SASPAM-SA

FIRST TRAINING-

# Preliminary Agenda

## 1st SASPAM-SA Training on LWR-SMR Safety: From DBA to Severe accident – Phenomena, Experiments, Mitigation Strategies, and Code Application

Location: Sapienza Congress Center via Salaria 113, Rome,Italy

Date: October 16-17, 2025

Funded by the European Union

# ORGANIZING COMMITTEE

The technical content of the workshop has been prepared by the Organizing Committee members:

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| Fabio GIANNETTI | UNIROMA1 | Italy |
| Fulvio MASCARI | ENEA | Italy |
| Fabrizio GABRIELLI | KIT | Germany |
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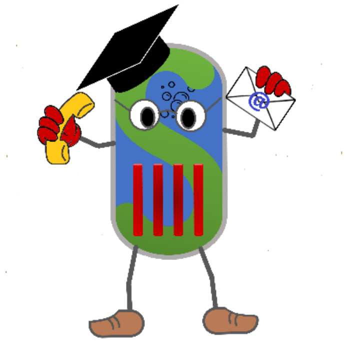
# CONTACT PERSONS



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# Preliminary agenda

## Day 1 – SMR Design, Safety, and Mitigation Strategies

### Session 1: SMR Safety: Phenomena, Experiments and Mitigation Strategies

**08:00 - 09:00 | Registration and Welcome**

- Participant reception and overview of training objectives.

**09:00 - 09:40 | SMR Overview and Main Characteristics *(F. Mascari – ENEA)***

- Key characteristics of SMRs and differences from large LWRs.
- Overview of main safety systems in SMRs and associated phenomena.

**09:40 - 10:20 | Defence-in-Depth and Mitigation Strategies *(F. Giannetti – UNIROMA1)***

- Introduction to the five levels of DiD and their application to SMRs.
- Mitigation strategies in SMRs compared to large reactors.

**10:20 - 10:50 | Coffee Break**

**10:50 - 11:30 | Scenarios in SMRs *(F. Gabrielli – KIT)***

- Postulated scenarios in design and design extension condition for SMRs.
- First outcomes from the SASPAM-SA project.

**11:30 - 12:10 | Key Experiments from Large Reactors and Applicability to SMRs *(T. Lind – PSI)***

- Review of key experimental data from large LWRs.
- Applicability of these experiments for SMR based on SASPAM-SA outcomes.

**12:10 - 12:50 | In-Vessel Melt Retention (IVMR) in Large Reactors and SMRs *(F. Fichot – ASNR)***

- IVMR strategies in large reactors and differences in SMRs.
- State-of-the-art computational tools for IVMR assessment in SMRs based on SASPAM-SA outcomes.

**12:50 - 14:00 | Lunch Break**

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**14:00 - 14:40 | Containment Phenomena in Large Reactors and SMRs *(N. Reinke – GRS)***

- Containment behavior in large reactors and differences in SMRs .
- Application of computational tools for SMR containment analysis based on SASPAM-SA outcomes.

**14:40 - 15:20 | Emergency Planning Zones (EPZ) for SMRs *(M. Ilvonen – VTT)***

- Regulatory framework and safety implications for EPZ in SMRs.
- Role of computational tools in EPZ evaluation based on SASPAM-SA outcomes.

**15:20 - 15:45 | Coffee Break**



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## Session 2: Computational Tools and Applications

**15:45 - 16:15 | Introduction to Computational Tools for Severe Accident Analysis *(F. Mascari, ENEA)***

- Overview of computational tools used for severe accident analysis in SMRs.
- Key applications in the SASPAM-SA project.

**16:00 - 16:45 | ASTEC and its Application in SASPAM-SA *(ASNR with partners)***

- Introduction to ASTEC software for safety analysis.
- Case studies in SASPAM-SA generic designs.

**16:45 - 17:30 | AC2 and its Application in SASPAM-SA *(GRS with partners)***

- Introduction to AC2 software for safety analysis.
- Case studies in SASPAM-SA generic designs.

**17:30 - 18:00 | Q&A and Closing Remarks**

- Summary of key takeaways from the training.
- Open discussion and participant feedback.

# Day 2 – Computational Tools and Future Perspectives

**08:30 - 09:15 | MELCOR and its Applications in SMR Safety *(UNIROMA1 with partners)***

- Introduction to MELCOR software for safety analysis.
- Case studies in SASPAM-SA generic designs.

**09:15 - 10:00 | MAAP and MAAP-EDF: Applications in SMR Safety *(EDF, JRC)***

- Introduction to MAAP software for safety analysis.
- Case studies in SASPAM-SA generic designs.

**10:00 - 10:30 | Coffee Break**

**10:30 - 11:00 | CFD Applications in Severe Accident Analysis *(POLIMI)***

- Role of CFD Large reactor for safety analysis.
- Case studies and modeling challenges for SMR.

**11:00 - 11:45 | ContainmentFoam and its Applications in SMRs *(FZJ)***

- Introduction to ContainmentFoam software for safety analysis.
- Case studies in SASPAM-SA generic design.

**11:45 - 12:30 | CFX and its Applications in SMRs *(SSTC)***

- Introduction to CFX software for safety analysis.
- Case studies in SASPAM-SA generic design.



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**12:30 - 13:00 | Future Perspectives and Conclusions *(F. Mascari – ENEA)***

- Summary of training outcomes and research priorities.
- Open discussion on future directions for experimental and computational studies.

**13:00 - 13:30 | Closure and Certificate Distribution**

- Final remarks and participant certification.



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