

Open PhD position

Development of anisotropic tungsten-based composites for fusion applications

This PhD project focuses on the development of advanced tungsten-based composites for plasma-facing components in future fusion reactors. The student will study how controlled carbide reinforcement and thermomechanical processing can be used to tailor microstructure, anisotropy, and mechanical behaviour of refractory metals. Training will cover powder processing, sintering, plastic deformation, and state-of-the-art microstructural and mechanical characterisation. Through this work, the PhD candidate will gain broad expertise in materials design for extreme environments and contribute to fusion materials development.

The work will take place at the Department of Nanostructured Materials at the “Jožef Stefan” Institute under the mentorship of dr. Petra Jenuš Belec. A 4-year PhD position is a fully-funded, starting in October 2026.

Minimum requirements for application:

- master degree from chemical engineering, physics or similar,
- grade point average (exams and lab classes excluding the undergraduate thesis) above 8,
- knowledge of English.

Criteria for assessment of candidates:

- grade point average in all courses,
- awards or prizes received,
- participation in research work,
- scientific articles published,
- assessment of an interview with the candidate

Interested candidates should apply in accordance with the [Call](https://mr.ijs.si/en/tender/) (<https://mr.ijs.si/en/tender/>) by the 17th of May 2026.

Interviews with the candidates will take place in May 2026