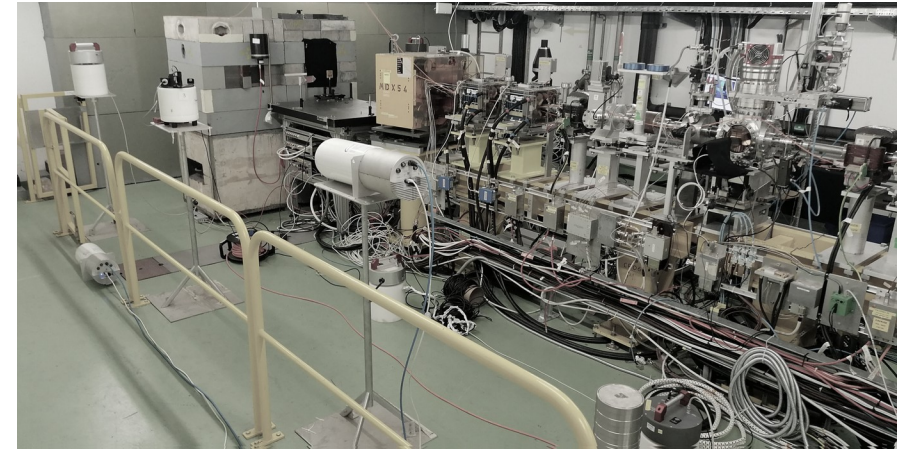
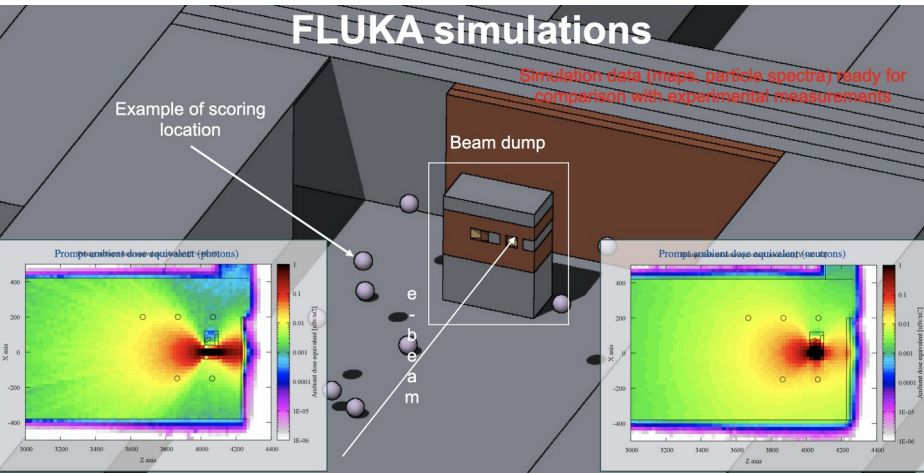
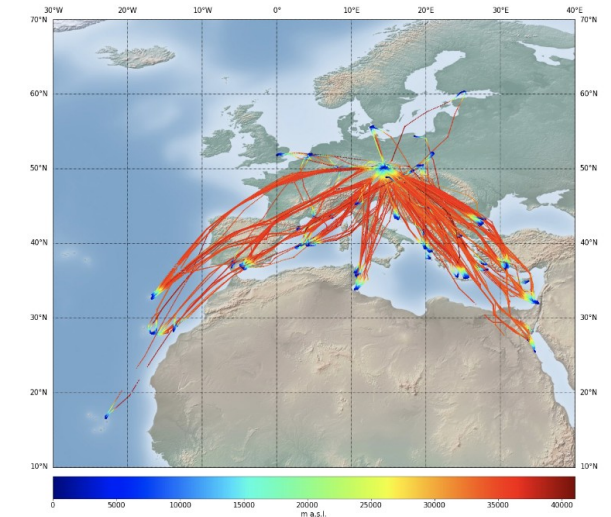


WG11 “High Energy radiation fields”

