



Postdoctoral Researcher on "Microbial biology and geochemical processes of contrasting ecosystems: from desert to tropics" at the School of Life Sciences (SOLS) and the School of Earth and Space Exploration (SESE), Arizona State University, Tempe, AZ

A **collaborative** postdoctoral position on "microbial biology and geochemical processes in contrasting ecosystems" is available jointly at the School of Life Sciences (SOLS) and School of Earth and Space Exploration (SESE) at Arizona State University (ASU).

The relationship between microbial communities' activities and their effects or signatures ranging from ecosystem-scale to planetary-scale, is a key study subject to account for global carbon budgets on earth or for potential biosignatures on the ever increasing number of confirmed extrasolar planets. In this project, we aim to identify emergent properties of microbial physiology and ecosystem functioning in contrasting geochemical and energetic contexts as provided by (i) dry, oligotrophic desert environments and (ii) water-saturated, highly organic carbon-rich Amazon peatlands. This project is highly interdisciplinary and our questions and activities aim to address such topics as: soil geochemical measurements of rates of biotic and abiotic processes; development of isotopic measurements including natural abundance and/or tracer-enrichment experiments with ecologically important gases (i.e., O₂, CO₂, CH₄, N₂O and others); microbial physiology assessments *in situ* and *in vitro* through imaging coupled with metagenomics and metaproteomics approaches; and energetic/functional microbial activity modeling. The research requires fieldwork involving expeditions to remote locations (deserts and tropics in South America) followed by complementary laboratory activities. The Postdoctoral Researcher will work in close collaboration with two PI's, two graduate students, and undergraduate researchers.

This position is under the supervision of Prof. Hinsby Cadillo-Quiroz (carbon degradation and microbial biology, <http://cadillo.lab.asu.edu>) and Prof Hilairy Harnett (geochemistry of soils, isotopic biology and astrobiology, <https://webapp4.asu.edu/directory/person/646920>). The selected candidate will

join a collaborative effort between SOLS and SESE faculty. Desert geochemistry and microbial respiration at low energy availability is part of the current effort by the Life Processes research team in the ASU ***Nexus for Exoplanet System Science*** project (<http://www.nexss.io/>), while Amazon peatlands geochemistry and microbial functional groups is part of efforts JGI-CSP and Ecosystem Science of Amazon Peatlands project. The postdoctoral researcher will catalyze common areas of research connecting these two efforts in an innovative and integrative fashion.

Applicants must have a PhD in relevant areas (Environmental Sciences, Astrobiology, Microbiology, Geochemistry, and others). **Candidates with strong expertise in biogeochemistry, microbial ecophysiology, -omics studies or a combination will be preferred.**

Strong candidates will also possess: (i) significant publication record (papers published, in press, or submitted), (ii) creativity, independence, and the desire to learn, (iii) proficiency in both written and spoken English, as well as (iv) analytical, interpersonal, and presentation skills. Position is available in an annual basis, renewable upon satisfactory performance. Competitive salary and benefits are available. Application should include: (i) a brief cover letter, (ii) Curriculum Vitae including three professional references, (iii) a brief description of past research accomplishments and future research goals. Send application to the following email: cadillo-lab-appl@asu.edu

The early revision of applications starts on June 15th 2016; applications will be reviewed weekly thereafter until the search is closed. Starting date is flexible but mid August 2016 is desirable.

A background check is required for employment. Arizona State University is an equal opportunity/affirmative action employer committed to excellence through diversity. Women and minorities are encouraged to apply. For additional information on this position and the School of Life Sciences, please visit <https://sols.asu.edu/resources/employment>.