



ARDENT

Advanced Radiation Dosimetry European Network Training initiative

WP4: Instrument intercomparison

M. Magistris



WP4: Instrument intercomparison Overview

- The aim of this WP is to compare the instruments developed in the frame of ARDENT
- The measurement campaigns can take place when the development of detectors is at an advanced stage. *According to the initial plan: start month 25, end month 48*
- This work package
 - focuses on network-wide experimental activities
 - insures good synergy amongst all partners and ESRs
- *Collaboration with all partner institutes and ESRs*



WP4: Instrument intercomparison Motivation

- Benchmark experiments can provide useful input for further development of the detectors
- For the ESRs, taking part in a benchmark experiment is an excellent opportunity to learn – *and is always appreciated in a PhD program*
- The organization of measurement campaigns encourages the synergy among experts and ESRs



WP4: Instrument intercomparison Measurement campaigns

- Measurement campaigns will be organized to compare the instruments developed
- Examples of campaigns to be organized:
 - Instrument response to high-energy mixed radiation field
 - Dosimetric and microdosimetry measurements with carbon ions
 - Instrument response to clinical proton beams
 - Measurements with quasi-monoenergetic neutrons

WP4: Instrument intercomparison Selection of the facilities

- Ideally, at least one facility will be chosen per type of radiation field and per type of detector
- Experiments in a partner or external Institute can be combined with:
 - Training (courses, seminars, visits)
 - Network (meetings with the local ESRs and experts)



WP4: Instrument intercomparison Coordination of the campaigns

- The organization of a measurement campaign will depend on:
 - Implementation of the WP 1, 2 and 3
 - Progress in the development of each type of detector
 - Availability of facilities / radiation fields
 - Suggestions of ESRs and their supervisors
 - Opportunities (experiments, training events in a given Institute, availability of experts...)



WP4: Instrument intercomparison Milestones

- *Preparatory milestones:*
 - List of available facilities for measurements and type of radiation fields
 - For each type of detector: radiation fields of interest, properties to be tested, ESRs and experts interested in the measurement
 - Campaigns selected, depending on the needs of WP1, 2 and 3
 - Campaigns prepared (availability of instruments and experts, logistical aspects, preparatory calculations)
- *M13 Instrument intercomparison (month 30)*

