RRFM
EUROPEAN RESEARCH REACTOR CONFERENCE 2025

# Programme

6 –10 April 2025

Aix-en-Provence, France

EUROPEAN NUCLEAR SOCIETY

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# Programme RRFM 2025

**Sunday 6 April 2025**



**Monday 7 April 2025**

**9.00 am - 3.30 pm Symposium - SMR/AMR: Global Developments, R&D Challenges, and the role of Research Reactors**



**Tuesday 8 April 2025**

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**Wednesday 9 April 2025**



**Thursday 10 April 2025**

**Technical Tours**

## Sunday 6 April 2025

**3.00 pm – 4.30 pm Guided City Tour**

**5.00 pm – 6.30 pm Welcome Reception**

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# Monday 7 April 2025

## SMR/AMR: Global Developments, R&D Challenges and the Role of Research Reactors

**9.00 am – 10.30 am**

**Global Perspectives on SMR & AMR Development - Setting the Stage**

*Host country presentations*:

**French SMR/AMR development program, the role of the CEA as a support organisation**
Jean-Claude Garnier, CEA, France

**AMR and RR - How to answer space challenges**
Grégoire Lambert, Framatome, France

**Global status of SMR development and deployment**
Dohee Hahn, IAEA

Coffee break

**11.00 am – 12.30 pm**

**Advancing SMR & AMR Development: R&D Challenges and Collaborative Pathways**

**Advancing SMR development: research priorities and the role of research reactors**.
Christophe Bruggeman, SCK-CEN, Belgium

**Challenges in SMR/AMR fuel development**
Joseph Priestley, URENCO, United Kingdom

**International Activities on Regulation and Collaboration for SMRs and AMRs**
Anna Bradford, IAEA

Lunch break

**1.30 pm - 3.30 pm**

**Innovative SMR & AMR Designs: Bridging Industry and Research**

A Panel Discussion on challenges and collaboration opportunities with

Michele Frignani, **LFR Consortium**
Olivier Doucet, **Newcleo**
Paul Gauthé, **Hexana**
Boris Hombourger, **Naarea**
Ndeye Sene, **NUWARD**

The Symposium will be chaired by Stefano Monti, ENS President and Steven van Dyck, SCK-CEN

### 3.30 pm – 4.00 pm Coffee break

## 4.00 pm – 5.40 pm Parallel Sessions

### Parallel session I: Advancing SMR/AMR technologies

Chair: F. Klaassen, NRG, Netherlands

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|---|---|
| Advancing MSR Technology: The Copenhagen Atomics-PSI Molten Salt Experiment | Frajtag, P. (1); Streit, M. (1); Stubsgaard, A. (2); Swalwell, G. (2); Chierici, L. (2); Pautz, A. (1)<br>1 - Paul Scherrer Institut, Switzerland<br>2 - Copenhagen Atomics, Switzerland |
| Innovative FBG- based instrumentation development on TAPIRO Reactor | Mazza, A. (1); Santagata, A. (2); Cherubini, N. (2); Tarantino, M. (2)<br>1 - newcleo SPA, Italy<br>2 - ENEA, Italy |
| Opportunities for R&D in SEALER-One | Wallenius, J. (1); Crowell, J. (1)<br>1 - Blykalla , Sweden |
| Irradiation Testing and Qualification of Materials at HFR for Advanced Reactor Systems | Kolluri, M. (1); Van Staveren, T. (1); Hania, R. (1); Van Til, S. (1); Van Lunteren, T. (1)<br>1 - NRG PALLAS, Netherlands |
| Fuel qualification supportive R&D at SCKCEN | Van Dyck, S. (1); Boer, B. (1); Billiet, S. (1); Leinders, G. (1)<br>1 – SCK-CEN, Belgium |

### Parallel session II: Safety and Security

Chair: A. Pichlmaier, Technical University of Munich, Research Neutron Source FRM II, Germany

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| WENRA Activities on Harmonizing the Safety of Research Reactors across Europe | Klein Meulekamp, R. (1); Niedzwiedz, K. (2)<br>1 - Federal Agency for Nuclear Control (FANC), Belgium<br>2 - Federal Office for the Safety of Nuclear Waste Management (BASE), Germany |
| AN INTEGRATED APPROACH TO NUCLEAR SECURITY AND SAFETY CULTURE - RESILIENCE TOWARDS EMERGING THREATS | Jensen, J. J. (1)<br>1 - Institute of Energy Technology, Norway |
| EF2/EF3 TORNADOES IMPACT ON JHR HVAC SYSTEMS | Gal, R. (1); Costantini, F. (1); Chabert, L. (1)<br>1 - TECHNICATOME, France |
| Fluidic Vortex Diodes: A challenge to replace flap valves | Carlevaris, R. (1); Petrini, T. (1); Franzé Stasevicius, B. (1); Schalayeff, A. (1); Doval, A. (1)<br>1 - INVAP, Argentina |
| SECOND PERIODIC SAFETY REVIEW OF THE FRM II | Geupel, S. (1); Jeschke, F. (1); Pichlmaier, A. (1); Schätzlein, R. (1)<br>1 - Technical University of Munich, Research Neutron Source FRM II, Germany |

