

## Abstract submission form

### Speaker or corresponding author

|               |  |
|---------------|--|
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### Abstract information

|   |  |
|---|--|
| Presentation type [1]                         | Oral   |
| Select one or more topic [2]                  | Operational aspects: from theory to practice<br>Updating handbooks, guidelines and recommendations to support decision making                                  |
| Subject of the presentation                   | EMPIR project "Preparedness" and ENEA testing results for environmental monitoring of ionising radiation by Measuring Instruments in Non-governmental Networks |
| Participation NERIS Young Scientist Award [3] | No   |
| Proceedings of the Workshop 2020 [4]          | YES  |

#### [1] Copy paste:

Oral

Poster

Both (The programme committee will choose oral or poster)

#### [2] Copy paste one or more subject(s):

Operational aspects: from theory to practice

Disaster management and resilience in communities

Preparedness for a sustainable recovery: including non radiological consequences and effects

Updating handbooks, guidelines and recommendations to support decision making

Future research needs

Other

[3] To promote young researchers, the NERIS platform awards a free participation to the 7th NERIS Workshop (2021) and diploma to the winner of the prize. To participate you must be under 35 years old in May 2020. **Answer: yes / no.**

[4] You can publish a full paper in the proceedings of the Workshop 2020 to be published by the end of 2020. The full paper deadline is 31st July 2020. If you're not sure yet, tell us and we'll come back at you on this after the Workshop. **Answer: yes / no / maybe.**

⚠ The abstract submission must respect the following template and must not exceed 1 page. The completed abstract submission form has to be sent by email to the NERIS secretariat ([sec@eu-neris.net](mailto:sec@eu-neris.net)) by **January 31st, 2020**. Please name your file with an easily identifiable prefix: FirstName\_NAME\_subject\_... etc.

## **“EMPIR project “Preparedness” and study on the uncertainty of passive area dosimetry systems for environmental radiation monitoring in the aftermath of a nuclear or radiological event”**

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The final ENEA results of EMPIR project “Preparedness - Metrology for mobile detection of ionizing radiation following a nuclear or radiological incident”, regarding the activities of the work package 4 “Passive Dosimetry”, are presented in this study of ENEA.

One of the objectives of the WP 4 was the harmonization of methodologies for the measurement of doses with passive dosimetry systems for environmental radiation monitoring in the aftermath of a nuclear or radiological event.

In such cases, measurements are often performed at low radiation dose rates, close to the detection limit of the passive systems.

ENEA, in collaboration with CLOR, VINS, RBI and PTB, investigated the parameters which may affect the results of a passive dosimetry system with the aim of quantitatively evaluating the uncertainty of the measurement of  $H^*(10)$ .

In this work, the uncertainty budget as well as the characteristic limits (decision thresholds and detection limits) according to standard ISO 11929 are evaluated and the limitations and strengths of a complete analysis of all parameters are presented.

This work presents results useful to scientists and radiation protection experts for the application of passive dosimetry systems for ambient dose equivalent measurements in environmental radiation monitoring after a radiological or nuclear event.

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