



4th NERIS Workshop

"Adapting nuclear and radiological emergency preparedness, response and recovery to a changing world"

25-27 April 2018, Dublin, Ireland

Programme

Hosted by the Environmental Protection Agency





Objectives of the Workshop

The **NERIS Workshop 2018** will address the issue of “**Adapting nuclear and radiological emergency preparedness, response and recovery to a changing world**”.

This will be an opportunity to **discuss and exchange views with NERIS Members, international organisations and European Research communities on research developments and priorities for the European NERIS Platform.**

7 main topics selected

Plenary sessions will be organised on topics related to the following areas:

- ▶ **Citizen Science & monitoring by the public**
- ▶ **Coping with uncertainty in impact assessment & decision making**
- ▶ **Calibration of new monitoring options (mobile monitoring)**
- ▶ **Inverse modelling & data assimilation**
- ▶ **Data reproducibility and model validation**
- ▶ **Novel approaches to communication & stakeholder engagement**
- ▶ **Operational challenges for emergency response and recovery**

Venue

The Workshop will be held at **Dublin Castle**, located in the heart of Dublin city, amongst the magnificent 18th century Georgian quadrangle of buildings.

Through the ages, the Castle has been at the heart of Irish history: from the foundations of the first Viking settlement 1,000 years ago through to the handing over of the Castle by the British authorities (where it served as a centre of administration and rule) to Michael Collins (the first leader of the Irish Free State) in 1922. Today, the Castle is one of the country’s premier cultural sites.

A tour of Dublin Castle will be offered to attendees during the NERIS Workshop.



Programme Committee

- ▶ Kasper ANDERSSON – DTU (Denmark)
- ▶ Johan CAMPS – SCK•CEN (Belgium)
- ▶ Sylvie CHARRON– IRSN (France)
- ▶ Damien DIDIER– IRSN (France)
- ▶ Tatiana DURANOVA – VUJE (Slovakia)
- ▶ Mélanie MAÎTRE – CEPN (France)
- ▶ Milagros MONTERO – CIEMAT (Spain)
- ▶ Maarit MUIKKU– STUK (Finland)
- ▶ Deborah OUGHTON –NMBU (Norway)
- ▶ Wolfgang RASKOB – KIT (Germany)
- ▶ Veronica SMITH – EPA (Ireland)
- ▶ Catrinel TURCANU - SCK•CEN (Belgium)

Organising Committee

- ▶ Caroline DONNELLAN – EPA
c.donnellan@epa.ie
- ▶ NERIS Secretariat – Mélanie MAÎTRE
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Programme

The NERIS workshop will last **2.5 days** during which the first afternoon will be devoted to the organisation of the **9th General Assembly** and two NERIS working group meetings.

Then, the next two days will be dedicated to oral presentations dealing with the 7 topics of interest for this workshop (see above). On Thursday 26 evening, a **tour of the Dublin Castle** will be proposed, right before the **workshop dinner** planned in Dublin City Center.

The last part of the NERIS workshop will focus on the **CONCERT Joint Roadmap** and its possible links with NERIS activities. The **NERIS Young Scientist award** ceremony will mark the end of the workshop. The competitors to this award are identified by a special icon (🏆) in the detailed program.

Wednesday 25 April 2018

12:30 - 13:30

WG ConGoo satellite meeting

NERIS General Assembly

13:30 - 15:00

Review of the NERIS activities in 2017

15:00-15:30

Coffee Break

International Forum

15:30-17:00

Round table with international organisations to discuss about their activities and their possible links with the NERIS Platform

17:00-18:30

WG Information Participation and Communication satellite meeting

Thursday 26 April 2018

8:00-8:45

NERIS Workshop Registration

8:45 - 9:00

OPENING CEREMONY

Welcome & Introduction

Mícheál Lehane - EPA (Ireland) - Director of the Office of Radiation Protection and Environmental Monitoring

Thierry Schneider – CEPN (France) - President of the NERIS Platform

9:00-10:30

SESSION 1 – Radiological Monitoring and Citizen Monitoring

Chairs: Deborah Oughton (NMBU) & Veronica Smith (EPA)

Organisation of the Environmental monitoring: lessons learnt from Fukushima

Mélanie Maître – CEPN (France) 

Science for citizens or by citizens? Exploring grassroots radiation monitoring after Fukushima

Joke Kenens – SCK · CEN (Belgium) 

Science by, with, or for citizens? Reframing “citizen science” through radiation monitoring in post-Fukushima Japan

