



# MELODI

Multidisciplinary European  
Low Dose Initiative

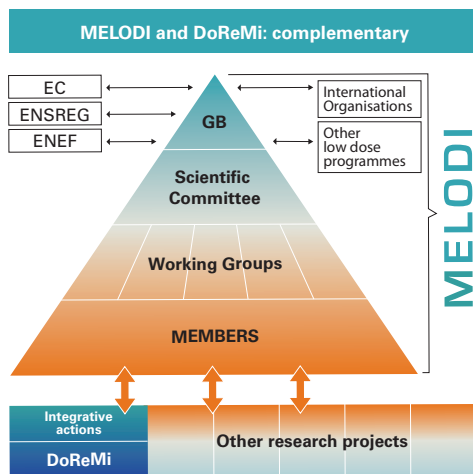
## Activities of MELODI

The purpose of MELODI is to coordinate and promote European research on the risks associated with low dose exposure to ionizing radiation.

MELODI is a research platform, in accordance with relevant European Union policies. In this context, it will contribute to the definition of priority objectives in low dose risk research, identification of research programmes and resources to be implemented in order to achieve these objectives, assessment of results obtained, and promotion of communication on these issues between the various parties involved.

These functions will be carried out by organizing scientific and stakeholder workshops, promoting the visibility of the research area, nominating working groups on specific topics and facilitating collaborative research. A major activity of MELODI is the establishment and updating of a Strategic Research Agenda in low dose risk. The SRA is intended to guide the priorities for national and European research programmes. Ensuring the availability of key infrastructures is an essential basis for research activities. An integrated European approach for training and education is another long-term aim, ensuring long-term competence in radiation research and health risk assessment.

An important operational tool for the establishment of MELODI and setting up the structures for sustainable integration of research in Europe is the DoReMi Network of Excellence that is funded by Euratom FP7 radiation protection programme ([www.doremi-noe.net](http://www.doremi-noe.net), [doremi@stuk.fi](mailto:doremi@stuk.fi)). The DoReMi network started with 12 initial partners and is expected to have more than 30 partners by its end in 2015.



## Strategic Research Agenda

The scientific foundation for MELODI is the Strategic Research Agenda (SRA). The overall aim is to focus research to provide the information needed for the consolidation of the scientific evidence in the area of low dose radiation exposure to help define the EU energy and health policies. This requires a forward thinking agenda to help frame the structure of a well coordinated research programme, and to establish the operational procedures for development of MELODI to ensure long-term commitment (>20 y) to low dose research in Europe.

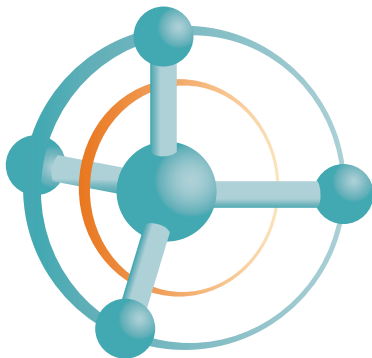
Key scientific issues addressed within the SRA are:

1. the shape of dose-response curve for cancer
2. the individual radiation sensitivity
3. the occurrence of induced non-cancer disease at low doses

In addition to the main questions, three further cross-cutting issues that need to be considered are

1. radiation quality
2. tissue sensitivity
3. internal emitters

The SRA will be updated on a regular basis, via an open dialogue with the scientific community and various stakeholders.



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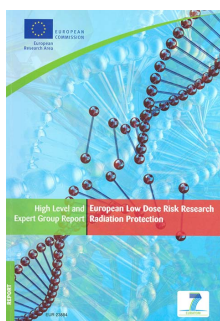
**The mission of MELODI is to coordinate and promote European research on the risks associated with low-dose exposure to ionizing radiation.**

There are a number of important scientific questions which require resolution in order to consolidate the European radiation protection knowledge in relation to low dose exposure to ionizing radiation. Research on low dose risk requires multidisciplinary approaches and long-term commitment. Several scientific and regulatory bodies set up MELODI in 2010 to address research requirements and joint approaches to the development of a coordinated research programme, including societal and public concerns related to radiation exposure. The research platform is open to any organization that shares the mission of developing and updating a joint research agenda.

