Nuclear Theory for New Physics

13 July 2026 - 31 July 2026

ECT* - Villa Tambosi

Schedule of Lectures

Schedule of Lectures

First week: Standard Model and Nuclear Effective Theory

- Yuval Grossman (Cornell) and Wouter Dekens (INT, University of Washington) — The Standard Model
- Bira van Kolck (ECT*) and Sebastian Koenig (North Carolina State University) — Nuclear EFT
- Garrett King (Los Alamos National Laboratory) — First-principles nuclear structure: light nuclei (Part 1)

Second week:Lattice QCD and Nuclear Structure (light nuclei)

- Alex Gnech (Old Dominion University) — First-principles nuclear structure: light nuclei (Part 2)
- Mattia Bruno (Milano Bicocca) and Dimitra Pefkou (CERN) — Lattice QCD

Third week: Nuclear structure (medium and heavy nuclei), dispersion relation, and connection with high energy physics and cosmology

- Francesca Bonaiti (Oak Ridge National Laboratory) and Heiko Hergert (Michigan State University) — First-principles nuclear structure: medium mass and heavy nuclei
- Bhupal Dev (Washington University, St. Louis) — Connection with High Energy Physics and Cosmology (HEPC) [Dev]
- Chien Yeah Seng (University of Tennessee) — Dispersive methods for hadronic and nuclear physics