

# Course for Ph.D. students

## 39<sup>th</sup> cycle (Nov 2023 – Oct 2026)

### Alternative methods in preclinical drug testing (1 ECTS )

**Prof. Bertoni Simona**  
*University of Parma*

*Course language: English*

The lessons will be given in room D in the following dates:

February, 6<sup>th</sup>: 10.30-12.30

February, 13<sup>th</sup>: 10.30-12.30

February, 20<sup>th</sup>: 10.30-12.30

*To attend the course please contact:*

**Prof. Simona Bertoni** ([simona.bertoni@unipr.it](mailto:simona.bertoni@unipr.it))

### Course description

The course focuses on the current *in vitro* cell-based methods and their most recent advances as alternative approaches to animal testing in drug discovery/development and toxicology. In particular, 3D cell cultures, comprising spheroids, organoids and organ-on-chip technology, will be described and critically discussed, highlighting challenges and limitations.

Examples of applications will be presented as preclinical models to evaluate drugs safety/efficacy in various target organs and in different patho-physiological conditions (e.g. monogenic disorders, cancer, IBD).