Michiel van Oudheusden – SCK · CEN (Belgium)

9:00-10:30

SESSION 1 – Radiological Monitoring and Citizen Monitoring

Chairs: Deborah Oughton (NMBU) & Veronica Smith (EPA)

Citizen Monitoring in the Czech Republic – progress achieved during the last year

Petr Kuča - National Radiation Protection Institute (Czech Republic)

Citizen-Science involvement after nuclear accidents: SHAMISEN SINGS projects

Liudmila Liutsko – ISGlobal (Spain) 🕒

Assessment of Safecast bGeigie Nano Monitor

Joshua Walsh – EPA (Ireland) 🏆

The development of a dual-use low-cost CsI(Tl)-SiPM detector for radiation monitoring by authorities and members of the public

Steven Bell - National Physical Laboratory (UK)

Preparedness European Project: Metrology for mobile detection of ionising radiation following a nuclear or radiological accident – WP1 unmanned aerial systems

Arturo Vargas - Universitat Politècnica de Catalunya (Spain) 🕒

Metrology for mobile detection of ionising radiation following a nuclear or radiological accident – Overview of the European joint research project EMPIR - 16ENVo4 “Preparedness”

Stefan Neumaier - Physikalisch-Technische Bundesanstalt (Germany) 🕒

10:30-10:45

General Discussion

10:45-11:15

Coffee Break

11:15-12:45

SESSION 2 – Novel approaches to communication & stakeholder engagement

Chairs: Pascal Croüail (CEPN) & Catrinel Turcanu (SCK ·CEN)

Stakeholder engagement in Emergency Preparedness and Response

Bieke Abelshausen - SCK ·CEN (Belgium)

Novel stakeholder engagement: the importance of quality evaluation

Yevgeniya Tomkiv – NMBU (Norway) 🏆

Awareness of local stakeholders to the post-accident issues -The example of the CLIn of Blayais using the cartographic tool OPAL

Xavier Paulmaz - CLIn Blayais - and Véronique Leroyer -IRSN (France)

The Recovery through Realization of Small Practices - Case Study of the Fukushima Nuclear Accident

Aya KUBOTA -University of Tokyo (Japan)

🕒 5 min presentation

11:15-12:45

SESSION 2 – Novel approaches to communication & stakeholder engagement

Chairs: Pascal Croüail (CEPN) & Catrinel Turcanu (SCK)

Dialogue as therapy? An ethnographer's analysis of the Fukushima Dialogues

Makoto Takahashi - University of Cambridge (UK) 🏆

Knowledge base for stakeholder engagement in radiation protection

Tatiana Duranova – VUJE (Slovakia)

Engaging stakeholders in the governance of radiological risk: Developing theory, practice, and guidelines

Catrinel Turcanu – SCK · CEN (Belgium) 🕒

Communication and Transparency related to radiological emergencies according to New Basic Safety Standards and amended Nuclear Safety Directive: Are we prepared?

Tanja Perko - SCK · CEN (Belgium)

12:45-13:00

General Discussion

13:00-14:00

Lunch Break

14:00-14:45

SESSION 3 – Inverse modelling & data assimilation

Chairs: Damien Didier (IRSN) & Wolfgang Raskob (KIT)

Inverse modelling method to analyze detections of radionuclides within Europe –illustration on an actual case

Olivier Saunier – IRSN (France)

Assessment of source regions and source terms based on the Ru-106 measurements in air in Europe in September and October 2017

Thomas Hamburger – BfS (Germany)

Source localisation of the Ru-106 detected in autumn 2017

Pieter De Meutter - SCK · CEN (Belgium) 🏆

Position optimization techniques for stationary and mobile radioactive incident monitoring

Pierre Mandrin – IMSD (Switzerland)

14:45-15:00

General Discussion

15:00-15:30

Poster Presentations

1 min presentation / poster

15:30-16:00

Coffee Break

🕒 5 min presentation

16:00-16:45

SESSION 4 – Data reproducibility & model validation

Chairs: Spyros Andronopoulos (NCSR) & Maarit Muikku (STUK)

Severe Accident Diagnosis and Prognosis in European Nuclear Power Plants
Juan Carlos de la Rosa Blul - EC (The Netherlands)

The NERIS near-range atmospheric dispersion modelling experiment
Johan Camps – SCK · CEN (Belgium)

Uncertainty assessment of DIPCOT based on the NERIS ADM experiment
Spyros Andronopoulos – NCSR (Greece)

