

## Midterm Seminar of the SAFER2028 Research Programme

### 20.-21.1.2026

Paasitorni, Paasivuorenkatu 5 A, Helsinki

#### Day 1 – 20.1.2026

08:00-09:00	Registration and coffee
09:00-12:00	Morning sessions
12:00-13:00	Lunch
13:00-15:20	Afternoon sessions
15:20-16:30	Poster & mocktail session

#### Day 2 – 21.1.2026

08:00-09:00	Registration and coffee
09:00-12:00	Morning sessions
12:00-13:00	Lunch
13:00-14:40	Afternoon sessions
14:40-15:40	Poster & coffee session
15:40-16:20	Closing session

**Day 1 – 20.1.2026**

08:00-  
09:00

Registration and coffee

**Meeting room: Juhlasali**

09:00- **Opening session**

10:15 *Chair: Suvi Karvonen, VTT*

9:00 Opening of the Seminar

*Juho Korteniemi, MEAE & Petteri Tiippana, STUK*

9:20 Greetings from the Management Group

*Tomi Routamo, STUK*

9:35 First years of the DENSE community - the Doctoral Education Network  
of SAFER

*Jarmo Ala-Heikkilä, Aalto*

9:50 NEA supporting nuclear energy research activities

*Ville Tulkki, OECD Nuclear Energy Agency*

**Meeting room: Juhlasali**

**10:30-12:00** **Nuclear waste management 1**  
– Engineered barrier system  
*Chair: Petri Jussila, STUK*

10:30 ABCRad - Alternative Buffer/Backfill Characterisation + Radionuclide Interactions, *HU*

10:50 DEHYDSU - Defects, hydrogen and susceptibility of Cu-OFP to stress corrosion cracking in sulphide containing environment, *VTT*

11:10 MOCRYCO - Model based on crystal plasticity for copper, *VTT*

11:30 SAGE - Sensitivity analysis guided disposal barrier experiments, *VTT, JyU, GTK*

11:50 TRIMO - Triaxial tests modelling, *Mitta*

**12:00-13:00**

**Meeting room: Karl Lindahl**

**10:30-12:00** **Mechanical and Structural Safety of Nuclear Power Plants 1**  
- Materials and material testing  
*Chair: Tarja Nuoranne, STUK*

10:30 AMANE - Additively Manufactured Materials in Nuclear Environments, *VTT*

10:50 BRIGHT - Barsebäck RPV investigation through thickness, *VTT*

11:10 CHAOS - Characterization of NPP structural integrity, *VTT*

11:30 MINERVA - Mitigation of corrosion and novel water chemistries in light water reactors, *VTT*

11:50 PRANCS - Practical solutions for sealant performance issues in nuclear power plants, *VTT*

**Lunch**

## Meeting room: Juhlasali

13:00- 15:20	<b>Nuclear waste management 2 – Rock and Biosphere &amp; Low and Intermediate level waste</b> <i>Chair: Antti Poteri, Posiva</i>
13:00	ECOLAB - Laboratory-based studies for radioecological modelling of 14C, <i>HU, FMI, UI, UEF, EnviroCase</i>
13:20	FLOP - Flow pathways within faults and associated fracture systems in crystalline bedrock, <i>UTU, GTK, JyU, Abo Akademi</i>
13:40	MIRKA - Scale-effect in fractured rock mass, <i>Aalto</i>
14:00	DODGE - Dark oxygen in the deep geobiosphere of the geological repository, <i>HU, VTT</i>
14:20	MICWEST - Influence of environment and microbes on corrosion behaviour of welded steels in the LILW repositories, <i>VTT</i>
14:40	POLYDEC - POLYelectrolyte gels for DEContamination, <i>HU</i>
14:50	AVOCADO - Advanced Oxidation Processes with Cavitation for Decontamination Processes, <i>HU</i>
15:00	DENSE: SurePhD - Increasing surety in the performance of present and future VLLW disposal – <i>HU</i>
15:10	DENSE: MOXSEAL - Metal Oxides for Group Separation of Actinides and Lantanides, <i>HU</i>

