

## Roland Hatzenpichler, PhD

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### Professional Preparation

- University of Vienna   Vienna, Austria   Microbiology & Genetics   Master of Natural Sciences, 2006
- University of Vienna   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**
- Nov 2016 - present, Affiliated faculty at Center for Biofilm Engineering, MSU
- Aug 2017 - present, Affiliated faculty at Thermal Biology Institute, MSU
- Aug-Oct 2016, Assistant Research Professor, Department of Microbiology and Immunology, MSU

### Awards and honors

- **2017, NASA Early Career Fellowship**
- 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 (\*corresponding author)      >1,800 citations, h-index 11, i-10 index 12

13. McKay LJ, **Hatzenpichler R**, Inskeep WP, Fields MW. *Occurrence and expression of novel methyl-coenzyme M reductase gene (mcrA) variants in hot spring sediments*. Sci Rep 7: 7252 (2017)
12. Miranda PJ, McLain NK, **Hatzenpichler R**, Orphan VJ, and Dillon J. *Characterization of chemosynthetic microbial mats associated with intertidal hydrothermal sulfur vents in White Point, San Pedro, CA, USA*. Front Microbiol, 7:1163 (2016)
11. **Hatzenpichler R\***, Connon SA, Goudeau D, Malmstrom R, Woyke T, Orphan VJ\*. *Visualizing in situ translational activity for identifying and sorting slow-growing archaeal-bacterial consortia*. Proc Natl Acad Sci USA, 113: E4069-E4078 (2016)  
 ► Discussed in Nature Microbiol “News & Views”
10. Tavormina PL, **Hatzenpichler R**, McGlynn S, Chadwick G, Dawson K, Connon S, and Orphan VJ. *Methyloprofundus sedimenti gen. nov., sp. nov., an obligate methanotroph from ocean sediment belonging to the Deep Sea 1 clade of marine methanotrophs*. Int J Syst Evo Microbiol, 65: 251–259 (2015)
9. **Hatzenpichler R\***, Scheller S, Tavormina PL, Babin B, Tirrell D, and Orphan VJ\*. *In situ visualization of newly synthesized proteins in environmental microbes using amino acid tagging and click chemistry*. Environ Microbiol, 16: 2568-2590 (2014)  
 ► Cover article ► Discussed in Environ Microbiol “Research Highlight”
8. Ma L, Kim J, **Hatzenpichler R**, Karymov MA, Hubert N, Hanan IM, Chang EB, and Ismagilov RF. *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)
7. Lebedeva EV, **Hatzenpichler R**, Pelletier E, Schuster N, Hauzmayer S, Bulaev A, Grigorjeva NV, Galushko A, Schmid M, Palatinsky M, Le Paslier D, Daims H, and Wagner M. *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) (equal contribution)*

6. Spang A, Poehlein A, Offire P, Zumbärgel S, Haider S, Rychlik N, Nowka B, Schmeisser C, Lebedeva E, Rattei T, Böhm C, Schmid M, Galushko A, **Hatzenpichler R**, Weinmaier T, Daniel R, Schleper C, Spieck E, Streit W, and Wagner M. *The genome of the ammonia-oxidizing Candidatus Nitrososphaera gargensis: Insights into metabolic versatility and environmental adaptations. Environ Microbiol, 14: 3122-3145 (2012)*
5. **Hatzenpichler R\***. *Diversity, physiology, and niche differentiation of ammonia-oxidizing archaea. Appl Environ Microbiol, 78: 7501-7510 (2012)*  
**► Review article**
4. Mußmann M, Brito I, Pitcher A, Damsté JS, **Hatzenpichler R**, Richter A, Nielsen JL, Nielsen P H, Müller A, Daims H, Wagner M, and Head IM. *Thaumarchaeotes abundant in refinery nitrifying sludges express amoA but are not obligate autotrophic ammonia oxidizers. Proc Natl Acad Sci USA, 108: 16771-16776 (2011)*
3. Shapiro OH, **Hatzenpichler R\***, Buckley DH, Zinder SH, and Orphan VJ. *Multicellular photo-magnetotactic bacteria. Environ Microbiol Rep, 3: 233-238 (2011) (equal contribution)*  
**► Chief Editor’s Choice Article of 2011**
2. Spang A, **Hatzenpichler R**, Brochier-Armanet C, Rattei T, Tischler P, Spieck E, Streit W, Stahl DA, Wagner M, and Schleper C. *Distinct gene set in two different lineages of ammonia-oxidizing archaea supports the phylum Thaumarchaeota. Trends Microbiol 18:331-40 (2010)*  
**► Cover article ► Most cited Trends Microbiol article in interval 2010-2015**
1. **Hatzenpichler R**, Lebedeva EV, Spieck E, Stoecker K, Richter A, Daims H, and Wagner M. *A moderately thermophilic ammonia-oxidizing crenarchaeote from a hot spring. Proc Natl Acad Sci USA, 105: 2134-2139 (2008)*

### Book chapters

3. 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)*
2. Tavormina PL, **Hatzenpichler R**, McGlynn SE, Chadwick G, Dawson K, Connon S, and Orphan VJ. *Methyloprofundus. Bergey’s Manual of Systematics of Archaea and Bacteria. John Wiley & Sons, Inc. doi: 10.1002/9781118960608.gbm01414 (2016)*
1. **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)*