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# Tuesday 8 April 2025

## 9.00 am – 10.00 am Parallel Sessions

### Parallel session I: Innovative Methods I

Chair: H. Breitkreutz, Scienta Envinet, Germany

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| CHARACTERIZATION OF HEAT TRANSFER AND FRICTION COEFFICIENTS IN A CLOSED LOOP THERMOSYPHON FLOW | Saban, D. (1); Weiss, Y. (1); Aharon, J. (2); Koyfman, A. (2); Gaillot, S. (3); Lo Pinto, E. (3); Katz, M. (2)<br>1 - Ben-Gurion University, Israel<br>2 - NRCN, Israel<br>3 - CEA, DES, IRESNE, Nuclear Technology Department, France |
| Continued benchmarking of fuel performance codes PLEIADES/MAIA and DART | Lorenzo, D. (1); Marois, G. (1); Valance, S. (1); Ye, B. (2); Shu, S. (2); Yacout, A. (2); Leenaers, A. (3); Wight, J. (3)<br>1 - CEA, France<br>2 - Argonne National Laboratory, United States<br>3 - SCK CEN, Belgium |
| STRUCTURAL INTEGRITY ASSESSMENT OF MTR PLATE-TYPE FUEL ASSEMBLIES | Marques, M.G. (1) ; Bergero, J. H. (1); Bravo, I. G. (1); De Elias, J. (1)<br>1 - INVAP , Argentina |

### Parallel session II: Decommissioning and dismantling of research reactors and waste management

Chair: I. Vidovszky, HUN-REN Center for Energy Research, Hungary

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|---|---|
| Situation and Planning for the Further Handling of Activated Beryllium from German Research Reactors | Kropf, M. (1); Kaleve, M. (1); Schmidt, M. (1)<br>1 - Technische Universität München, Forschungs-Neutronenquelle Heinz-Maier-Leibnitz (FRM II), Germany |
| A Digital Ecosystem for Reconciling Facility Operator and Decommissioning Team Needs in Nuclear Decommissioning | Fister, B. (1); Plana, R. (1); Murillo-Coba, C. (1); Roffino, B. (1); Moro, M. (1)<br>1 - Assystem AEOS, France |
| FIR 1 Research Reactor Dismantling and Waste Management: The Crucial Role of Modern Digital Design Tools in Achieving Success | Oinonen, V. (1)<br>1 - Fortum, Finland |

## 10.00 am – 10.30 am Coffee break

## 10.30 am – 12.10 pm Parallel Sessions

### Parallel session I: Radioisotopes

Chair: L. Chabert, TechnicAtome, France

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| STABLE ISOTOPES SUPPLY AND EURYBIE PROJECT TO THE RESEARCH REACTORS COMMUNITY | Bigot, L. (1); Bertrand, P. (1); Lacroix, J.-N. (1); Barithel, S. (1); Vincent, J.-L. (1)<br>1 - Orano Chimie & Enrichement, France |
| ENEA TRIGA RC-1 REACTOR TO MEDICAL RADIONUCLIDES PRODUCTION WITHIN THE EU SECURE PROJECT | Lepore, L. (1); Spagnuolo, L. (1); Cozzella, L. (1); Guarcini, T. (1); Limosani, F. (1); Placidi, S. (1); Pagano, A. (2); Falconi, L. (2); Fabrizio, V. (2); Formenton, D. (2); Roberti, A. (2); Capogni, M. (3)<br>1 - ENEA, NUC-IRAD-CRGR, Nuclear Material Characterization Laboratory and Nuclear Waste Management, Casaccia Research Centre, Italy<br>2 - ENEA, NUC-IRAD-RNR, Research Nuclear Reactor Laboratory, Casaccia Research Centre, Italy<br>3 - ENEA, NUC-INMRI, National Institute of Ionizing Radiation Metrology, Casaccia Research Centre, Italy |
| REACTOR-PRODUCED MEDICAL, NUCLEAR FORENSICS/NON-PROLIFERATION, AND INDUSTRIAL ISOTOPES AND MEDICAL IMAGING | Landsberger, S. (1); Charlton, W. (1); Haas, D. (1); Lapka, J. (1); Nolting, D. (1); Tipping, T. (1); Zannoni, E. (1)<br>1 - Universiity of Texas at Austin, United States |
| RADIONUCLIDE PRODUCTION AT A CROSSROADS: RESEARCH AND POWER REACTOR COMPETITION | Mario, N. (1); Bréchin, V. (1); Vallee, A. (1); Kolmayer, A. (1)<br>1 - NUCADVISOR, France |
| SECURING A RELIABLE SUPPLY OF REACTOR-PRODUCED ISOTOPES VIA KJRR | Lee, S.-K. (1); Lee, S. (1); Kim, J. (1); Woo, K. (1)<br>1 - Korea Atomic Energy Research Institute, Korea, Republic of |

