



# EMUG

## 14<sup>th</sup> Meeting of the European MELCOR and MACCS User Group (EMUG)

12<sup>th</sup> - 14<sup>th</sup> April 2023  
Jožef Stefan Institute, Slovenia

Meeting Location: Jožef Stefan Institute, Jamova cesta 39, Ljubljana

Day 1: Wed 12th of April – MACCS and MELCOR meeting

Time	Title	Speaker
8:30-9:00	Registration	
9:00-9:05	Welcome JSI	Boštjan Zalar, JSI Director
9:05-9:30	Nuclear Slovenia	Leon Cizelj, JSI R4 Head
<b>Session 1: MACCS Presentations</b>		Chairperson: Mateusz Malicki, PSI
9:30-10:00	MeMACCS – Converting MELCOR Output to MACCS Input	Trey Hathaway, NRC
10:00-10:45	Automating the L.2-L.3 Interface: Lessons Learned from SOARCA and the NRC Site L.3 PRA Project	Trey Hathaway, NRC
10:45-11:15	Coffee break	
11:15-11:35	Experience from MACCS applications by the Slovak regulator	Jan Husarcek, UJD SR
11:35-13:00	Informal WinMACCS and MeMACCS tutorial	Trey Hathaway, NRC
13:00-14:00	Lunch	
<b>Session 2: MELCOR Presentations</b>		Chairperson: Matjaž Leskovar, JSI
14:00-14:30	MELCOR for Fusion application for cryogenic helium spill in fusion power plant	Rok Krpan, JSI
14:30-15:05	Thermal-hydraulic and source term MELCOR studies for non-electrical applications HTGRs	Eleonora Skrzypek, NCBJ
15:05-15:30	Coffee break	
15:30-15:50	MELCOR 2.2 Nuclear Power Plant UQ study, lesson learned	Mateusz Malicki, PSI
15:50-16:10	Severe Accident Simulations for LWR SMR with MELCOR 2.2	Piotr Darnowski, Institute of Heat Engineering WUT
16:10	Adjourn	
19:00	Social Dinner	

Day 2: Thu 13th of April – MELCOR meeting

<b>Time</b>	<b>Title</b>	<b>Speaker</b>
<i>8:00-8:30</i>	<i>Registration</i>	
<b>Session 3: MELCOR Users' Workshop</b>		
8:30-9:00	USNRC/SNL Introductions	Larry Humphries, SNL
9:00-10:00	MELCOR overview	Larry Humphries, SNL
10:00-10:30	MELCOR Development Status (1/2)	Larry Humphries, SNL
<i>10:30-10:45</i>	<i>Coffee break</i>	
10:45-11:15	MELCOR Development Status (2/2)	Larry Humphries, SNL
11:15-11:45	Considerations in Modeling Experiments	Larry Humphries, SNL
11:45-13:15	Control Function Modeling	Larry Humphries, SNL
<i>13:15-14:30</i>	<i>Photo session and Lunch</i>	
14:30-15:00	Code Validation	Larry Humphries, SNL
15:00-15:30	MELCOR Applications & Best Practices (1/2)	Kenneth C. Wagner, SNL
<i>15:30-15:45</i>	<i>Coffee break</i>	
15:45-16:45	MELCOR Applications & Best Practices (2/2)	Kenneth C. Wagner, SNL
<i>16:45</i>	<i>Adjourn</i>	

Day 3: Fri 14th of April – MELCOR meeting

<b>Time</b>	<b>Title</b>	<b>Speaker</b>
<b>Session 4: Overview of activities</b>		Chairperson: David Luxat, SNL
8:30-9:00	Application and special uses of MELCOR at NUBIKI	L. Gábor Horváth, NUBIKI
9:00-9:20	Recent experience with MELCOR 2.2: Overview of applications at CIEMAT	Monica Garcia, CIEMAT
9:20-9:40	Current MELCOR-related activities in Framatome	Matthias Braun, Framatome
9:40-10:00	Recent experience with MELCOR	Juraj Jancovic, VUJE
10:00-10:30	ENEA Activities in the Field of Severe Accidents by Using MELCOR Code	Fulvio Mascari, ENEA
10:30-10:45	<i>Coffee break</i>	
<b>Session 5: Integral analysis and UQ</b>		Chairperson: L. Gábor Horváth, NUBIKI
10:45-11:15	MELCOR ML/IA UQ analyses	David Luxat, SNL
11:15-11:35	Cross-walk study between MELCOR, ASTEC and MAAP: LB LOCA scenario and encountered modeling issues for the MELCOR 2.2.21402	Miroslav Kotouč, ÚJV Řež
11:35-11:55	Enhance MELCOR safety analysis by adopting RAVEN as a multi-purpose framework for UQ, data analysis, model optimization, and DET analysis.	Matteo D'Onorio, Sapienza U. of Rome
11:55-12:15	Dynamic Event Tree analysis for accident sequences in fission and fusion reactors	Tommaso Glingler, Sapienza U. of Rome
12:15-12:30	Sensitivity study of CVTR containment pressure behavior	Jan Frelich, TES
12:30-13:00	SASPAM-SA (Safety Analyses of SMR with Passive Mitigation strategies - Severe Accident) Horizon Euratom Project	Fulvio Mascari, ENEA
13:00-14:00	<i>Lunch</i>	
<b>Session 6: IVMR, AI and scenario analysis</b>		Chairperson: Miroslav Kotouč, ÚJV Řež
14:00-14:20	Use of MELCOR code for IVMR analysis. Code assessment and other issues. (online)	Yuriy Vorobyov, State Sc. & T. Center for Nucl.&Rad.Safe.
14:20-14:40	Modeling of radionuclide release from water pool during IVMR and recent issues encountered for the MELCOR 2.2 21402 release	Jozef Baláž, ÚJV Řež
14:40-15:05	Analysis of Steam Generator Tube Rupture (SGTR) Accident for NPP Krško using MELCOR Code	Vesna Benčik, FER Univ. Zagreb
15:05-15:30	Future Prospects of AI in Nuclear Engineering Including Modelling of Nuclear Accidents (online)	Christopher Pain, Imperial College London
15:30-16:00	Final discussion and conclusions	All
16:00	<i>Closure of the meeting and Coffee</i>	