### Invited seminars and invited conference talks [marked with \*]

- 2018\*, NSF-HHMI conference on *New Opportunities to Study Origins of the Eukaryotic Cell*. Howard Hughes Medical Institute, Janelia Research Campus, Ashburn, VA
- 2018, BioTechnology Institute, University of Minnesota, St. Paul, MN
- 2017, Marine Science Institute, The University of Texas at Austin, Austin TX
- 2017\*, Annual workshop of the NSF Center for Dark Energy Biosphere Investigations, Marina, CA
- 2017\*, Gordon Research Conference on Archaea, Waterville, NH
- 2017, Department of Geosciences, University of Calgary, Calgary, Canada

**Invited seminars and invited conference talks before joining MSU faculty**

- 2016\*, Gordon Research Conference on Organic Geochemistry, Holderness, NH
- 2016, Division of Biological Sciences, University of California San Diego, San Diego, CA
- 2016, Department of Earth and Planetary Science, UC Berkeley, Berkeley, CA
- 2016, Microbiome and Microbial Sciences Initiative, University of California, San Diego, CA
- 2016, Thermal Biology Institute, Montana State University, Bozeman, MT
- 2016, Department of Geology and Environmental Science, University of Pittsburgh, PA
- 2016, Center for Beneficial Microbes, Ohio State University, Columbus, OH
- 2015\*, American Geophysical Union Fall Meeting, San Francisco, CA
- 2015\*, Annual meeting of the Center for Dark Energy Biosphere Investigations, Marina, CA
- 2015\*, Gordon Research Conference on Applied & Environmental Microbiology, South Hadley, MA
- 2015, Department of Environmental Sciences, University of Basel, Switzerland
- 2015, Civil and Environmental Engineering, Northeastern University, Boston, MA
- 2015, Chair of Microbiology and Archaea-Center, University of Regensburg, Germany
- 2015, Faculty of Geosciences, Ludwig Maximilian University, Munich, Germany
- 2015, Center for Environmental Microbial Interactions, Caltech, Pasadena, CA
- 2014, National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan
- 2014, Japan Agency for Marine-Earth Science and Technology, Yokosuka, Japan
- 2014, Planetary Sciences seminar, Caltech, Pasadena, CA
- 2014, Joint Genome Institute, US Department of Energy, Walnut Creek, CA
- 2014\*, Plenary talk, American Society for Microbiology General Meeting, Boston, MA
- 2014, Department of Biology, California State University, Northridge, CA
- 2013, Dep. of Environmental Systems Science, Swiss Federal Inst. of Technology, Zurich, Switzerland
- 2013, Jet Propulsion Laboratory, NASA, Pasadena, CA
- 2011, Department of Microbiology, Montana State University, Bozeman, MT
- 2011, Geo-club seminar, Division of Geological & Planetary Sciences, Caltech, Pasadena, CA
- 2010, Institute of Biophysical Chemistry, University of Vienna, Austria
- 2008, Centre for Marine Bio-Innovation, University of New South Wales, Sydney, Australia

**Professional service**

- **2015-present, Associate Editor, *Frontiers in Microbiology, Microbial Physiology and Metabolism*. Impact factor: 4.08 (2017)**
- 2014-2017, member of Junior Advisory Group of the American Society for Microbiology
- 2016, member of General Meeting Planning Committee for *ASM Microbe 2016*, Boston, MA
- 2015-2017, convener of plenary session at the ASM General Meeting
- **regular *ad hoc* reviewer for:** The ISME Journal, FEMS Microbiology Reviews, Environmental Microbiology, Environmental Microbiology Reports, Nature Communications, Nature Microbiology, Applied and Environmental Microbiology, Frontiers in Microbiology, FEMS Microbiology Ecology, PLoS One, Microbiology, Scientific Reports, Antonie van Leeuwenhoek Journal of Microbiology, Environmental Science and Technology, mSphere
- **reviewer for grant and fellowship applications** (panellist roles not shown): NASA Exobiology, NASA Astrobiology Institute (CAN8), NASA Earth and Space Sciences Graduate Fellowship program, Montana NASA EPSCoR Program, NSF Biological Oceanography, Community Science Program of the DOE Joint Genome Institute, Community Science Program of the DOE Environmental Molecular Sciences Laboratory, and the French National Research Agency
- 2009, Organizer of the 7<sup>th</sup> International workshop on New Techniques In Microbial Ecology (INTIME-7). 50 participants from six institutions in five countries gave 29 oral presentations

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**Teaching and mentoring**

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- Viola Krukenberg, postdoc, 2017-present; studying 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 isotope probing
- Mackenzie Lynes, graduate student, 2017-present; ecophysiology of microbial dark matter in hot springs of Yellowstone National Park
- Nick Reichart, graduate student, 2017-present; ecophysiology of microbial dark matter in hot springs and development of novel bioorthogonal labeling approaches
- undergraduate researchers working for (x; year) semesters in my lab: Juliana Beauchene (1; 2017), Margaret Branine (1; 2016), Michael Dorle (3, 2016-2017), Rylee Green (2; 2017-2018), Grace Trytten (1, 2017)

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**Professional memberships**

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- American Society for Microbiology (ASM)
- International Society for Microbial Ecology (ISME)
- American Geophysical Union (AGU)
- Austrian Scientists and Scholars in North America (ASCINA)