Marco Caresana
Mara Popovic
Andrea Cirillo



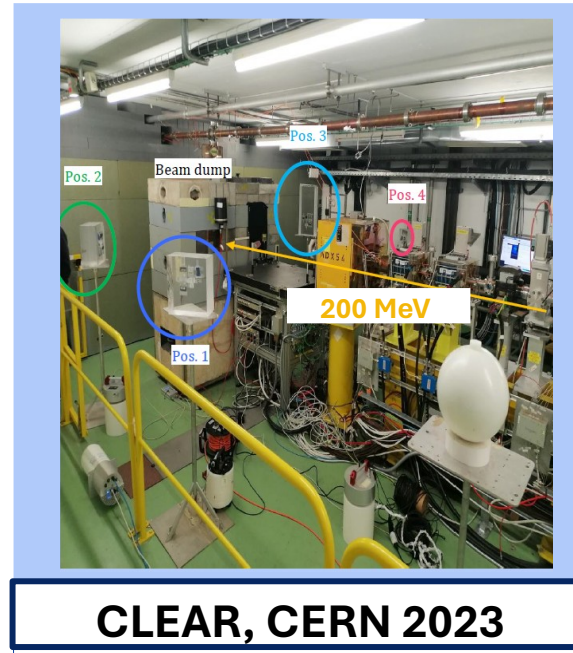
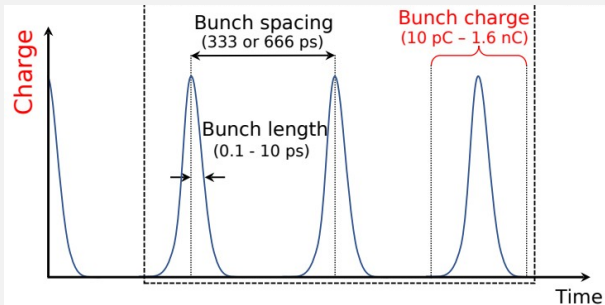
- **Task 1** – Comparison of Monte Carlo codes using ICRP 103 conversion factors (M. Latocha)
- **Task 2** – Instrument response in pulsed radiation fields (*M Caresana*)
- **Task 4** – SPE measurements and ground-based (*I Ambrozova*)
- **Task 5** – Laser-generated radiation fields (V. Olsovcova)
- **Task 7** – High energy reference fields (*E Hohmann*)
- **Task 8** – Radiation dose induced by natural electric discharge in the atmosphere (*O Ploc*)
- **Task10** – Operational procedure for GLE management (*P Beck*)
- **Task 11** – Course on unfolding (*E. Hohmann*)
- **Task 12 Common action WG6, WG9 and WG11** – Benchmark of the MC models used for high energy neutrons (*M. Petit*)



Instrument Response in Pulsed Fields

Measurements in pulsed fields

- High radiation dose is delivered in extremely low time
- The field is contaminated by different radiation types whose energy ranges over several order of magnitudes
- **There are no standard reference fields for testing instrumentation**



