**Environmental Radioactivity and Radioecology**

**CfTN members:** José Corisco*, Mário Reis, María José Madruga, Eva Andrade, Marta Santos, Célia Fernandes, Elizabete Ribeiro, Helena Casimiro, Luís Ferreira, Isabel Prudêncio

*Email of corresponding author: corisco@ctn.tecnico.ulisboa.pt

**Post-Doc Contract** (Feb 2016 – Dec 2017): Jan Mihalik

On behalf of IST membership in The European Radioecology Alliance (EURADOS) European Radioecology Group

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**Thematic Strand**

**Earth Systems, Radioactivity and Cultural Heritage**

**Indoor radon**

- Natural radioactivity of building materials
- Determination of population exposure to radionuclides by gamma-ray spectrometry
- Assessment of the possible radiological hazards to human health.

**Materials and methods**

Determination of the radionuclides by gamma-ray spectrometry

**Determination of radon exhalation rate, E**

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<th>E (Passive Technique)</th>
<th>E (Active Technique)</th>
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<td>Composting device</td>
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<td>Results</td>
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<td>Cβ2β Radon concentration (Bq kg⁻¹)</td>
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**Cβ2β cycle in soil promoted by plant biodegradation**

**Remobilization of 137Cs from biomass degradation**

- Activity concentration in nuclear accidents
- Accumulation in plants
- Biodegradation of plant tissues in soil
- How do humic acids like compounds (HABC) newly formed affect the remobilization of 137Cs?

**Application of Monte Carlo code MCNPX**

**ICRP 2008 Concept of Reference Plants and Animals**

**Radiation dose assessment in natural wildlife**

Aquatic plants from Tejo river

**Aquatic plants from Tejo river**

- Internal doses for Potamogeton perfoliatus
- External doses for Cyperus eragrostis

**Herbaceous and moss covering a phosphogypsum tailing**

**Doses for Plantago coronopus**

**Doses for Bryum argenteum**

**Funding**

- Indoor Radon Absorbed dose Phosphogypsum 137Cs Bioavailability

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**Collaborations**

1 Pedro Nogueira | Thünen Institute of Fisheries Ecology, Bremerhaven, Germany
2 Conrado Miró | Departamento de Física Aplicada, Universidad de Extremadura, Spain

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**Research group**

1 RS | Radiopharmaceutical Sciences Group
2 RPS | Radiation Protection and Safety Group
3 REI | Radiation, Elements and Isotopes Group
4 NET | Nuclear Engineering and Techniques Group

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**Keywords**

- Indoor Radon
- Absorbed dose
- Phosphogypsum 137Cs
- Bioavailability

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**CfTN/IST acknowledges the financial support under the project UID/Multi/04389/2013**