## Meeting room: Karl Lindahl

13:00- 15:10	<b>Mechanical and Structural Safety of Nuclear Power Plants 2 - Welds, fatigue and inspection &amp; Concrete</b> <i>Chair: Timo Kukkola, TVO</i>
13:00	AI4NDE - Advanced and Intelligent Nondestructive Evaluation, <i>VTT, Aalto</i>
13:20	LOAD - Long-term Operation on Aging and environmental Degradation of nuclear reactor materials, <i>VTT</i>
13:40	TOFFEE - Total fatigue life in plant environment, <i>VTT, Aalto</i>
14:00	FN-CAMP - Finnish Nuclear Concrete Ageing Management Project, <i>VTT</i>
14:20	PERCO2 - Long-term Performance Modelling of Concrete in Final Repositories of LILW Nuclear Waste, <i>Aalto</i>
14:40	RACEMAT - Radionuclide transport in cementitious materials, <i>HU, GTK</i>
15:00	VOLA - Accurate, precise and sensitive chlorine (Cl) analysis method development and analysis in steel and concrete, <i>VTT</i>

15:20-  
16:30

Posters & mocktails

**Day 2 – 21.1.2026****08:00-  
09:00****Registration and coffee****Meeting room: Juhlasali****09:00- Infrastructure****10:05 Chair: Mikko Lemmetty, TVO**9:00 JHR2028 - Participation in the Jules Horowitz Reactor project, *VTT*09:15 RADCNS - Radiological laboratory facility costs of the Centre for Nuclear Safety, *VTT*09:30 DEMAIN - Development and maintenance of LUT thermal hydraulic infrastructure, *LUT*9:45 GRAF - Gravity driven flow experiments & NEXT – NEA experiments, *LUT*

## Meeting room: Juhlasali

**10:20- 11:40 Reactor Safety and Fuel Lifecycle 1**  
- Fuel and reactor physics  
*Chair: Eero Virtanen, STUK*

10:20 DECAPOD - Deterministic safety analyses with Kraken, *VTT*

10:40 MATFINE - Methods for current and accident tolerant fuels modelling, *VTT*

11:00 NOTCO - Neutronics for fuel outside the reactor core, *VTT*

11:20 DENSE: REST - The reduction of large source term during severe nuclear accidents, *UEF*

11:30 DENSE: NCGDENSE - The measuring, modelling and development of non-condensable gas models for nuclear safety research, *LUT*

**12:00- 13:00**

## Meeting room: Karl Lindahl

**10:20- 12:00 Overall Safety and Organisation 1**  
- Human, organisation, system and society  
*Chair: Paula Savioja, STUK*

10:20 RESPECT - Residents' Gendered Safety and Risk Expectations - The Case of SMRs in the urban area, *LUT*

10:40 SCALA - Safety Culture and Leadership in Sociotechnical Changes and Transitions, *VTT, Lilikoi*

11:00 TONUS - Towards Nuclear Human Systems Integration, *VTT, FIOH*

11:20 SEAMLES - Systems Engineering approaches for managing the life cycle of I&C systems, *VTT, Aalto*

11:40 SMRSiMa - SMR Siting and Waste Management, *VTT, GTK, LUT*

**Lunch**

## Meeting room: Juhlasali

13:00-	<b>Reactor Safety and Fuel Lifecycle 2</b>
14:40	- Thermal hydraulics and severe accidents
	<i>Chair: Tommi Rämä, Fortum</i>

13:00 ALISA - Analytical and experimental investigation of severe accident phenomena, *VTT*

13:20 CeReSa - CFD for Reactor Safety, *VTT*

13:40 C-FLOW - Critical Flow Separate-Effect-Test Facility & Experiments, *LUT*

14:00 ESPO - Analysis of Passive Safety Systems' Operations and Modelling, *VTT*

14:20 THEME - Computational Modeling of Thermal-Hydraulic Phenomena, *VTT*

14:40-  
15:40

Posters & coffee

## Meeting room: Karl Lindahl

13:00-	<b>Overall Safety and Organisation 2 - Hazards</b>
14:20	<i>Chair: Reko Rantamäki, Fortum</i>

13:00 FASAANI - Fire behaviour and safety of nuclear infrastructure, *VTT, Aalto*

13:20 MAWECLI - Marine and Weather Events in the Changing Climate as Potential External Hazards to Nuclear Safety, *FMI*

13:40 PRALINE - Probabilistic Risk Assessment Labour, Improvements aNd Ex-tensions, *VTT*

14:00 SERIOUS - Sensitivity and risk informed seismic hazard updates, *VTT, RMCF, AFRY, HU*

**Meeting room: Juhlasali**

**15:40-** **Closing**

**16:20** *Chair: Suvi Karvonen, VTT*

15:40 Summary of the Seminar  
*SG Chairs*

16:00 SAFER2028 in 2026-2028  
*Tomi Routamo, STUK*