**WG11
measurement
campaigns**

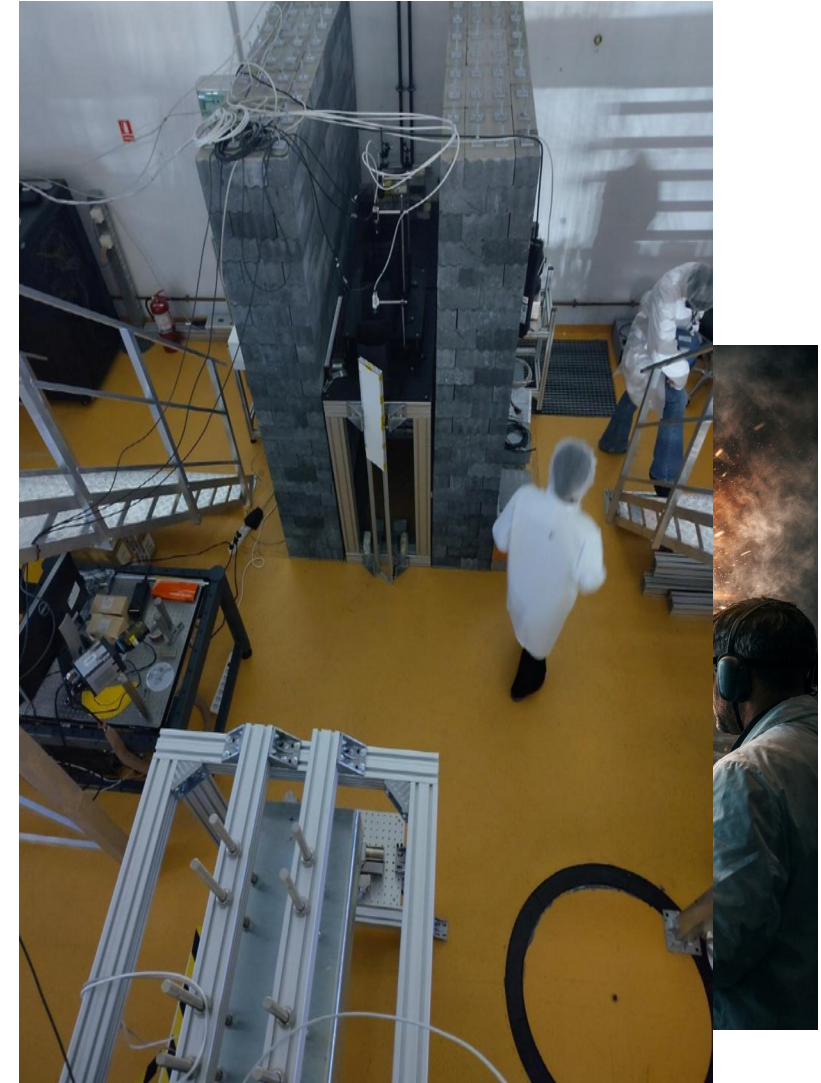
SWISSFEL, PSI 2025



Laser-generated radiation fields

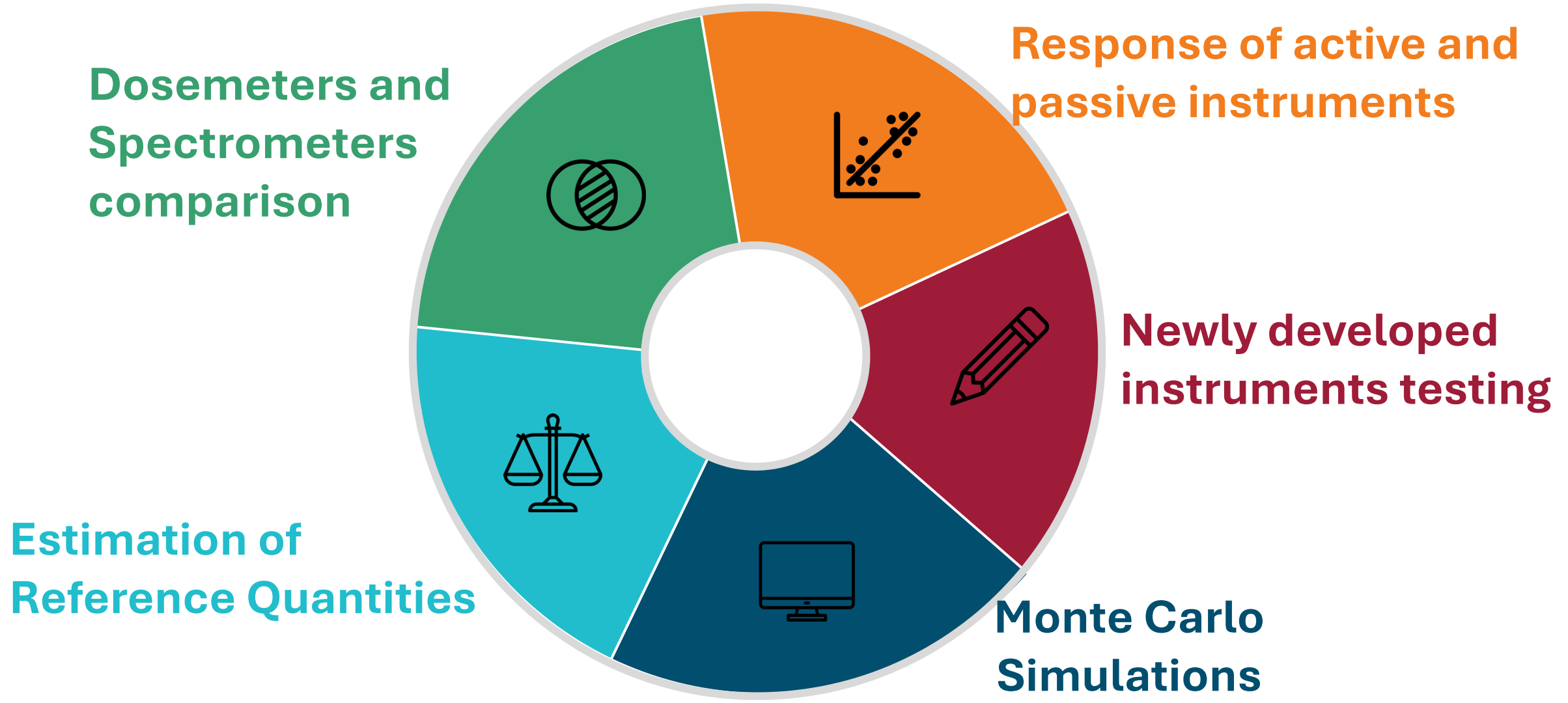
Challenges:

- Complex fields: Prompt + secondary fields, Reproducibility ↓, Mixed radiation fields, Broad spectra, Dose/pulse ↑, Ultra-short pulses, Repetition rates ↑
- Limitations of measurement capabilities: pile-up, cross-sensitivity to radiation types outside the intended design specifications, signal saturation under high instantaneous dose rates, and dead-time effects
- Lack of metrology for pulsed high energies instrumentation
- Specific regulatory framework
- Radiation protection awareness, culture and prioritization gap: Secondary radiation underestimation, Perception–risk mismatch, Low prioritization of dose assessment, Limited investment in advanced dosimetry research

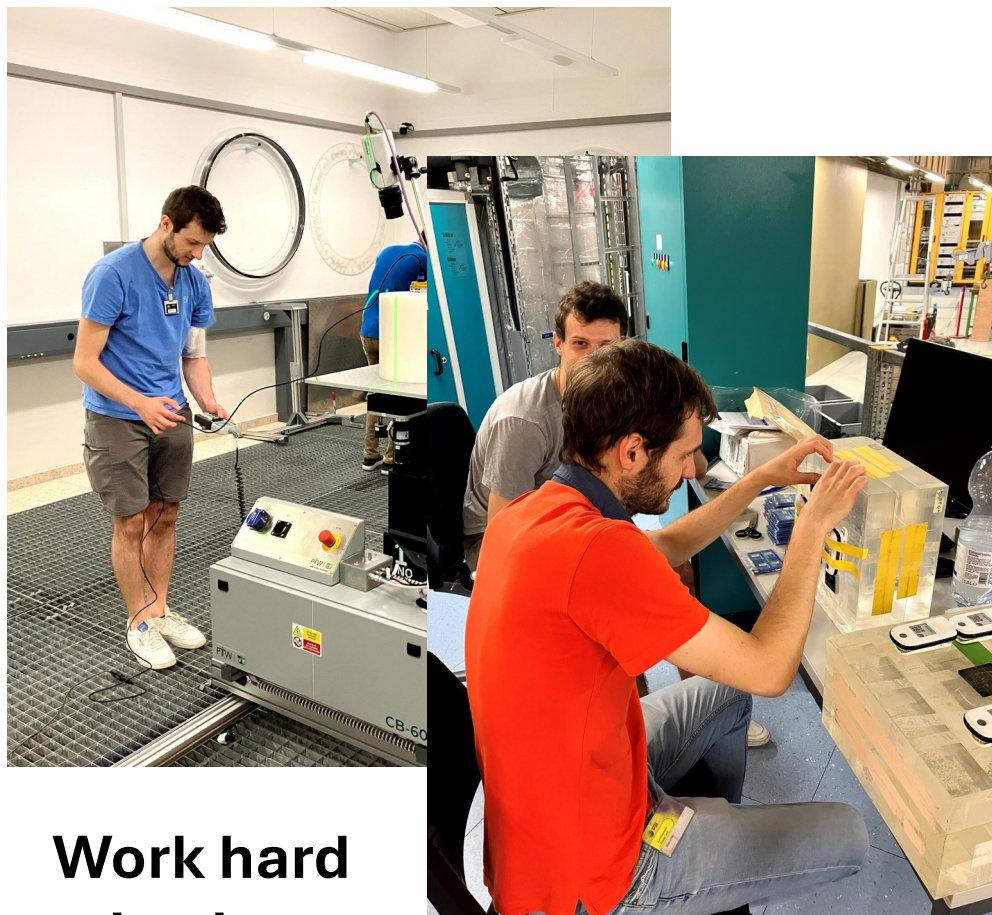


Measuring what is not yet fully understood, with instrumentation still under refinement.

