Roland Hatzenpichler, PhD

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Professional Preparation

• University of Vienna	Austria	Microbiology & Genetics	Master of Natural Sciences	2006
• University of Vienna	Austria	Microbial Ecology	Doctor of Natural Sciences (PhD)	2011
• California Institute of Technology	Pasadena, CA	Geobiology		2011-2016

Appointments

- **Nov 2016 - present, Assistant Professor, Department of Chemistry and Biochemistry. Montana State University (MSU), Bozeman.** Affiliated faculty at the Thermal Biology Institute and the Center for Biofilm Engineering at MSU
- Aug-Oct 2016, Assistant Research Professor, Department of Microbiology and Immunology, MSU

Awards and honors

- **2017, NASA Early Career Fellowship, NASA Exobiology program**
- 2014, NSF Center for Dark Energy Biosphere Investigations Postdoctoral Scholarship
- 2011, O.K. Earl Postdoctoral Scholarship in Geobiology, California Institute of Technology
- 2011, Erwin Schrödinger Postdoctoral Scholarship, Austrian Science Fund
- 2011, Doc Award for outstanding PhD thesis by the City of Vienna and the University of Vienna
- 2007, Pre-doctoral Fellowship by the Austrian Academy of Sciences

Peer reviewed publications

in total, 16 publications; +2 ms in preparation **~2,000 citations, h-index: 11, i-10 index: 12**

Five most significant publications

*** corresponding author** **equal contribution**

- McKay LJ, **Hatzenpichler R**, et al. *Occurrence and expression of novel methane cycling genes by diverse archaeal phyla in hot spring sediments*. Sci Rep 7: 7252 (2017)
- **Hatzenpichler R*** et al. *Visualizing in situ translational activity for identifying and sorting slow-growing archaeal-bacterial consortia.* Proc Natl Acad Sci USA, 113: E4069-E4078 (2016)
- **Hatzenpichler R*** et al. *In situ visualization of newly synthesized proteins in environmental microbes using amino acid tagging and click chemistry*. Environ Microbiol, 16: 2568-2590 (2014)
- Lebedeva EV, **Hatzenpichler R**, et al. *Enrichment and genome sequence of the group I.1a ammonia-oxidizing archaeon "Ca. Nitrosotenuis uzonensis" representing a clade globally distributed in thermal habitats*. PLoS One, 8: e80835 (2013)
- **Hatzenpichler R** et al. *A moderately thermophilic ammonia-oxidizing crenarchaeote from a hot spring*. Proc Natl Acad Sci USA, 105: 2134-2139 (2008)

Other significant publications

*** corresponding author**

- Marlow JJ and **Hatzenpichler R**. *Assessing metabolic activity at methane seeps: a testing ground for slow-growing environmental systems*. Book chapter in *Life at Vents and Seeps*. 223-259 (2017)
- **Hatzenpichler R*** and Orphan VJ. *Detection of protein-synthesizing microorganisms in the environment via bioorthogonal non-canonical amino acid tagging (BONCAT)*. Book chapter for *Hydrocarbon and Lipid Microbiology Protocols, Vol. 7: Single-cell and single-molecule methods*. Springer Protocols Handbooks, doi: 10.1007/8623_2015_61 (2015)
- Ma L, Kim J, **Hatzenpichler R**, et al. *Gene-targeted microfluidic cultivation validated by isolation of a gut bacterium listed in Human Microbiome Project's Most Wanted taxa*. Proc Natl Acad Sci USA, 111: 9768–9773 (2014)

- **Hatzenpichler R***. *Diversity, physiology, and niche differentiation of ammonia-oxidizing archaea*. Appl Environ Microbiol, 78: 7501-7510 (2012)
- Spang A, **Hatzenpichler R**, et al. *Distinct gene set in two different lineages of ammonia-oxidizing archaea supports the phylum Thaumarchaeota*. Trends Microbiol 18:331-40 (2010)

External grant funding
Direct funding as PI: $1.92M; additional funding as Co-PI or lead on institutional proposal: $2.35M

- NASA Exobiology, $540k, PI, 2019-2022
- NSF RII Track-2 FEC, $1.82M, Co-PI, 2017-2022
- NSF Systems and Synthetic Biology, $420k, PI, 2018-2021
- NASA Early Career Fellowship Start-up Program for Named Fellows, $100k, PI, 2018-2020
- Gordon and Betty Moore Foundation, Marine Microbiology Initiative, $430k, PI, 2018-2020
- MJ Murdock Charitable Trust, $174k, institutional proposal, PI, 2018-2020
- NSF Major Research Instrumentation, $354k, institutional proposal, PI, 2017-2019
- NASA Exobiology, $431k, PI, 2016-2019

Synergistic Activities

- **2018-present, Editorial Board Member, The ISME Journal.** Impact factor: 9.520 (2018)
- **2015-present, Associate Editor, *Frontiers in Microbiology*: *Microbial Physiology and Metabolism.*** Impact factor: 4.019 (2018)
- 2014-2017, Member of Junior Advisory Group of the American Society of Microbiology (ASM)
- 2016, member of General Meeting Planning Committee for *ASM Microbe 2016*, Boston, MA
- 2015-2017, convener of plenary session at the ASM General Meetings (2015, 2016 and 2017)
- regular *ad hoc* reviewer for The ISME Journal, Nature Communications, Nature Microbiology, Environmental Microbiology, FEMS Microbiology Reviews, Applied and Environmental Microbiology, Frontiers in Microbiology, Environmental Microbiology Reports, FEMS Microbiology Ecology, PLoS One, Microbiology, Scientific Reports, Antonie van Leeuwenhoek Journal of Microbiology, Environmental Science and Technology, mSphere
- **reviewer for grant applications** (panellist roles not shown) to: NASA's Exobiology, NSF MRI BIO, NASA Astrobiology Institute CAN8, NASA's Earth and Space Sciences Graduate Fellowship program, Montana NASA EPSCoR, NSF Biological Oceanography, DOE Joint Genome Institute CSP program, DOE Environmental Molecular Sciences Laboratory, French National Research Agency
- **2016-present, 5 invited seminars and 4 invited conference talks since start of faculty position**
- 2008-2016, 23 invited seminars and 5 invited conference talks prior to starting faculty position

Mentoring

- Viola Krukenberg, postdoc, 2017-present; anaerobic carbon-cycling potential of microbes in Guaymas basin sediments through activity-based cell sorting and single cell genomics
- Rachel Lange Spietz, postdoc, 2018-present; 3D organization of metabolically active cells in marine sediments through the lens of bioorthogonal labeling and stable isotope probing
- Mackenzie Lynes, graduate student, 2017-present; diversity and biogeography of uncultured microbes in hot springs of Yellowstone National Park; *in situ* structure-function analyses of hot spring microbes
- Nick Reichart, graduate student, 2017-present; ecophysiology of microbial dark matter in hot springs; developing novel bioorthogonal labeling approaches to identify novel cellulolytic thermophiles
- Anthony Kohtz, graduate student, 2018-present; characterizing the physiology of a novel archaeal lineage in hot springs; development of new click chemistry labeling techniques to identify cells
- George Schaible, graduate student, 2018-present; characterizing the biology of uncultured multicellular magnetotactic bacteria through genomics, *in situ* observation, targeted cultivation, and activity tracing