

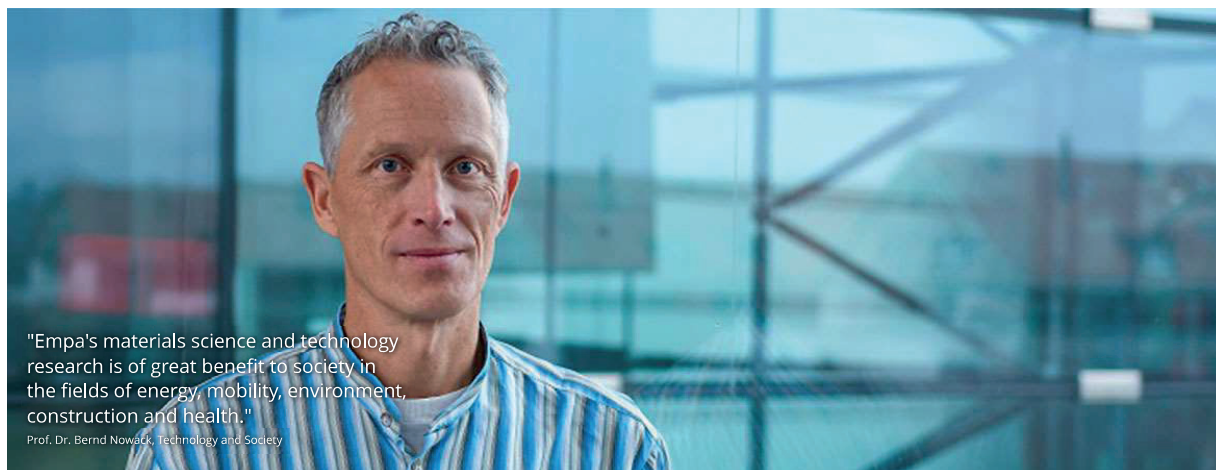


The Place where Innovation Starts



Empa

Materials Science and Technology



"Empa's materials science and technology research is of great benefit to society in the fields of energy, mobility, environment, construction and health."

Prof. Dr. Bernd Nowack, Technology and Society

## PhD position in the field of asymmetric synthesis on chiral intermetallic surfaces (a)

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Materials science and technology are our passion. With our cutting-edge research, Empa's around 1,100 employees make essential contributions to the well-being of society for a future worth living. Empa is a research institution of the ETH Domain.

The nanotech@surfaces Laboratory is studying molecular architectures and surfaces of complex metallic alloys to gain fundamental insight into their structural and electronic properties, mainly by scanning probe microscopy and photoelectron spectroscopy.

### Your tasks

You will focus on systematic investigations of asymmetric chemical on-surface reactions on chiral intermetallic single crystal surfaces - a hitherto scarcely studied field of high scientific and technological interest. The project continues a long-standing research activity of our laboratory to understand the interplay between adsorption sites, local molecular arrangements, enantioselectivity and catalytic reaction mechanisms on these surfaces.

You will work with state-of-the-art surface analytical methods such as photoemission spectroscopy, with a strong emphasis on low-temperature scanning tunneling microscopy and spectroscopy as well as non-contact atomic force microscopy. The research will be carried out in the framework of an international collaboration bringing together top competencies in the fields of single crystal growth, high-pressure catalysis, solid state physics/chemistry and atomistic simulation.

### Your profile

We are looking for a highly motivated candidate with a strong experimental background in solid state physics, physical chemistry, surface science or nanoscience who wants to pursue cutting-edge research at world-class level.

The successful candidate will be integrated in the PhD Program of the Physics Department at EPF Lausanne.

Required qualifications include a Master's Degree in Physics, Chemistry, Materials Science or equivalent. Experience with scanning probe microscopy, photoemission spectroscopy, ultra-high vacuum and programming in Python/LabVIEW/Igor are advantageous but not strictly required. We are looking for a highly motivated, curiosity driven team player with excellent English communication skills.

### Our offer

Join our dynamic team to explore atomic-scale molecular systems with a global network of collaborators where you can build a competitive research portfolio. Located in the Zurich Area, the Swiss Federal Laboratories for Materials Science and Technologies (Empa) offers outstanding infrastructure, a broad interdisciplinary environment and competitive salaries. Empa is proud to be an equal opportunity employer, committed to creating an inclusive environment for all employees.

This fulltime position is immediately available upon agreement, with a planned duration of four years.

(a) stands for «all» in our job advertisements. We live a culture of inclusion and respect. We welcome all people who are interested in innovative, sustainable and meaningful activities. That's what counts - not age, gender, origin, religion, sexual orientation, etc....

We look forward to receiving your complete online application including a letter of motivation, CV, certificates, diplomas and contact details of two reference persons. Please submit these exclusively via our job portal. Applications by e-mail and by post will not be considered.

Cristina Marinoni, Bereichspersonalleiterin / HR Partner

### Your future place of work

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### Questions?

✉ Dr. Roland Widmer  
Scientific Lab Manager  
nanotech@surfaces

<https://www.empa.ch/web/s205>