte Mikrobiologie

DabG: Deutsche Astrobiologische Gesellschaft

8. Publications

More than 240 peer reviewed publications in addition to conference papers and book chapters

For details see

Research Gate → Petra Rettberg

Google Scholar → Petra Rettberg

elib - Publications of the DLR (<https://elib.dlr.de/>) → Petra Rettberg

<https://www.dlr.de/me/en/desktopdefault.aspx/tabid-1940/>