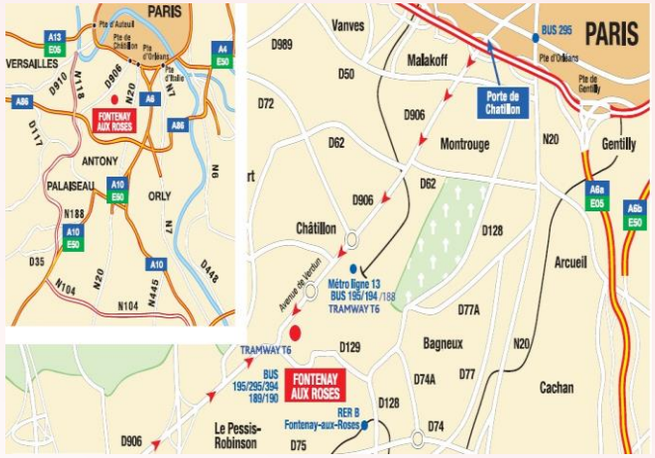
## Venue

IRSN, Bâtiment 33
12 rue de la redoute
Fontenay-Aux-Roses **(close to Paris)**
France

- By metro Line 13
  station Châtillon/Montrouge then
  Tramway T6
  stop Division Leclerc

- By train RER B (Charles de Gaulle/Robinson)
  station Fontenay-Aux-Roses then
  Bus 394 stop Division Leclerc




IRSN
INSTITUT DE RADIOPROTECTION ET DE SÛRETÉ NUCLÉAIRE

Further information
&
Registration

**dosicourse2017@irsn.fr**
http://www.concert-h2020.eu/

## Organizing committee

**Sophie Ancelet (IRSN, Chair)**
François Trompier (IRSN)
Liz Ainsbury (PHE)
Clemens Woda (HMGU)

IRSN INSTITUT DE RADIOPROTECTION ET DE SÛRETÉ NUCLÉAIRE

Public Health England

HelmholtzZentrum münchen
Deutsches Forschungszentrum für Gesundheit und Umwelt

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EUROPEAN JOINT PROGRAMME FOR THE INTEGRATION OF RADIATION PROTECTION RESEARCH
CONCERT

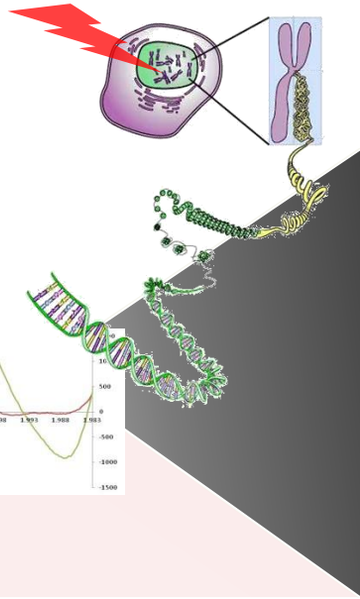
# Uncertainty analysis for retrospective dosimetry and associated research

**June 19-23, 2017**
**IRSN, Paris, France**

Organized by IRSN INSTITUT DE RADIOPROTECTION ET DE SÛRETÉ NUCLÉAIRE

& EURADOS

Sponsored by EUROPEAN JOINT PROGRAMME FOR THE INTEGRATION OF RADIATION PROTECTION RESEARCH CONCERT



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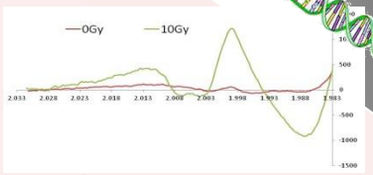


## Aim of the course

Organized in the framework of **EURADOS**, the course aims providing to participants a detailed insight in uncertainty analysis techniques for retrospective biological and physical dosimetry. It will have relevance for use of biomarkers to support molecular radiation epidemiology, individual monitoring for external exposure and dose assessment, and computational dosimetry.

EURADOS

IRSN

## Lecturers

- Sophie Ancelet (IRSN)
- Mohamedamine Benadjaoud (IRSN)
- Guillaume Manificat (IRSN)
- Maurizio Marrale (Univ. of Palermo)
- Pedro Puig (Univ.of Barcelona)
- Yann Richet (IRSN)
- Laurence Roy (IRSN)
- François Trompier (IRSN)

## General content & Topics

- Introduction to retrospective biological and physical dosimetry
  - *Context, aims, data to analyze, issues*
- Standard approaches for dose estimation in retrospective physical/biological dosimetry
  - *Link between the different dosimetry techniques, description of dose assessment process based on real cases*
- Overview of uncertainty analysis
  - *Definition, How to deal with uncertainty? Why?*
  - ***Practical session***
- Statistical tools for retrospective dosimetry
  - *Standard tests, frequentist estimation, outliers, underthreshold variables,...*
- Introduction to R language for statistical computing in retrospective dosimetry
  - ***Practical session***
- Limit of detection problem
  - *Detection and decision, reporting results, homoscedasticity and heteroscedasticity*
- Inter-laboratory comparison methods
  - *What has been done so far? How to analyze ILC results?*
- GUM methods in retrospective dosimetry
  - *Principle, strengths and weaknesses, examples, softwares*
  - ***Practical session***
- Monte-Carlo methods in retrospective dosimetry
  - *Principle, strengths and weaknesses, examples, softwares*
  - ***Practical session***
- Bayesian approach in retrospective dosimetry
  - *Principle, strengths and weaknesses, examples, softwares*
  - ***Practical session***

## Information for applicants

People wishing to apply should submit at **dosicourse2017@irsn.fr** :

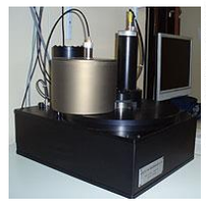
- A letter of application
- A CV describing the scientific career
- A supporting letter from the supervisor (only for PhD students)

Deadline for applications is **March 20th 2017**

Max number: **20 participants**

There is no course fee but **only a limited financial support** (**12 students only**) will be available to cover accommodation, breakfast and lunch.

A convivial dinner will be organized.



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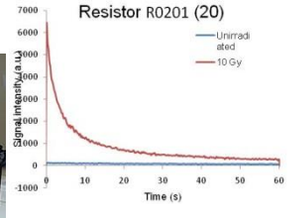


## Course open to

- MSc/PhD students and other young scientists who need a strong grounding in uncertainty analysis techniques (including mathematical and statistical concepts) for retrospective dosimetry.
- Later career professionals, who want to deepen their knowledge in this field.