

UNIVERSITÀ
DI TRENTO

Dipartimento di
Fisica

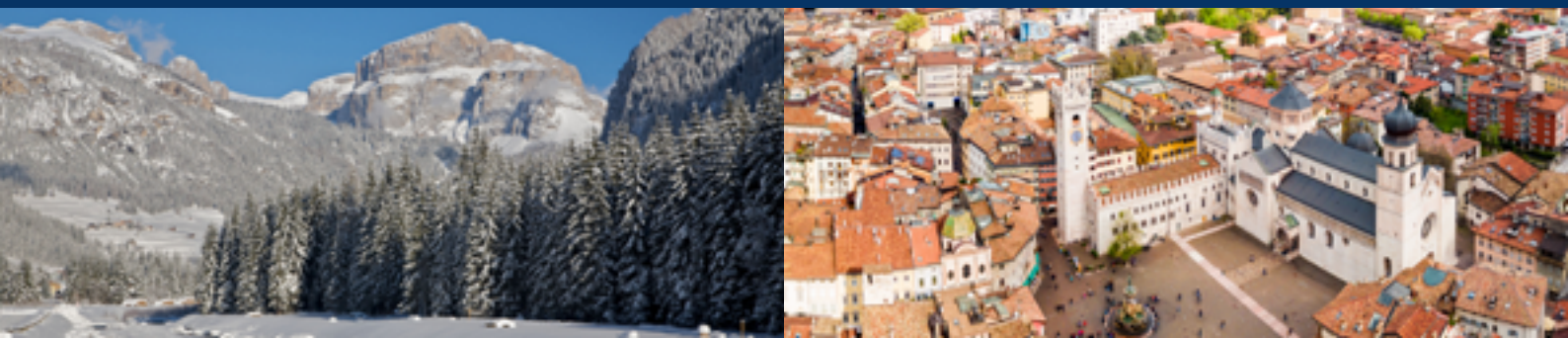
Winter School on **Physics of the Cell**

3rd Edition (CellPhys@TN3)

From 12 to 23 January 2026

Povo (Trento), Italy

An intensive two-week interdisciplinary winter school exploring how physical approaches (experimental, theoretical, and computational) can be effectively applied to investigate cellular processes and tackle biologically relevant challenges in medicine and technology. The program combines cutting-edge scientific content with innovative teaching methods, including Challenge-Based Learning (CBL) and Problem-Based Learning (PBL), to foster active learning, critical thinking, and collaborative problem-solving abilities.



TARGET

Admission reserved only to students coming from UniTrento partner universities.

Senior bachelor's degree students (who have finished the 2nd year) and master's degree students from Physics, Chemistry, Biology, Mathematics, or interdisciplinary courses including at least one of the former among the constitutive disciplines.

Participants should be confident in English-language use (B2).

SEMINARS AND HANDS-ON SESSION

- Foundations of Cell Biology
- Statistical Physics and Theoretical Principles of Cell Biophysics
- Experimental Techniques in Cell Physics
- All-Atom Modelling of Biomolecules
- Multiscale Approaches to Molecular Complexes
- The Cell Nucleus: DNA, RNA and Chromatin in Action
- Cell Growth and Mechanobiology
- Physics of Vision: From Signals to Models
- Biophysics for Medicine: Proton Therapy and Beyond

SOME GOOD REASONS TO APPLY

- Think like a cell: understand how different components of the cell are interconnected, and how physical models allow for quantitative predictions of their behavior
- Interact with scientific instruments and software for the visualization and analysis of biomolecular complexes and assemblies
- Earn 6 ECTS credits through innovative teaching approaches
- Discuss science with national and international experts
- Collaborate in a truly multidisciplinary environment
- Develop your teamwork and communication skills
- Outdoor activities and social events
- ...and much more!

DEADLINES

On-line information session: **10 September 2025 at 9.00 AM**

Applications by students: **due by 15 October 2025**

FEES

No fees are due.

Included are: a guided visit to the town, welcome coffee, farewell lunch, academic and socio-cultural activities, two excursions, certificate of attendance.

CONTACT AND INFO

International Relations Division

cellphys@unitn.it

<https://eventi.unitn.it/en/cell-winter-school>