

Strategic research agendas in European radiation protection research

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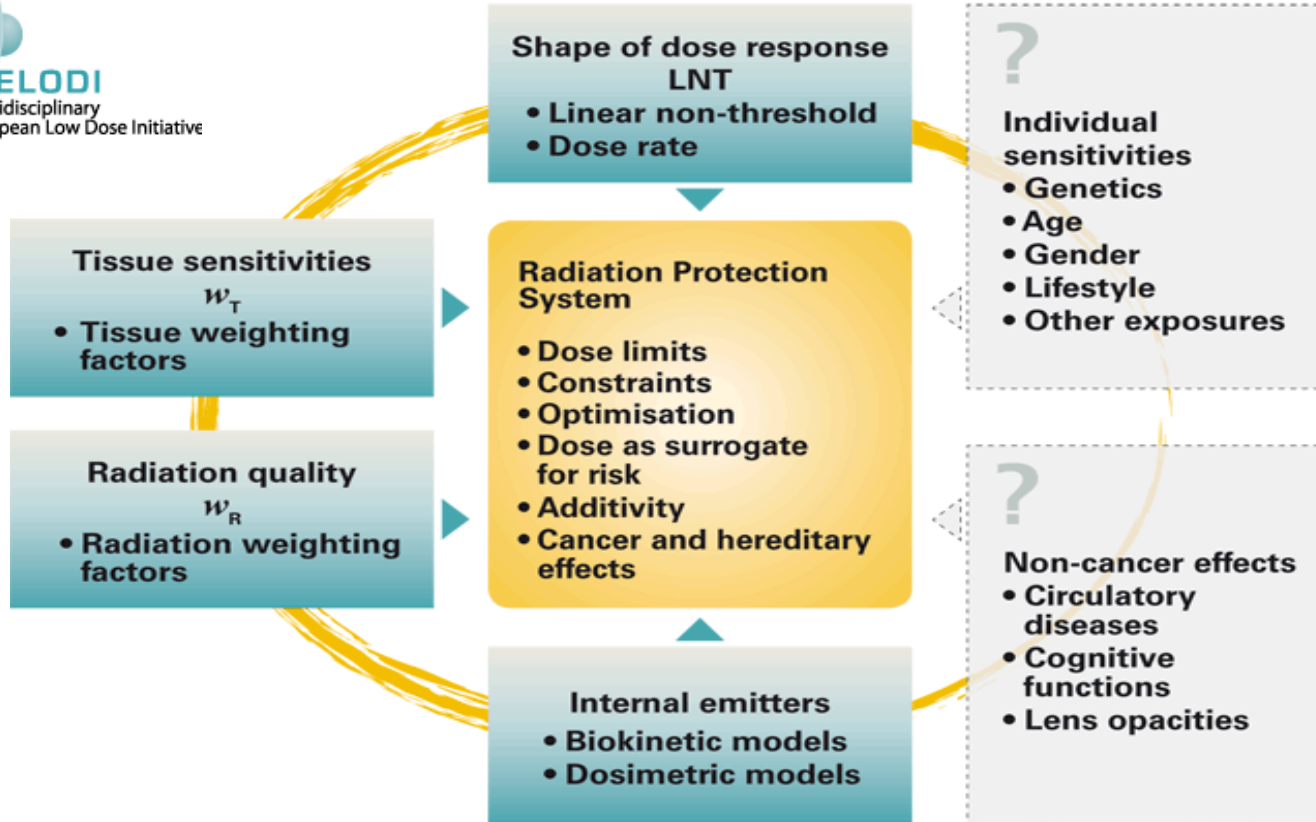
Integration of European low dose risk research



- HLEG Report (2009)
- Letter of Intent: BfS, IRSN, CEA, STUK, ISS (2009)
- Association with 15 founding members (2010)
- Strategic Research Agenda, SRA (2011)
- Enlargement of MELODI: 46 members by 2016
- Other parallel RP research platforms established: NERIS (2011), ALLIANCE (2012)
- EURADOS prepared SRA (2014)
- EURAMED SRA (2016)
- OPERRA: Open Project for European Radiation Research Area (2013-2017)
- Horizon2020: European Joint Program CONCERT (2015-2020)

How robust is the system of radiation protection and risk assessment?

High
Level
Expert
Group



Strategic Research Agenda of MELODI (2016)

1. Dose and dose rate dependence of cancer risk

- Basic mechanisms
- Health risk evaluation
- Impact of radiation exposure characteristics

2. Non-cancer effects

- Basic mechanisms
- Health risk evaluation
- Impact of radiation exposure characteristics

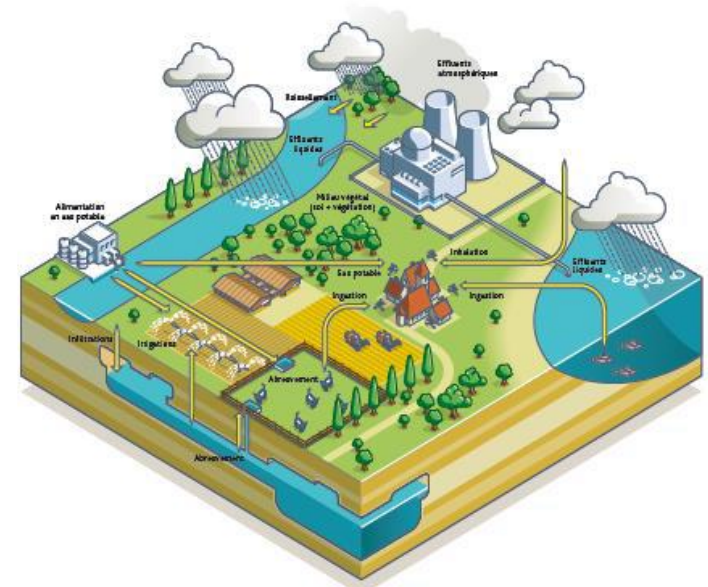
3. Individual radiation sensitivity

- Basic mechanisms
- Health risk evaluation
- Impact of radiation exposure characteristics



ALLIANCE SRA – 3 Challenges

1. To Predict Human and Wildlife Exposure in a Robust Way by Quantifying Key Processes that Influence Radionuclide Transfers and Exposure
2. To Determine Ecological Consequences under Realistic Exposure Conditions
3. To Improve Human and Environmental Protection by Integrating Radioecology



1. New Challenges in Atmospheric & Aquatic modelling – Needs for improvement
2. New challenges for better dose assessments and decision support based on improved knowledge: source term, scenarios, etc.
3. New challenges in stakeholder involvement and local preparedness and communication strategies

EURADOS SRA – 5 Visions



1. Towards updated dose concepts and quantities
2. Towards Improved Radiation Risk Estimates Deduced from Epidemiological Cohorts
3. Towards an Efficient Dose Assessment in Case of Radiation Emergencies
4. Towards an Integrated Personalized Dosimetry in Medical Applications
5. Towards an Improved Radiation Protection of Workers and the Public

EURAMED - 5 Research Topics



1. Measurement and quantification in the field of ionising radiation
2. Tissue reactions and biological radiation risk
3. Optimisation of radiation exposure and harmonisation of practices
4. Justification of the use of ionising radiation in medical practice
5. Infrastructure for quality assurance

Short and long term research agendas

