

METIS SPRING SCHOOL WRAPS UP ON AEGINA, ADVANCING NUCLEAR SAFETY THROUGH SEISMIC UNDERSTANDING



[Project News](#) | 14 May 2025



The idyllic island of Aegina played host to a productive and insightful METIS Spring School at the end of April, hosted by Dimitrios Vamvatsikos, Angeliki Gerontati, METIS consortium partners National Technical University of Athens (NTUA). The Spring School is part of the education and training under the METIS project to advance future research in the field of seismic nuclear safety. The School focused on bolstering nuclear safety through advanced seismic assessment, the event brought together leading researchers, students, docs, and postdocs braving the unusually cold Spring to foster new paths of knowledge.


The three-day programme, held from on 28-30 April, provided a comprehensive overview of the latest developments in the field. The first day kicked off with a welcome and coordination session led by Professor Dimitrios Vamvatsikos (NTUA), setting the stage for in-depth explorations of critical tools and concepts.





METIS Spring School

Key highlights from day one included a session on OpenQuake and its application to the METIS case study, offering participants a practical understanding of this vital software for seismic hazard assessment. Professor P. Bazzurro (IUSS) presented on clustered seismicity and the ETAS model, providing valuable insights into the complex patterns of earthquake occurrences. Professor M. Dolsek (University of Ljubljana) then delved into the seismic design of civil structures for nuclear facilities, emphasising the crucial intersection of earthquake engineering and radiation safety. Dr. S. Parolai (OGS-Trieste) discussed the significant influence of 1D and 3D


RECENT POSTS

 METIS Project Concludes, Delivers Significant Advancements in Nuclear Seismic Safety

 METIS Spring School Wraps Up on Aegina, Advancing Nuclear Safety Through Seismic Understanding

 METIS Online Training School: Key Takeaways

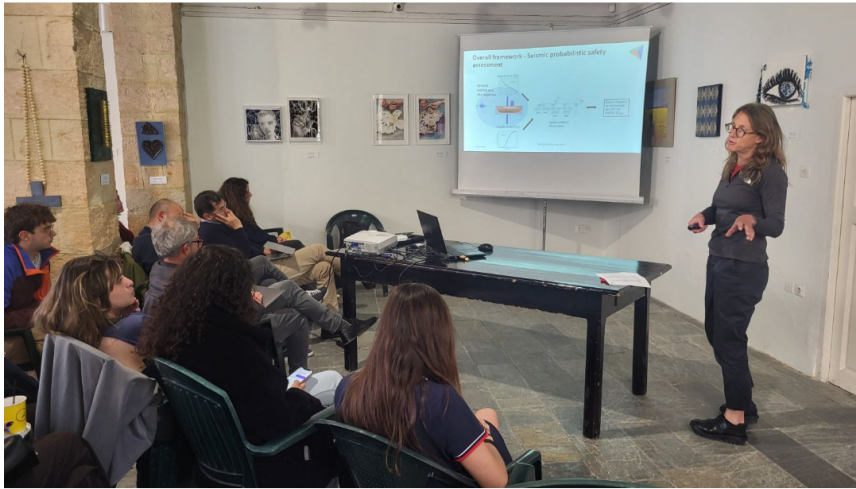
 Fourth METIS project newsletter

 Fragility Analysis of METIS case study



site effects on seismic wave propagation, while Dr. Danciu (Swiss Seismological Service) discussed recent work with open-source physics-based simulators for extreme events.

The afternoon commenced with Dr. Irmela Zentner (EDF), METIS project coordinator, presenting an integrated approach for seismic risk assessment of Nuclear Power Plants (NPPs), drawing upon the findings and applications within the METIS project. Dr. Anastasios Sextos (NTU Athens) discussed simplified approaches to consider soil-structure interaction via efficient macro-elements. The day concluded with a thought-provoking session led by Professor Vamvatsikos, exploring the relationship between intensity measures and their relevance to the safety of nuclear power plants, using an engaging “tomatoes and intensity measures are about the taste” analogy. Participants then enjoyed a social dinner, fostering networking and informal discussions.



METIS Spring School

Day two's sessions built upon the foundational knowledge established on Monday. Dr. R. Nascimbene (IUSS Pavia) kicked off the day discussing the resilience of Nuclear Power Plants, focusing on experimental insights. Dr. G. Triantafyllou presented on the application of code_aster to model the ZNPP reactor, while the TUK team offered insights into ZNPP component models within OpenSees. The crucial topic of Probabilistic Risk Analysis (PRA) for NPPs was thoroughly covered by Dr. C. Chatzigogos (Geodynamique), with a theoretical overview followed by a workshop on utilizing SCRAM software. The afternoon saw further practical applications by Dr. C. Butenweg (FH Aachen) on design issues for industrial facilities, continuing with a presentation by A. Gerontati on the OpenSees modeling of the ZNPP Diesel Generator Building. The day concluded with a fascinating presentation by V. Melissianos focusing on the seismic hazard and performance assessment of the ancient Temple of Aphaia, connecting historical earthquake impacts with modern assessment techniques.



METIS Spring School

The final day offered a unique opportunity for participants to experience the region's rich history firsthand. An excursion to the well-preserved Temple of Aphaia included a guided tour of the site and its museum, providing a tangible link to past seismic events and their impact on ancient structures. The day concluded with lunch in the picturesque area of Perdika before the participants returned to Aegina Port, bringing the spring school to a successful close.

The METIS Spring School on Aegina served as a valuable platform for knowledge exchange and collaboration within the European nuclear safety research community. The diverse range of topics, from advanced modelling techniques to practical risk assessment and the study of historical seismicity, underscored the METIS project's commitment to enhancing the safety and resilience of nuclear facilities across Europe. The engaging presentations and the unique cultural excursion fostered a deeper understanding of the challenges and the importance of continued research in this critical field.





METIS Spring School

• EURATOM • METIS

f t p t in



GET IN TOUCH

Coordinator: Dr. Irmela Zentner,
EDF

contact@metis-h2020.eu



FOLLOW US

Find us on LinkedIn @**EURATOM-
METIS**

Visit our page on **ResearchGate**



PARTNER AREA

ACCESS FLEXX - MEMBERS ONLY



SNETP Labelled Project



This project has received funding from the Euratom research and training programme 2014-2018 under grant agreement n°945121. The content of this document reflects only the author's view. The European Commission is not responsible for any use that may be made of the information it contains.

© Copyright 2020 LIG Sustainable Innovation. All rights reserved