



The Paul Scherrer Institute is the largest research institute for natural and engineering sciences within Switzerland and a worldwide leading user laboratory. We perform cutting-edge research in the fields of matter and materials, energy and environment, and human health.

The Laboratory for Waste Management is carrying out a comprehensive R+D programme in support of the Swiss radioactive waste disposal options on behalf of the Federal Government and Nagra. The emphasis is on fundamental repository geo-chemistry, chemistry at the solid/liquid interface and mass transport mechanisms.

## **Job description**

For the Cement Systems Group we are looking for a

### **Postdoctoral Fellow**

#### **Analysis of organic compounds using compound-specific C-14 accelerator mass spectrometry**

##### **Your tasks**

- Development of analytical methods for the separation, identification and quantification of aqueous and gaseous carbon compounds based on ion and gas chromatography for application in compound-specific radiocarbon analysis with accelerator mass spectrometry (CSRA AMS) performed at the LARA at the University of Bern ([www.14c.unibe.ch/](http://www.14c.unibe.ch/))
- Analysis of gaseous and liquid phases from a corrosion experiment with activated steel using CSRA AMS
- Participation in the development of analytical methods based on ion and gas chromatography for use in degradation studies with organic compounds

##### **Your profile**

The successful candidate should have a Ph.D. in chemistry with a focus on advanced analytical techniques (mass spectrometry and/or chromatography) and enjoy working in an interdisciplinary, multinational research environment. Good communication skills in English complete your profile. Knowledge of German is desirable. You should apply if you are a skilled experimentalist and a good team player motivated to ensure success in this exciting field of research.

Your employment contract is limited to 2 years. Preferred starting date: December 1, 2018.

##### **Related links:**

PSI: [www.psi.ch/](http://www.psi.ch/); LES: <https://www.psi.ch/les/laboratory-for-waste-management-les>  
C-14 Project: [https://www.psi.ch/les/research-projects#Project:\\_C\\_4514](https://www.psi.ch/les/research-projects#Project:_C_4514)

##### **Publications:**

Cvetković, B.Z., J. Rothardt, A. Büttler, D. Kunz, G. Schlotterbeck, E. Wieland (2018) Formation of low molecular weight organic compounds during anoxic corrosion of zero-valent iron in alkaline conditions, *Environ. Eng. Sci.* 35, 437-461.  
Wieland E., B.Z. Cvetković, D. Kunz, G. Salazar, S. Szidat (2018) Carbon-14 speciation during anoxic corrosion of activated steel in a repository environment. *Atw-International Journal for Nuclear Power* 63, 34-38.  
Cvetković, B.Z., G. Salazar, D. Kunz, S. Szidat and Wieland E. (2018) Analysis of 14C-bearing compounds released by the corrosion of irradiated steel using accelerator mass spectrometry. *Analyst* 143, 3059-3067.

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