# Postdoctoral Research Associate

Department of Earth, Environmental and Planetary Sciences, Brown University

We are searching for a postdoctoral research associate to join a NASA Solar System Science funded project. The research includes analyses of a full range of simple and complex organic compounds in extraterrestrial samples (carbonaceous meteorites, pristine asteroid samples) using GC/HPLC/UPLC chromatography and quadrupole/high resolution orbitrap mass spectrometry techniques, as well as construction of an interactive GCMS and chromatography database for organic compounds in extraterrestrial samples. Carbonaceous asteroids and meteorites contain a full suite of Cosmo-chemically or abiotically synthesized organic compounds including over 70 amino acids, peptides, numerous nuclear bases (including ones used in DNA and RNA), simple and complex sugars, carboxylic acids, hydroxyl acids, hydrocarbons, S- and N- containing organic compounds. These compounds have been hypothesized to have seeded life on Earth. Comprehensive analyses of these compounds require state-of-the-art organic analytical methods, particularly advanced chromatography and mass spectrometry techniques.

The candidate should have a strong background in analyzing organic compounds using various GC, HPLC/UPLC, and mass spectrometry techniques, with a Ph.D. in one of the following areas including chromatography and Mass spectrometry (including any application fields such as chemistry, natural products, biochemistry, environmental science, biomedical research), Organic Geochemistry (preferably related to planetary science or astrobiology), Astrobiology, cosmo-organic chemistry. Past research experience in meteorite and asteroid research is valuable but not absolutely required**.** The ideal candidate should also have significant experience in computational mass spectrometry and chromatography, and strong motivation in applying artificial intelligence in analyzing complex organic assemblages and discovery of new proxies for various Cosmo-organic chemical processes. Strong interest in studying cosmo-organic chemistry and/or origin of life topics is important. The postdoctoral research associate will work with Prof. Yongsong Huang, in collaboration with Dr. Philipp Heck at Field Museum of Natural History (University of Chicago).

A wide range of chromatography and mass spectrometry instrumentation is available for analyzing extraterrestrial organic compounds at Brown. These include GCFID, GCMS, HPLCMS, GC-isotope ratio-MS, and a newly acquired state-of-the-art UPLC-orbitrap mass spectrometer (Thermo Exploris 240). The postdoc will have access to all these instruments. This position is funded for three years. The position can start as early as October 1, 2026.

Applicants should submit a curriculum vitae, three letters of recommendation, a summary of research accomplishments and career objectives. Inquiries regarding this position and all application materials should be sent directly to Yongsong_Huang@brown.edu. Review of applications will continue till the position is filled.

Brown University provides equal opportunity and prohibits discrimination, harassment and retaliation based upon a person's race, color, religion, sex, age, national or ethnic origin, disability, veteran status, sexual orientation, gender identity, gender expression, or any other characteristic protected under applicable law, in the administration of its policies, programs, and activities. The University recognizes and rewards individuals on the basis of qualifications and performance. The University maintains certain affirmative action programs in compliance with applicable law. For this position, Brown offers only the J-1 visa classification to scholars who need immigration sponsorship in order to enter the U.S. and commence lawful employment under the terms of their appointment.