



BEYOND ECOSYSTEM APPROACHES IN RADIOECOLOGY

IN-PRESENCE & VIRTUAL SYMPOSIUM

organised by the
International
Union of
Radioecology

**6-8 SEPTEMBER
2023**

Grangegorman Campus
Technological University
DUBLIN - IRELAND

www.iur-uir.org

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The aim of this Symposium is to bring together scientists from all over the world to work on the challenges faced by environmental radiation protection to ensure the preservation of ecosystems. Under the auspices of the International Union of Radioecology, with the support of the Technological Univ. of Dublin and McMaster Univ. (Canada), this scientific meeting aims to pave the way for IUR future directions suitable to inform decision-making.

Overall, the cross-disciplinary scientific program will enable to explore recent scientific achievements, the scientific activities to be strengthened and the novel ones to be launched: evolution of environmental radiation protection, ecosystem approach, multiple stress factors, AOP and multi-level approaches, limits of linear or multi-level approaches to systems... An overarching concern is to tackle the issues through systemic and multiple levels such as to meet the protection goals of environmental radiation protection...

PROGRAM

Wednesday 6 September

- 10:00-11:00 Registration**
- 11:00-11:15** Opening talk
Carmel Mothersill, McMaster Faculty of Science - Canada
- 11:15-12:45 Session 1 - Background**
- 11:15-11:45** History of radioecology
Tom Hinton, ex-Fukushima University - USA (virtual)
- 11:45-12:15** Neglecting the ecosystem dimension of life hinders proper assessment of ecological risk (of radiation)
François Bréchinac, IUR - France
- 12:15-12:45** Discussion
- 12:45-14:00 Lunch**
- 14:00-17:00 Session 2 - AOP and multi-level approaches (PART 1)**
- 14:00-14:20** Adverse Outcome Pathways (AOPs) - An introduction
Knut Erik Tollefsen, Norwegian Institute for Water Research - Norway
- 14:20-14:40** Application of Adverse Outcome Pathways in Space Research
Vinita Chauhan, Health Canada - Canada (virtual)
- 14:40-15:00** Building an AOP for plants chronically exposed to ionizing radiation: Lemna minor as a case study
Nele Horemans, SCK CEN - Belgium
- 15:00-15:30 Break**
- 15:30-15:50** Identification of biomarkers for use in environmental radiation protection
Awadhesh Jha, University of Plymouth - UK
- 15:50-16:10** Human biomarkers with potential use in environmental protection
Orla Howe, Technological University Dublin - Ireland
- 16:10-16:30** Lessons for radioecological research from the Deepwater Horizon oil spill
Andrea Bonisoli-Alquati, California State Polytechnic University - USA
- 16:30-17:00** Discussion
- 18:00-20:30 Welcome reception**

Thursday 7 September

- 09:00-12:00 Session 2 - AOP and multi-level approaches (PART 2)**
- 09:00-09:20** Meaningful and objective inference in radioecological field studies
Mike Wood, University of Salford - UK
- 09:20-09:40** Field applications, Fukushima
Kentaro Ariyoshi, Fukushima Medical University - Japan
- 09:40-10:00** Marine approaches
Tom Cresswell, ANSTO - Australia (virtual)
- 10:00-10:30 Break**
- 10:30-10:50** Population modelling to assess the effects of ionising radiation and chemical pollutants on wildlife
Jordi Vives i Batlle, SCK CEN - Belgium
- 10:50-11:10** A brief overview of ongoing multi-level integrative studies of radionuclides toxicity at LECO (IRSN)
Frédéric Alonzo, IRSN - France
- 11:10-11:30** Novel spectroscopic methods for environmental protection research
Aidan Meade, Technological University Dublin - Ireland
- 11:30-12:00** Discussion
- 12:00-13:30 Lunch**



13:30-16:00 Session 3 - Limitations of linear or multi-level system approaches - Beyond systems

13:30-13:50 Complex structure and function
Larry Kapustka, LK Consultancy - Canada

13:50-14:10 Complexity and multi-risk modelling
Colin Seymour, McMaster University - Canada

14:10-14:30 Non-targeted effects and issues in effects modelling
Carmel Mothersill, McMaster Faculty of Science - Canada

14:30-15:00 Break

15:00-15:20 Role of formal semantics in data integration and analysis
Paul Schofield, University of Cambridge - UK

15:20-16:00 Discussion on Impacts of climate change - Interface between radiation and temperature and holistic approaches at the macro and micro level
Led by Carmel Mothersill and Colin Seymour, McMaster University - Canada

19:30-22:00 Dinner "Celtic Night at Arlington Hotel"

Friday 8 September

09:00-12:30 Session 4 - Social/psychosocial aspects

Led by Deborah Oughton (CERAD - Norway) and Mike Wood (University of Salford - UK)

- Evacuations of humans
- Damage/benefit of remediation

10:30-11:00 Break

- SMR issues for the ecosystem
Including a presentation by Soo Hyun Byun, McMaster University, describing the Health Physics approaches being developed at McMaster University
- Competing interests

12:30-14:00 Lunch

14:00-16:30 Concluding session

Summary discussion and Paper writing

REGISTRATION

Online registration via the platform

<https://my.weezevent.com/iur-symposium-bear>

To encourage the broadest participation in the conference, the IUR, with the support of TU Dublin (Ireland) and McMaster University (Canada), adjusted the registration fees to make the Symposium as accessible as possible.

REGISTRATION	IUR MEMBER	NON-IUR MEMBER
IN PERSON	160 €	220 €
LIVESTREAM	120 €	180 €

*Not a member of IUR yet?
Check out the available
membership benefits
on the IUR website,
and join before register!*

Optional Dinner on Thursday: 50 €

Full symposium inclusions:

- . In-person: Access to all the sessions from Wednesday through Friday, the paper program, breaks, 3 lunches, the Welcome Reception
- . Virtual: Online access to all the sessions, PDF format of the Book of abstracts

Further information, registration, venue, practical...
on the dedicated page of the IUR website
www.iur-uir.org

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