Ideas for a Workshop focussed on particles Physics topics at TRIUMF

Physics of fundamental
Symmetries &
Interactions

Scientific Topics

- **Low energy precision tests of the Standard Model**
- **Experiments with muons, pions, neutrons, antiprotons, other particles and atoms**
- **Searches for permanent electric dipole moments**
- **Searches for symmetry violations and new forces**
- Precision measurements of fundamental constants
- Exotic atoms and molecules
- **New tools and facilities**

Scope of the Workshop

The workshop focuses on the physics at the low energy, high precision frontier without neglecting complementary approaches. It aims at highlighting present activities and future developments. The Paul Scherrer Institut (PSI) itself offers unique opportunities for experiments in this realm: it houses the world's most powerful proton cyclotron and the highest intensity low momentum pion and muon beams and the ultracold neutron source.

The PSI2025 workshop will provide an excellent opportunity to explore these exciting topics. It will consist of plenary sessions, including invited introductory presentations to main topics, a poster session, social activities and the opportunity to visit PSI's on-site experimental facilities.

The workshop is being organized by the Laboratory for Particle Physics at PSI and supported by the Swiss Institute for Particle Physics (CHIPP), and the Nuclear Physics European Collaboration Committee (NuPECC) .

- Every 3 years (first edition in 2007). Latest one took place in 2025
- Large focus on PSI particle physics but includes related topics
- Strong International attendance
- 4.5 days : all plenary

Scientific Topics

- New Physics with Nucleons & Molecules
- Pions, muons, & New Physics
- New Physics with Radioactives
- New Technologies and Ideas
- Electron Linac Opportunities

- Jointly organized by TRIUMF and CENPA
- Focussed on new directions
- 2.5 days with Working Groups
- Was meant to be the 1st of a series

We are proposing something in between!

- Focussed on TRIUMF particle physics : Low/Precision & High Energy component
- Explore the synergies and the complementarities in the New Physics Searches
- Encompass local Nuclear Physics Capabilities (EDMs, sterile neutrinos etc)
- Extend to cosmology (connection with neutrinos/DM pillar, P-ONE etc)?
- Explore potential new directions within those topics

DATES: Every three years, off sync with PSI -> END 2026 (DEC) or BEGINNING 2027

LOCATION: Whistler?

FORMAT: Plenaries, 4/5 days, potentially with afternoon free?

INPUTS? / VOLUNTEERING? / FIND A GOOD NAME?