



Postdoc in Modeling Microbial Ecology and Biosignatures on Ocean Worlds

- Develop and validate biomass models of microbial isolates and communities in extant, ancient, and relic ocean environments using thermodynamic and genomics-informed approaches.
 - Develop models based on ecological, thermodynamic, and other approaches based on environmental parameters and fluxes.
 - Leverage genomics and genomic-scale models to estimate growth rates and biomass for specific well characterized environments including isolate-based experimental evolution models to explore mechanistic questions.
- Work with multi-institute interdisciplinary Oceans Across Space and Time (OAST) team to focus modeling on the most informative and compelling questions related to survival and growth in hypersaline and other relevant ocean analog environments, to characterize habitability limits and improve our knowledge of molecular mechanisms in potential Ocean World environments on and beyond Earth.
- Experience with bioinformatics, statistics, and computational tools (docker, python, MATLAB, R, flux-balance analysis) beneficial.

The Oceans Across Space and Time (OAST, <https://oast.eas.gatech.edu/>) project is part of the Network for Life Detection (NfOLD), funded by NASA's Astrobiology Program. Our goal is to understand how ocean worlds and their biospheres co-evolve to produce detectable signals of a past or present living world, by combining the expertise of a multidisciplinary team.

Contacts:

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Potential Postdoc Locations:

Georgia Institute of Technology

Massachusetts Institute of Technology

Funding source (competitive):

NASA Postdoctoral Program (NPP), <https://npp.usra.edu>

Deadline to submit: November 1, 2019, 6:00 PM Eastern Time

Please reach out to one of us well before the deadline to facilitate proposal preparation