Individual dose reconstruction after nuclear accidents based on environmental monitoring data
Kathrin Folger – BfS (Germany)

16:45-17:00

General Discussion

17:15-18:15

Tour of the Dublin Castle

19:30-23:00

Workshop Dinner

Friday 27 April 2018

9:00-10:45

SESSION 5 – Operational challenges

Chairs: Ciara MacMahon (EPA) & Florian Gering (BfS)

Challenges in a changing world to be prepared for nuclear emergency response
Marie-Claire Cantone - UMIL (Italy)

ANURE project: Towards the implementation of a nuclear risk assessment methodology
Milagros Montero – CIEMAT (Spain)

Summary of the European joint research project “Metrology for radiological early warning networks in Europe” (MetroERM)
Stefan Neumaier -Physikalisch-Technische Bundesanstalt (Germany)

National Monitoring Strategy to Promote Efficient Response and Preparedness in Radiological Emergency in Finland – progress report
Tarja K. Ikäheimonen - STUK (Finland)

9:00-10:45

SESSION 5 – Operational challenges

Chairs: Ciara MacMahon (EPA) & Florian Gering (BfS)

A software platform for environmental measurement preparation and data control of nuclear emergency exercises

Marilyne TOMBETTE - IRSN (France)

Needs in making european recovery preparedness operational

Kasper Andersson – UT (Denmark)

OPERRA-HARMONE, Knowledge data base and FDMT Regionalization

Wolfgang Raskob – KIT (Germany)

Using dose for prediction of early health effects after ionizing radiation - a challenging task

Michael Abend - Bundeswehr Institute of Radiobiology (Germany)

The IAEA arrangements for international assistance in the framework of the Assistance Convention

Kilian Smith - IAEA (Austria)

10:45-11:00

General Discussion

11:00-11:30

Coffee Break

11:30-13:00

SESSION 6 – Coping with uncertainties

Chairs: Tatiana Duranova (VUJE) & Simon French (University of Warwick)

The Various Meanings of Uncertainty

Simon French – University of Warwick (UK)

Operational use of dispersion calculation with quantified uncertainties

Steen Hoe – DEMA (Denmark)

An operational implementation of the latest results in Nordic research on uncertainty of atmospheric dispersion prediction

Jan Pehrsson – PDC-Argos (Denmark)

The impact of different Atmospheric Dispersion Models in the results of the European Model for Inhabited Areas after a Radiological Scenario

Paulo Marques Nunes – APA (Portugal)

Experiences from operational actions and recent research with respect to atmospheric disaster events

Alexander Hieden - ZAMG (Austria) 🏆

11:30-13:00

SESSION 6 – Coping with uncertainties

Chairs: Tatiana Duranova (VUJE) & Simon French (University of Warwick)

Uncertainty propagation in an atmospheric dispersion modelling of the Fukushima nuclear accident

Raphaël PERILLAT – IRSN (France) 🏆

Scenarios and issues to address with stakeholders in the transition phase. Towards the reduction of uncertainties in the management of long-term recovery

Cristina TRUEBA – CIEMAT (Spain)

13:00-14:00

Lunch Break

14:00-14:45

SESSION 6 – Coping with uncertainties

Chairs: Tatiana Duranova (VUJE) & Simon French (University of Warwick)

Decision-making processes in post-accidental situations: manifestation of uncertainty

Jérôme Guillevic – IRSN (France)

Coping with uncertainty for individual decision-making in nuclear emergency situations

Catrinel Turcanu – SCK · CEN (Belgium)

Returning or not in areas affected by the Fukushima accident?

Pascal Croüail – CEPN (France)

New emergency planning zones and distances in Sweden

Jan Johansson - Swedish Radiation Safety Authority (Sweden)

14:45-15:00

General Discussion

15:00-15:30

Coffee Break

15:30-16:50

Round Table on the CONCERT Joint Roadmap and the links with the NERIS research activities

Chairs: Thierry Schneider (CEPN) & Johan Camps (SCK-CEN)

16:50-17:00

CLOSING REMARKS & NERIS YOUNG SCIENTIST AWARD CEREMONY

Thierry Schneider – CEPN (France) - President of the NERIS Platform

List of Posters

Radiological Monitoring and Citizen Monitoring

Testing of commercial dose rate meters used in non-governmental networks

Patrick Kessler - Physikalisch-Technische Bundesanstalt (Germany)

Enhancing Citizen Participation in preparedness for and recovery from a radiation accident: review of existing APPs for citizen based dose measurements

