

Job ID: SMI007PD124

The Stefan Meyer Institute for Subatomic Physics ([SMI](#)) of the Austrian Academy of Sciences ([OeAW](#)) in Vienna is devoted to the study of fundamental symmetries and interactions using antihydrogen. The institute is offering a

**POSTDOC POSITION (F/M/X)**  
***in physics with trapped antimatter***  
(full-time, 40h per week)

for a duration of 2 years in the “Precision experiments at low energies” division.

The successful candidate will join the positron group working on measurements of positronium binding to atoms and become a member of the [ASACUSA](#) collaboration who aim to measure the hyperfine structure of antihydrogen (for more details see [www.antihydrogen.at](http://www.antihydrogen.at)).

**Your tasks:**

The position is part of the positron group headed by Dr. Dan Murtagh, the successful candidate will be expected to work both in the laboratory in Vienna and participate in beamtime campaigns at CERNs Antimatter Factory.

A new positron beam facility has been constructed at SMI, which in the first instance will be used to measure the binding energy of molecules including a positronium atom. Future work will involve measuring the 3-gamma distribution of ortho-Ps which the successful candidate may take a lead role in.

The ASACUSA collaboration aims to perform precision spectroscopy of the ground state hyperfine structure of antihydrogen, to set stringent constraints on exotic physics beyond the standard model. The successful candidate will be working as part of the plasma group to improve the antihydrogen yield produced by mixing charged antimatter plasmas in penning traps.

Any experience of positron physics, non-neutral plasma trapping and manipulation, experience with low-noise methods, Rydberg atom detection, resonant charge detection and trap design would be an advantage.

**Your profile:**

Applications are invited from outstanding candidates with a PhD in a relevant field (e.g. atomic physics, trap physics, plasma physics). Knowledge of common experimental techniques such as UHV, magnets, detectors (e.g. MCP/PMT), electronics, experiment design and gas handling etc. as well as excellent communication skills, both oral and written are required. The candidate must be fluent in English and any experience of French would be an advantage.

We offer for this position an annual gross salary of € 66.501,40, according to the collective agreement of the Austrian Academy of Sciences.

Please send your applications including a CV, a cover letter and details of three referees via email to [smi@oeaw.ac.at](mailto:smi@oeaw.ac.at) (mentioning Job ID: SMI007PD124) **no later than February 29<sup>th</sup>, 2024**.

The position is available for immediate start. For informal enquiries and more information please email: [dan.murtagh@cern.ch](mailto:dan.murtagh@cern.ch).

*The Austrian Academy of Sciences (OeAW) pursues a non-discriminatory employment policy and values equal opportunities, as well as diversity. Individuals from underrepresented groups are particularly encouraged to apply.*