### Parallel session II: Innovative Methods II

Chair: J. Marques, Centro de Ciências e Tecnologias Nucleares, Instituto Superior Técnico, Portugal

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| Validation of the AKR-2 reactor simplified model using OpenMC and Serpent: A deep analysis of the pile oscillator experiment | Gómez Rodriguez, J. J. (1); Lange, C. (1); Viebach, M. (1); Knospe, A. (1); Hurtado, A. (1); Giusti, V. (2)<br>1 - Technische Universität Dresden, Germany<br>2 - University of Pisa, Italy |
| Development of a 3D Sn Transport Code for Reactor Core Analysis | Kim, K.-O. (1); Yoo, H. J. (1); Lee, B. (1)<br>1 - Korea Atomic Energy Research Institute, Korea, Republic of |
| RECENT ADVANCES IN OSCAR-5 NEUTRONIC / THERMAL-HYDRAULIC INTERFACES, AS APPLIED TO RESEARCH REACTOR BENCHMARK PROBLEMS | Prinsloo, R. (1); Khoza, S. (1); Botes, D. (1); Day, S. (2)<br>1 - Necsa, South Africa<br>2 - McMaster University, Canada |

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| Critical Heat Flux prediction using Bidirectional Gated recurrent units (Bi-GRU) | Djeddou, M. (1); Al Dallal, J. (2); A. Hameed, I. (3)<br>1 - Oum El Bouaghi University, Algeria<br>2 - Gulf University for Science and Technology, Kuwait<br>3 - Norwegian University of Science and Technology, Norway |
| TMC ANALYSIS FOR OPAL REACTOR CORE USING HIGHLY DETAILED POWER PROFILES FROM A N-TH COUPLING | Ferraro, D. (1); Ferrari, I. (1); Hergenreder, D. (1)<br>1 - INVAP, Argentina |

### 12.10 pm – 1.10 pm Lunch break

## 1.10 pm – 2.00 pm Plenary Session: Student Competition

Chair: S. van Dyck, SCK-CEN, Belgium; J. Najder, ENS, Belgium

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| On the optimisation of production of Gold-198 using the 10 MW IAEA MTR core | Ule-Duque, G. (1); Margulis, M. (2); Capponi, L. (3)<br>1 - Nuclear Futures Institute, Bangor University, Gwynedd, United Kingdom<br>2 - College of Science and Engineering, University of Derby, Derby, United Kingdom.<br>3 - National Nuclear Laboratory, Cumbria, United Kingdom., |
| MONITORING OF THE FIRST CORE FUEL LOADING IN THE JULES HOROWITZ REACTOR | Gellenoncourt , A. (1); Blanchet, D. (1); Jacqmin, R. (2); Gall, B. (3); Chabert, L. (4)<br>1 - CEA/DES/IRESNE/DER/SERJH/LFSC, France<br>2 - CEA/DES/IRESNE/DER, France<br>3 - Université de Strasbourg, IPHC, France<br>4 - TechnicAtome, France |
| Fuel-matrix interactions in $U_3Si_2$/Al dispersed fuels with different uranium loadings | Bordes, O. (1); Sanchez, A. (1); Iltis, X. (1); Klosek, V. (1); Doualle, T. (1); Vernière, A. (2)<br>1 - CEA Cadarache, France<br>2 - Université de Lorraine, France |
| Comparisons between SERPENT and APOLLO2-A for SMR fuel assemblies | Karakas, B. P. (1)<br>1 - Framatome GmbH, Germany |
| Ternary UMoX alloys as alternative fuels for research reactors | Oberbauer, A. (1); Shi, J. (1); Schwarz, C. (1); Chemnitz, T. (1); Baumeister, B. (1); Petry, W. (1); Mayer, M. (2)<br>1 - Forschungs-Neutronenquelle Heinz Maier-Leibnitz (FRM II), Technische Universität München (TUM), Germany<br>2 - Max-Planck-Institut für Plasmaphysik (IPP), Germany |
| Operational conditions and transients at the nuclear training and research reactor AKR-2: Experiments and time-dependent simulations with the Monte Carlo code Serpent | Gomez Rodriguez, J. J. (1); Knospe, A. (1); Viebach, M. (1); Lange, C. (1); Hurtado, A. (1)<br>1 - Technische Universität Dresden, Germany |
| Exploring MITR-III Alternative Reactivity Control Systems to Eliminate Axial Flux Skewing | Hauptman, S. (1)<br>1 - Massachusetts Institute of Technology, United States |