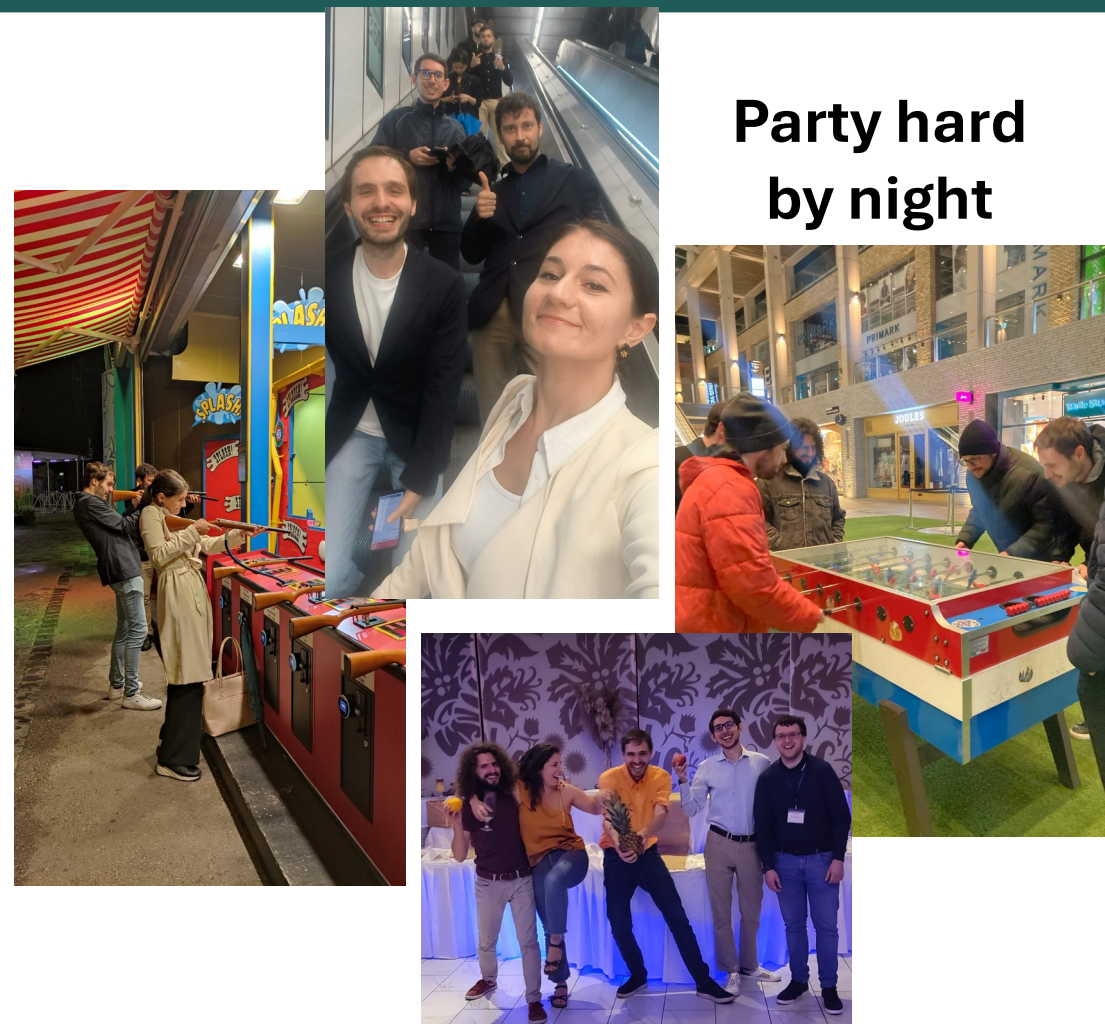
WG11 intercomparisons in a nutshell



Join the Younger Crowd of WG11



**Work hard
by day**



**Party hard
by night**