

## Open PhD position: »Development of a new class of drug delivery systems leveraging red blood cell mimicry«

**Topic description:** Despite great progress in the field of nanomedicine, most synthetic nanoparticles are recognized by the immune system as foreign, which leads to their rapid removal from the bloodstream and, consequently, a significant reduction in the effectiveness of treatment. New approaches in the development of drug delivery systems are needed to improve treatment efficacy and to ensure safety. A new trend in this field is the preparation of so-called biomimetic nanoparticles, which are prepared from the body's own cells. The project work will include the preparation of biomimetic nanocarriers made of erythrocyte membranes, encapsulation of active agents (nucleic acids or contrast agents) and also extensive characterization of the prepared nano-carriers. The candidate will have the opportunity to get acquainted with the challenges in the treatment and diagnosis of cancer, new techniques of synthesis and characterization and will also participate in the process of pre-clinical testing of prepared nanostructures. The work will take place at the Department of Nanostructured Materials at the "Jožef Stefan" Institute under the mentorship of dr. Nina Kostevšek. A 4-year PhD position is a fully-funded, starting in October 2026.

More information about the department and the supervisor can be found here:

- <https://nano.ijs.si/>
- <https://www.researchgate.net/profile/Nina-Kostevsek>

### Minimum requirements for application:

- master degree from chemistry, pharmacy, biology 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 send their CV to [nina.kostevsek@ijs.si](mailto:nina.kostevsek@ijs.si) by 10<sup>th</sup> of May 2026.  
Interviews with the candidates will take place in May 2026.

[Public call](#)