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| Reactors & Roadblocks: A Tale of Two Nuclear Strategies | Davidson, L. (1); Gadziala, A. (1); Howard, E. (1); Marsh, K. (1); Pavlak, E. (1)<br>1 - Georgetown University, United States |

## 2.00 pm – 3.00 pm Plenary Session: Poster Session

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| Automated Thickness Measurement Method and Device for Nuclear Fuel Plates | Durazzo, M. (1); Kobayoshi, M. (1); Urano de Carvalho, E. F. (1)<br>1 - Nuclear and Energy Research Institute, Brazil |
| „Radioactive Material in Special Form - important aspects in BAM approval procedure" | Rolle, A. (1); Wille, F. (1)<br>1 - Bundesanstalt für Materialforschung und -prüfung, Germany |
| NEUTRON DIFFRACTION STUDIES OF AUSTENITIC STAINLESS STEEL (SUPER 304H) SAMPLES AFTER A TERMOMECHANICAL LOAD | Mikula, P. (1); Farkaš, G. (1); Ryukhtin, V. (1); Pilsová, L. (2)<br>1 - Department of Neutron Physics, Nuclear Physics Institute CAS, Czech Republic<br>2 - Czech Technical University, Faculty of Mechanical Engineering, Czech Republic, |
| Presentation of MAIA MTR fuel performance code | Marois, G. (1); Lorenzo, D. (1)<br>1 - The French Atomic Energy and Alternative Energy Commission (CEA), France |
| Development and design characteristics of research reactors in Korea | Park, C. (1); Lee, B. (1); Kim, K. (1); Park, S. (1)<br>1 - Korea Atomic Energy Research Institute, Korea, Republic of |
| Irradiation Behaviors of High-density Atomized U3Si2/Al Dispersion Fuel in BR2 | Cho, T. W. (1); Jeong, Y. J. (1); Park, D. J. (1); Park, J. M. (1); Wight, J. (2); Acevedo, B. (2); Leenaers, A. (2)<br>1 - Korea Atomic Energy Research Institute (KAERI), Korea, Republic of<br>2 - Belgian Nuclear Research Centre (SCK CEN), Belgium |
| IMPROVED HEAT EXCHANGER MODELING FOR SAFETY ANALYSIS OF THE BR2 REACTOR CONVERSION | Lin, H.-C. (1); Garner, P. (1); Licht, J. (1); Wols, F. (2)<br>1 - Argonne National Laboratory, United States<br>2 - SCK CEN, Belgium |
| Fuel swelling analysis of full-length plate test of U-7Mo/Al-5Si dispersion fuel in HAMP-3 | Jeong, G. Y. (1); Tahk, Y. W. (1); Jun, H. (1); Kim, H. (1); Seo, C. G. (1); Park, D. J. (1)<br>1 - Korea Atomic Energy Research Institute, Korea, Republic of |
| Microstructural Characterization of U7Mo Dispersion Mini-Plate Specimens irradiated in HANARO | Park, D. J. (1); Cho, T. W. (1); Park, J. M. (1); Tahk, Y. W. (1); jeong, G. Y. (1); Seo, C. G. (1); Kim, H. M. (1); Jeong, Y. J. (1)<br>1 - Korea Atomic Energy Research Institute, Korea, Republic of |