Paola Fattibene – IST (Italy)

Citizen-science involvement after nuclear accidents: SHAMISEN SINGS project

Liudmila Liusko – ISGlobal (Spain)

Monitoring of ionising radiation by non-governmental networks in the framework of “Preparedness” EMPIR project

Giorgia Iurlaro – ENEA (Italy)

Preparedness European Project: Metrology for mobile detection of ionising radiation following a nuclear or radiological accident – WP1 unmanned aerial systems

Arturo Vargas - Universitat Politècnica de Catalunya (Spain)

Metrology for mobile detection of ionising radiation following a nuclear or radiological accident – Overview of the European joint research project EMPIR - 16ENVo4 “Preparedness”

Stefan Neumaier - Physikalisch-Technische Bundesanstalt (Germany)

Large scale individual thyroid monitoring following nuclear accidents by means of non-spectrometric devices

Ignazio Vilardi – ENEA (Italy)

Monitoring of contaminated area in a late phase of radiation accident

Eva Cermakova – SURO (Czech Republic)

Inverse Modelling & data assimilation

Variational Data Assimilation for Short Range Atmospheric Dispersion of Radionuclides Based on Measurements Provided by an Unmanned Aerial Vehicle

Lucian Ivan - Canadian Nuclear Laboratories (Canada)

Operational Challenges

Operational Challenges in Nuclear Emergency Response in Ireland Identified during the ConvEx-3 (2017) Exercise

Kevin Kelleher – EPA (Ireland)

Building capability in Research Reactor Emergency Plans

Gustavo Ferrari Morai – CNEN (Brazil)

Probabilistic assessment of the effect of sheltering and evacuation on the radiological dose for the population – a generic approach

Thomas Hamburger – BfS (Germany)

Computational Simulation of Radioactive and nuclear plumes in the Atmosphere

Diogenes - Brazilian Air Force – Institute for Advanced Studies (Brazil)

Training of monitoring teams

Eva Cermakova – SURO (Czech Republic)

Coping with uncertainties

Using Meteorological Ensembles to Provide Meteorological Uncertainty when Modelling the Spread of Radioactive Material

Susan Leadbetter – Met Office (UK)

Uncertainty quantification of Lagrangian dispersion modelling using ECMWF's ERA5 ensemble data within the framework of the ATM Challenge

Andy Delcoo – Royal Meteorological Institute of Belgium (Belgium)

Web-based decision support system for emergency management – System architecture and enhancement possibilities

Stella Moehrle – KIT (Germany)

Societal uncertainties during a radiological emergency: A case study of an accidental release of radioactive iodine

Tanja Perko - SCK ·CEN (Belgium)

Novel Approaches to communication & stakeholder engagement

Engaging stakeholders in the governance of radiological risk: Developing theory, practice, and guidelines

Catrinel Turcanu - SCK ·CEN (Belgium)

The development of an Emergency Response Management Information System by the Environmental Protection Agency

Robert Ryan – EPA (Ireland)

Tools and approaches for improved communication in emergency situations

Christina Benighaus & Ludger Benighaus – DIALOGIK (Germany)

Mental models of EP&R for improvement of plans

Nadja Zeleznik – EIMV (Slovenia)



Target Audience

The target audience for this workshop are **researchers and organisations involved or interested in emergency and recovery preparedness and management** from all levels and sectors.

Working Language

The working language of the workshop will be **English**.

Registration and fees

Participation fees are requested for the Workshop organisation and dinner:

- ▶ **200€ for NERIS supporting organisations**
- ▶ **250€ for NERIS members or other organisations**

Participation fees include lunches, coffee breaks and the Workshop dinner organised on April 26, 2018.

Registration are opened on the [NERIS Website](#) and will be available till **13 April 2018**.

Practical information (transport, hotel, workshop venue, etc.) could be downloaded on a dedicated booklet available on the [NERIS Website](#).

The NERIS Young Scientist Award

The Programme Committee issues a special invitation to **young scientists and professionals** to attend the NERIS Workshop as participants. For the first time, the NERIS Platform has decided to set up the '**NERIS Young Scientist Award**', to promote young people whose professional or scientific works have been noted for their quality and originality. This is also an opportunity for young people to present their work in an oral form to an experienced international audience of experts.



Award

The award winner will be selected according to criteria established by the Programme Committee. The award will be announced and presented at the end of the 4th NERIS Workshop and will consist of a diploma and a free registration for the next NERIS Workshop.

