

## Postdoc in molecular complexation of rare earth elements (REE) in high temperature and pressure supercritical geologic fluids

Indiana University

Department of Earth and Atmospheric Sciences

### Overview:

Applications are invited for a Postdoctoral Research Associate at Indiana University, USA.

The project aims to develop internally consistent thermodynamic data for rare earth element (REE) aqueous species and solids. This is part of a large project with Dr. Alexander Gysi at New Mexico Bureau of Geology and Mineral Resource as the principal investigator (PI) and several co-PIs at New Mexico Tech and Los Alamos National Laboratory. The project covers high-temperature hydrothermal experimental geochemistry, EXAFS and Raman spectroscopy, chemical thermodynamics and computational geochemistry. The position at IUB focus on thermodynamics and data sciences.

The successful candidate will hold a Ph.D. in earth sciences or a closely related field. A strong background in aqueous geochemistry and skills, knowledge, and experience in data science is highly desired.

Salary is competitive and includes fringe benefits. The initial appointment will be for one year, with the expectation of renewable for another two years, subject to performance and funding availability. The candidate will be based on the Bloomington campus of Indiana University. We closely work with faculty and students in the School of Computing and Information Sciences and Engineering, which is across street from our building.

More information about ongoing research in Zhu's group may be found at:

[www.hydrogeochem.earth.indiana.edu](http://www.hydrogeochem.earth.indiana.edu)

### Major Duties/Responsibilities:

- Compile, curate, and correlate thermodynamic data for REE aqueous species, solids, and solid solutions
- Aid in development of novel computational tools to interpret thermodynamic data and develop equations of state
- Present and report research results and publish scientific results in peer-reviewed journals in a timely manner

### Application details:

Applications, consisting of a single PDF file combining the four documents listed below, should be emailed directly to [chenzhu@indiana.edu](mailto:chenzhu@indiana.edu), with the subject line: Postdoc Position. The position is available immediately and the start date is negotiable. The tentative application deadline is 28 February 2022, but applications will be considered on a rolling basis until the position is filled. Online applications can be submitted via <https://indiana.peopleadmin.com/postings/12116>

### Required documents:

- 1) A 1-page cover letter expressing interest in and qualifications for this position

- 2) A CV with a list of all publications and research grants
- 3) A 1-page research statement summarizing previous research experience
- 4) The names and contact information of at least two referees with knowledge of your research and academic experience

**Required Qualifications:**

- A completed Ph.D. degree by start date and within the last five years
- Firm grasp of aqueous geochemistry
- Excellent written and oral communication skills
- Ability to work with a large team

**Preferred Qualifications**

- Data science skills
- Programming languages

**About Indiana University and Department of Earth and Atmospheric Sciences**

Indiana University is an R1 university (Research Universities with the Highest research activity in the Carnegie Classification of Institutions of Higher Education) and is in its bicentennial celebration in 2020. The Department of Earth and Atmospheric Sciences (formerly the Department of Geological Sciences) was founded 125 years ago and has a long tradition of excellence in geochemistry. The City of Bloomington is a delightful, safe, and affordable college town ranked among the top livable cities in the USA. The university also has a famed school of music, which hosts year-round concerts, ballet, opera, and other cultural activities. Indiana University is an Equal Opportunity/Affirmative Action employer. Women and minorities are especially encouraged to apply.