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| THE CHANGE IN THE TYPE OF IRRADIATED TELLURIUM DIOXIDE FROM NATURAL ISOTOPIC COMPOSITION TO ENRICHED IN THE TE-130 ISOTOPE BY MORE THAN 90%, AND ITS IMPACT ON THE OBTAINING OF THE LUTTITIUM-177 AT THE SAME REACTOR IRRADIATION. | Biała, E. (1); Konior, M. (1); Kuczkowska, A. (1)<br>1 - Production Department, NCBJ OR Polatom Andrzeja, Poland |
| Reactive spark plasma sintering of UAl2 + Al powder mixtures | Iltis, X. (1); Klosek, V. (1); Sanchez, A. (1); Tarisien, N. (1); Valance, S. (1); Lamy, S. (2); Pasturel, M. (2)<br>1 - CEA, DES, IRESNE, DEC, France<br>2 - Univ. Rennes, CNRS, ISCR, UMR 6226, F-35042 Rennes , France |
| FRM-II neutronics modelling with Serpent and OpenMC | Travleev, A. (1)<br>1 - Gesellschaft für Anlagen- und Reaktorsicherheit (GRS) gGmbH, Germany |
| DEVELOPMENT OF RADIOISOTOPE PRODUCTION HOT CELL FOR KIJANG RESEARCH REACTOR | Woo, K. (1); Lee, S.-K. (1); Hong, S. (1)<br>1 - Korea Atomic Energy Research Institute, Korea, Republic of |
| Ensuring Safety and Efficiency in Research Reactor Decommissioning through Project Management | Oinonen, V. (1); Kaisanlahti, M. (1)<br>1 - Fortum, Finland |
| Repairing Instrumented TRIGA Fuel at the Jožef Stefan Institute | Jazbec, A. (1); Rosman, M. (1); Verdir, A. (1); Rupnik, S. (1)<br>1 - Jožef Stefan institute, Slovenia |
| FAILURE MECHANISM FOR FUEL PLATES DURING NORMAL OPERATION | Bravo, I. G. (1); Menbribe, M. E. (1); Marquez, M.G. (1)<br>1 - INVAP, Argentina |
| Experimental Investigation of Neutron Flux Optimization for Enhancing Molybdenum-99 Specific Activity in a Critical Facility | Sairanbayev, D. (1); Shaimerdenov, A. (1); Aitkulov, M. (1); Gizatulin, S. (1); Gurin, A. (1); Chakrova, Y. (1); Bugybay, Z. (1)<br>1 - Institute of Nuclear Physics, Kazakhstan |
| Tests for manufacturing fuel with dispersed uranium gradient – HFIR fuel example | Stepnik, B. (1); Clemencon, J. (1); Rontard, C. (1)<br>1 - Framatome, France |
| Research progress and prospect of COFs for removal and extraction of radioactive uranium (VI) | Wang, Y. (1); Guo, W. (1)<br>1 - National Research Center for Geoanalysis, China |
| Identification of key future R&D challenges based on current experience | Morgan, S. (1); Bradley, J. (1)<br>1 - United Kingdom National Nuclear Laboratory, United Kingdom |
| Eddy Current Testing at Windscale Active Handling Facility | Linnett, G. (1)<br>1 - United Kingdom National Nuclear Laboratory, United Kingdom |

## 3.00 pm – 4.20 pm Parallel Sessions

### Parallel session I: New Research Reactor Projects

Chair: B. Stepnik, Framatome, France

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| Early stakeholder engagement for a possible new multipurpose research reactor for Canada | Yamani, Z. (1); Walters, L. (1); Siddiqui, A. (1); Huynh, K. (2)<br>1 - Canadian Nuclear Laboratories (CNL), Canada<br>2 - Atomic Energy of Canada Ltd (AECL), Canada |
| Transition of operations from HFR to PALLAS | Ruiterman, R. (1)<br>1 - NRG PALLAS, Netherlands |

### Parallel session II: Research Reactor Operation & maintenance and ageing management I

Chair: L. Hasa, NRG, Netherlands

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| Major Upgrades to the OPAL Research Reactor | Vittorio, D. (1)<br>1 - Australian Nuclear Science and Technology Organisation, Australia |
| A new maintenance management system for the HOR reactor | Tober, J. (1)<br>1 - TU Delft Reactor Institute, Netherlands |
| Performance and Lifetime Management of HANARO Research Reactor with PMT | Kim, H.K. (1); Jung, H. S. (1); Park, S. J. (1); Choi, Y. S. (1)<br>1 - Korea Atomic Energy Research Institute, Korea, Republic of |
| Aluminum Manufacturing Projects for the Neutron Reactor Facility at FRM II / TU Munich | Kunschert, G. (1); Pichlmaier, A. (2)<br>1 - Light Metals Technologies Ranshofen - Austrian Institute of Technology, Austria<br>2 - Technical University of Munich - Research Neutron Source Heinz Maier-Leibnitz (FRM II), Germany |