**Contact details:**  
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## Founding MELODI

The importance of low dose risk research is recognized internationally. Many of the larger Member States of the EU have considerable research activities in this area. However, beyond the EURATOM research programme, little has been done to integrate these programmes. The increasing use of nuclear fission in energy production and application of ionizing radiation in medicine now accentuate the need to revitalize and coordinate research capacities to address the key issues at a strategic level in Europe.



In 2009, with the support from the European Commission, a High Level and Expert Group (HLEG) published a report that identified key policy issues, assessed the state of science and the main research challenges and proposed a European research strategy and a way forward for its implementation. An essential part of the recommendations was the proposal to establish a transnational organization capable of ensuring appropriate governance of research in this field, and a scientific strategy capable of structuring future research in the most effective way.

During 2009, national organizations in Europe started the process by signing Letters of Intent for the establishment of MELODI, "Multidisciplinary European Low Dose Initiative". A first draft of the European strategy was presented and discussed in two open scientific workshops in Stuttgart and Paris. A total of 15 founding members participated in the 1st General Assembly of the MELODI Association in Paris on 19th October, 2010 (see <http://www.melodi-online.eu>).

## Goals of MELODI

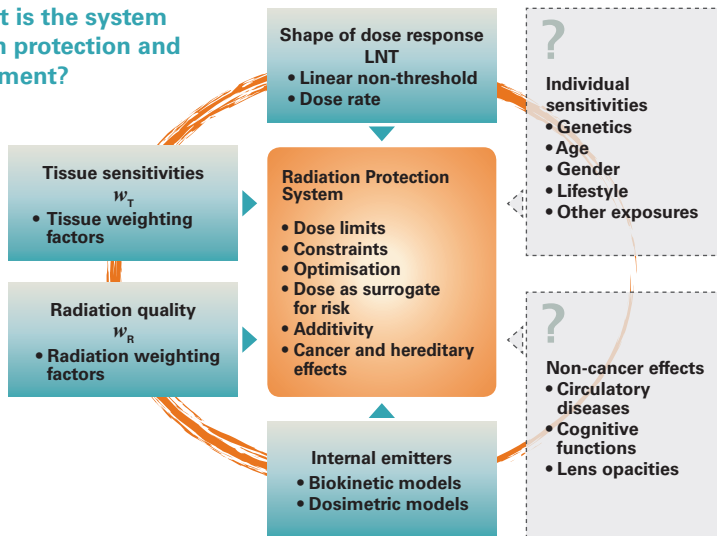
Both natural and man-made sources of ionizing radiation contribute to human exposure and constitute a risk to human health. Exposure of the population to natural radiation is to some extent unavoidable and medical use of radiation is now an indispensable part of modern healthcare. The exposure of workers, and to a smaller extent of the public, to low levels of radiation resulting from nuclear energy production and other industrial sources are a recognized consequence

of our industrialized societies, requiring appropriate regulation. Radiation protection standards rely on current knowledge of the risks from radiation exposure. Any over-, or under-, estimation of these risks could lead either to unnecessary restriction or to a lower level of protection than intended. Although much is known about the quantitative effects of exposure to ionizing radiation, considerable uncertainties and divergent views remain about health effects at low doses.

**The three main goals of MELODI are:**

1. To prioritise, promote and coordinate low dose risk research in Europe, through an open and integrative approach, adopting a Strategic Research Agenda
2. To create a forum for dialogue with EU institutions and stakeholders
3. To interface with international partners (WHO, IAEA, USA, Japan,...)

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



*The current system of radiation protection makes judgements in several important areas: the four blue boxes indicate judgements that fall directly within the system of protection against the low dose radiation effects as recommended by ICRP, whereas the boxes on the right identify issues that are, at present, included only to a minor degree.*

## Join MELODI

The MELODI Association is open to other European organizations entrusted with similar missions in the field of low dose radiation research, which would be willing and capable to contribute to the goals of MELODI.

A General Assembly is held once a year, together with an open MELODI workshop. The Board of Directors of MELODI defines the main strategies for the Association. The Bureau of MELODI is elected for a period of three years.

### The first Bureau members, elected for 2010–2013, are:

Jacques Repussard, IRSN (Chair); jacques.repussard@irsn.fr  
Wolfgang Weiss, BfS (Vice-Chair); wwweiss@bfs.de  
Frank Hardeman, SCK-CEN (Secretary); melodi.secretariat@sckcen.be  
Velio Macellari, ISS (Treasurer)

### Founding members:



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