

Jožef Stefan Institute, Advanced Materials Department, Ljubljana, Slovenia

Epitaxial oxides on semiconductor substrates for oxide electronics and photoelectrochemical water splitting

Related to the international project “Strain and domain structure engineering in epitaxial relaxor ferroelectric thin films” a research position is **immediately available at Advanced Materials Department** of Jožef Stefan Institute, Slovenia.

Together with other partners, project aims to exploit **rich functionalities of oxides and their heterostructures in emerging fields of oxide electronics and photoelectrochemistry**. For implementation of these functionalities, epitaxial integration of oxides with semiconductor platforms using industrially appropriate technology is urgently needed, and its development represents the main goal of the project.

The open position relates to:

- Epitaxial integration of ultra-thin oxides with silicon or germanium,
- Interface engineering of functional properties.

The study will be performed using state-of-the-art pulsed laser deposition systems. Growth will be followed *in situ* by RHEED, XPS and STM. Crystal-structural properties of as-grown films will be tested using high-resolution X-ray diffractometer and STEM, in collaboration with other research groups.

Requirements:

- PhD degree in physics, material science or related field,
- A very good knowledge of English language,
- Creative, motivated candidate should be able to work independently, as well as in a collaborative environment.

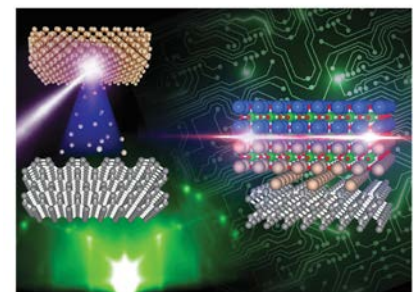
Post-doc and established researchers from all countries are invited to submit their applications. The position is available from one up to three years. After this period, talented researcher will be offered a permanent position. The salary is according to Slovenian Research Agency regulations.

For additional information please contact **Matjaž Spreitzer, Advanced Materials Department, Head**, Jožef Stefan Institute, Jamova 39, 1000 Ljubljana, Slovenia (matjaz.spreitzer@ijs.si, tel.: 00386 1 477 3705) or visit www-k9.ijs.si/en.

Each applicant should send to the above mentioned e-mail address:

- A covering letter describing the applicant’s research motivation,
- A CV with detailed description of candidate’s education and professional career,
- Bibliography list.

Please submit your application before **June 13, 2020**.



Showing research from the Jožef Stefan Institute, Slovenia, University of Antwerp, Belgium, and University of Twente, The Netherlands.
 Growth mechanism of epitaxial SrTiO₃ on a (1 × 2) × (2 × 1) reconstructed SrTiO₃(001) surface
 A mechanism for epitaxial integration of SrTiO₃ with (1 × 2) × (2 × 1) reconstructed SrTiO₃(001) surface using an all-solid laser ablation technology was determined. The results of the study represent a milestone for exploration of the rich electrical, magnetic and optical properties of various oxides for next generation electronics.