### 4.20 pm – 4.40 pm Coffee break

## 4.40 pm – 6.00 pm Parallel Sessions

### Parallel session I: Fuel Cycle I

Chair: S. van Dyck, SCK-CEN, Belgium

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| CRITICAL CHARACTERISTICS FOR MIT REACTOR LEU FUEL FABRICATION | Hu, L. (1); Mascolino, V. (2); Yang, S. (2); Stillman, J. (2); Anderson, K. (2); Wilson, E. (2)<br>1 - MIT Nuclear Reactor Laboratory, United States<br>2 - Argonne National Laboratory, Nuclear Science and Engineering Division, United States |

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| EU-CONVERSION: Supplying the European Research Reactors with Safe Low-Enriched Uranium Fuels for Their Conversion and Long-Term Operation to Secure the Supply of Medical Radioisotopes | Baumeister, B. (1); Reiter, C. (1); Medyk, L. (2); Buniazet, Z. (2); Rontard, C. (2); Stepnik, B. (2); Leenaers, A. (3); Holmström, S. (3); Wight, J. (3); Romanello, V. (4); Huet, F. (5); Federici, E. (6); Valance, S. (6)<br>1 - Technische Universität München, Germany<br>2 - Framatome, France<br>3 - Studiecentrum voor Kernenergie / Centre D'Etude de L'Energie Nucleaire, Belgium<br>4 - Centrum Vyzkumu Rez SRO, Czech Republic<br>5 - Societe Technique pour L'Energie Atomique TECHNICATOME SA, France<br>6 - Commissariat à l'énergie atomique et aux énergies alternatives, France |
| ILL Bright Futures | Estrade, J. (1)<br>1 - Institut Laue Langevin, France |
| MTR fuel failure mode and safety criteria discussion in the light of available experimental data | Rossaert, B. (1); Wight, J. (1); Bergeron, A. (2); Light, J. (2)<br>1 - SCK CEN, Belgium<br>2 - ANL, United States |

## Parallel session II: Utilisation of Research Reactors I

Chair: C. Kaaijk, TU Delft Reactor Institute, Netherlands

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| Towards the commissioning of a cold neutron source at the TU Delft Reactor Institute | Van Wijk, N. (1); Hassink, G. (1); Kaaijk, C. (1)<br>1 - TU Delft Reactor Institute, Netherlands |
| Commissioning and performance of the cold neutron source at the HOR | Hassink, G. (1); Kaaijk, C. (1)<br>1 - TU Delft Reactor Institute, Netherlands |
| Research capabilities of the PALLAS reactor | Knol, S. (1); Boomstra, D. (1); Grismanovs, V. (1); Beck, R. (1); Klaassen, F. (1)<br>1 - NRG\|PALLAS, Netherlands |
| THE WWR-K REACTOR CAPABILITIES FOR FUEL TESTING | Shaimerdenov, A. (1); Gizatulin, S. (1); Silnyagin, P. (1); Akhanov, A. (1); Sairanbayev, D. (1); Aitkulov, M. (1); Kislitsin, S. (1)<br>1 - The Institute of Nuclear Physics, Kazakhstan |

## 7.30 pm – 11.00 pm Conference Dinner

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# Wednesday 9 April 2025

## 9.00 am – 10.00 am: Parallel Sessions

### Parallel session I: Fuel Cycle II

Chair: K. Dunn, IAEA

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| ASSESSMENT OF AN ALTERNATIVE CONTROLLED FUEL ASSEMBLY DESIGN FOR THE LVR-15 REACTOR WITHIN THE EU-CONVERSION PROJECT | Romanello, V. (1); Dambrosio, A. (1); Hrehor, M. (2); Paglini, A. (2); Boyard, M. (3); Huet, F. (3)<br>1 - Reserach Centre Rez (CVR), Czech Republic<br>2 - National Radiation Protection Institute (SURO), Czech Republic<br>3 - TechnicAtome (TA), France |
| Prefeasibility study on the use of U3Si fuel for TRIGA reactor | Lee, B. (1); Yoo, H. J. (1); Kim, K.-O. (1)<br>1 - KAERI, Korea, Republic of |
| Overview of Technical Studies on the Low-Enrichment Conversion at UTR-KINKI | Tabuchi, M. (1); Wakabayashi, G. (1); Sugiura, N. (1); Shiga, H. (1); Hohara, S.-Y. (1); Sakon, A. (1); Yamanishi, H. (1); Pyeon, C. H. (2); Stratton, C. (3); Morman, J. (3); Olson, A. (3); Kalimullah, M. (3); Lell, R. (3); Heltemes, T. (3)<br>1 - Kindai University, Japan<br>2 - Kyoto University, Japan<br>3 - Argonne National Laboratory, United States |

