



3-year Postdoctoral Researcher position on Asgard archaea ecophysiology available in the Hatzenpichler Environmental Microbiology Laboratory at Montana State University

The Hatzenpichler Environmental Microbiology Lab at Montana State University (Bozeman, MT) is looking for a postdoctoral researcher to join a collaborative project on the diversity, genomics, physiology, and ultrastructure of Asgard archaea and its implications for eukaryogenesis. This research project is part of an international collaboration between the Hatzenpichler lab and the groups of Brett Baker, Mark Ellisman, and Thijs Ettema. Together, we seek to obtain a comprehensive genetic catalog of Asgard archaea diversity, determine their physiology, and characterize their cellular ultrastructure. To achieve this, we will employ an array of “omics”, physiology, and microscopic approaches. Determining the identity of archaea most closely related to eukaryotes, their physiological interactions, and cellular structure will transform our understanding of eukaryogenesis.

The postdoc will use a combination of cutting-edge next-generation physiology and correlative microscopy approaches targeted at Asgard archaea physiology and cell-cell (metabolic and physical) interactions. Approaches to be employed include stable isotope probing, substrate analog probing, fluorescence-activated cell sorting, Raman micro-spectroscopy, Raman-activated cell sorting, different *in situ* visualization techniques, and targeted cultivation. **The postdoc’s main objective will be to experimentally test genomic predictions on Asgard archaea physiology and their interactions using cultivation-independent, single cell resolving approaches.** Metagenome-assembled genomes of Asgard archaea obtained from our main target site and Asgard-targeted FISH probes are already available, and cell extraction protocols have been established.

Desired qualifications:

- Ph.D. at the time of starting the position and a publication record in environmental microbiology, microbial physiology, molecular ecology, biochemistry, biogeochemistry, or a related field.
- Experience with FISH (regular, DOPE, CARD, and/or HCR FISH) and anaerobic microbiology.
- Experience in modern experimental microbial ecology techniques, e.g., stable isotope probing, fluorescence microscopy, high-throughput cultivation.
- In-depth knowledge of archaeal physiology and cell biology.
- Excellent written and oral communication skills and excellent command of English.

The position is **to be filled immediately** and will remain open until filled. The position is funded for 36 months by the Simons and Moore Foundation’s Origin of the Eukaryotic Cell Initiative. Starting salary: ~\$52k plus benefits. Moving costs up to \$4k will be covered. Applicants are asked to submit a CV including a list of publications, a 1-2 page statement on research experience and interests, future goals, and the names and contact information of at least two references. Reference letters do *not* have to be included during initial application but will be requested as needed. Applications will be reviewed as received and will continue until the position is filled. Please send all materials in a single pdf file to roland.hatzenpichler@montana.edu.

To learn more about the Hatzenpichler lab visit www.environmental-microbiology.com.