### Parallel session II: Innovative Methods III

Chair: B. Baumeister, Technical University Munich, Germany

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| Limiting false alarms of environmental radiation monitors using machine learning | Breitkreutz, H. (1); Jagfeld, C. (1)<br>1 - Scienta Envinet, Germany |
| FissionIST: A hardware-based research reactor simulator | Marques, J. G. (1); Cabral, L. M. (1); Ferreira, E. D. (1); Felizardo, M. (1); Lima, P. (1); Lourenço, A. (1)<br>1 - Centro de Ciências e Tecnologias Nucleares, Instituto Superior Técnico, Portugal |
| THE EVEREST PROJECT: TOWARD EXPERIMENTALLY VALIDATED ADVANCED SIMULATION TOOLS | Hursin, M. (1); Perin, Y. (2); Garcia herranz, N. (3); Ambrožič, K. (4); Czifrus, S. (5)<br>1 - Laboratory for Reactor Physics and Systems Behaviour, EPFL, Switzerland<br>2 - Department of Core Behavior, GRS, Germany<br>3 - Department of Energy Engineering, Universidad Politécnica de Madrid, Spain<br>4 - Jožef Stefan Institute , Slovenia<br>5 - Institute of Nuclear Techniques, Budapest University of Technology and Economics, Hungary |

### 10.00 am – 10.30 am Coffee break

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## 10.30 am – 12.10 pm Parallel Sessions

### Parallel session I: Utilisation of Research Reactors II

Chair: C. Carette, Aix Marseille Univ, Université de Toulon, CNRS, IM2NP, France

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| McMaster University: Canada's Nuclear University | Cappon, D. (1); Stephenson, K. (1); Preston, J. (1)<br>1 - McMaster University, Canada |
| HARNESSING NEUTRON TRANSMUTATION DOPING OF SILICON FOR CLEAN ENERGY AND INNOVATION | Vargas, E. (1); Ridikas, D. (1); Semkova, V. (1); Hutanu, V. (2); Nishizawa, S.-I. (3)<br>1 - INTERNATIONAL ATOMIC ENERGY AGENCY, Austria<br>2 - TECHNICAL UNIVERSITY OF MUNICH, Germany<br>3 - KYUSHU UNIVERSITY, Japan |
| Axial profile of the nuclear heating rate in the MIT research reactor using a stainless steel CALORRE differential calorimeter | Volte, A. (1); Kohse, G. (2); Carpenter, D. (2); Ostrovsky, Y. (2); Ames, M. (2); Hauptman, S. (2); Lyoussi, A. (3); Carette, M. (1); Reynard-Carette , C. (1)<br>1 - Aix Marseille Univ, Université de Toulon, CNRS, IM2NP, France<br>2 - Massachusetts Institute of Technology, Nuclear Reactor Laboratory, United States<br>3 - CEA/DES/IRESNE/DER, Section of Experimental Physics, Safety Tests and Instrumentation, France |
| A UNIQUE OUTREACH PROGRAM FOR UTILIZATION OF RESEARCH REACTORS | Landsberger, S. (1); Charlton, W. (1)<br>1 - University of Texas at Austin, United States |
| New experiments for education and training in ENEEP | Lüley, J. (1); Radulović, V. (2); Vrban, B. (3); Matoušková, J. (4); Salvini, A. (5)<br>1 - European Nuclear Experimental Educational Platform, Slovakia<br>2 - Jožef Stefan Institute, Slovenia<br>3 - Slovak Universtity of Technology in Bratislava, Slovakia<br>4 - Czech Technical University, Czech Republic<br>5 - University of Pavia, Italy |

## Parallel session II: Research reactor operation & maintenance and ageing management II

Chair: P. Chakrov, IAEA

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| Research on Materials Ageing and Structural Integrity of Research Reactors (Magic-RR) | Kolluri, M. (1); Tanguy, B. (2); Szenthe, I. (3); Van Dommelen, H. (4); Gonzalez-Garcia, Y. (5); Radiguet, B. (6); Bagot, P. (7); London, A. (8); Bach, M. (9); Mostert, J. (10)<br>1 - NRG PALLAS, Netherlands<br>2 - CEA, France<br>3 - HUN-REN-CER, Hungary<br>4 - Eindhoven University of Technology, Netherlands<br>5 - TU Delft, Netherlands<br>6 - University of Rouen, France<br>7 - University of Oxford, United Kingdom<br>8 - UKAEA, United Kingdom<br>9 - CNL, Canada<br>10 - NECSA, Netherlands |
| Specification, simulation and validation of response times for digital neutron flux measurement systems | Güldner, I. (1); Bröcker, D. (1); Freund, K. (1)<br>1 - Mirion Technologies (MGPI H&B) GmbH, Germany |
| SAFARI-1 Research Reactor Ageing Management and Continued Safe Operation | Malaka, S. (1)<br>1 - Necsa-SAFARI-1 , South Africa |
| FRM II: Update on the status and outlook | Pichlmaier, A. (1); Schätzlein, R. (1); Jeschke, F. (1)<br>1 - Technical Universtity of Munich, FRM II, Germany |
| ENEA TRIGA RC-1 Ageing Management Program | Falconi, L. (1); Fabrizio, V. (1); Formenton, D. (1); Roberti, A. (1); Lammardo, M. (1); Lepore, L. (2); Tatì, A. (3)<br>1 - ENEA, NUC-IRAD-RNR, Research Nuclear Reactor Laboratory, Casaccia Research Centre, Italy<br>2 - ENEA, NUC-IRAD-CRGR, Nuclear Material Characterization Laboratory and Nuclear Waste Management, Casaccia Research Centre, Italy<br>3 - ENEA, SSPT-PROMASS, Sustainable Materials Division, Casaccia Research Centre, Italy |

### 12.10 pm – 1.00 pm Lunch break

## 1.00 pm – 2.40 pm: Parallel Sessions

## Parallel session I: Fuel Cycle III

Chair: A. Leenaers, SCK-CEN, Belgium

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| TREATMENT AND CONDITIONING OPTIONS FOR RESEARCH REACTOR SPENT FISSILE MATERIALS AND A METHODICAL APPROACH TO MANAGEMENT OF THESE MATERIALS | Dunn, K. (1); Chakrov, P. (1); Robbins, R. (1)<br>1 - International Atomic Energy Agency, Austria |
| Measuring Thermal Conductivity of In-Pile Irradiated Dispersion Fuel Particles and Interaction Layers Using the Suspended-Bridge Method | Shu, S. (1); Miao, Y. (1); Ye, B. (1); Mouche, P. (1); Mo, K. (1); Jamison, L. (1); Yacout, A. M. (1); Salvato, D. (2); Hanson, W. (2); Robinson, A. (2); Howard, C. (2)<br>1 - Argonne National Laboratory, United States<br>2 - Idaho National Laboratory, United States |
| UMo monolithic plates manufacturing for FUTURE MONO-1 irradiation campaign | Buniazet, Z. (1); Stepnik, B. (1); Monier, L. (1); Merle, J. (1); Rontard, C. (1); Baumeister, B. (2); Schwarz, C. (2); Chemnitz, T. (2); Pichlmaier, A. (2)<br>1 - Framatome, France<br>2 - TUM - FRMII, Germany |
| Manufacturing of LEU COBRA Lead Test Assemblies to be irradiated inside BR2 Reactor | Sabardeil, A. (1); Merle, J. (1); Allenou, J. (1); Stepnik, B. (1)<br>1 - Framatome - CERCA, France |
| CASE STUDY ON BURNUP FOR A DISPERSION FUEL IRRADIATION EXPERIMENT: BURNUP FROM EXPERIMENT DESIGN TO MEASURED OUTCOMES | Holmstrom, S. (1); Sikik, E. (1); Hernandez solis, A. (1); Leenaers, A. (1); Puig, F. (2); Wight, J. (1)<br>1 - SCK CEN, Belgium<br>2 - ANL, United States |

## Parallel session II: Research reactor operation & maintenance and ageing management III

Chair: C. Rontard, Framatome, France

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| Operation and Maintenance of Research Reactors - Benefits of a Long-Term Operator-Supplier Partnership | Sikora, J. (1); Reisner, L. (1); Matoušek, J. (1)<br>1 - dataPartner s.r.o., Czech Republic |
| Dose rate assessment for a planned replacement of a gold seal during the refurbishment works at FRM II | Li, X. (1); Wiegner, N. (1); Jüttner, P. (1); Jeschke, F. (1); Hutanu, V. (1)<br>1 - FRM II, Technical University of Munich, Germany |
| HFR – AGEING MANAGEMENT PROGRAM:OF CRITICAL COMPONENTS | Hasa, L. (1); Visagie, H. (1); Davis, L. (1)<br>1 - NRG - Nuclear Research and Consultancy Group, Netherlands |
| Jules Horowitz Reactor (JHR): on the way to operation | Fardeau, A. (1); Pillot, F. (1); Emond, D. (1)<br>1 - CEA, France |

## 2.40 pm – 3.00 pm Closing Session

RRFM
EUROPEAN RESEARCH REACTOR CONFERENCE 2025

# Thursday 10 April 2025

## Technical Tours

EUROPEAN NUCLEAR SOCIETY