



Programme

22 – 26 March 2020
Helsinki, Finland



ENS CONFERENCE

Organised in cooperation with



RRFM

EUROPEAN RESEARCH
REACTOR CONFERENCE **2020**



HELSINKI

22 - 26 March 2020



Sunday 22 March 2020

17:00 - 19:00 Pre-registration

18:30 – 19:30 Welcome Reception

Monday 23 March 2020

Mo 9.00 – 12.00 Opening Plenary Sessions

Opening Welcome Address by Liisa Heikinheimo, Deputy Director General, Energy Department, Finland

Mo 12.00 – 13.30 Lunch break

Mo 13.00 – 14.40 Parallel Session: Research reactor fuel cycle I

RRFM2020-A0047	Fuel cycle of the BER II research reactor	Singh, D. (1) 1 - Helmholtz Research Center Berlin, Germany
RRFM2020-A0052	THE RUSSIAN ARGUS SOLUTION REACTOR HEU-LEU CONVERSION	Myasnikov, S. (1); Pavlov, A. (1); Petrunin, N. (1); Pavshook, V. (1) 1 - National Research Centre "Kurchatov Institute", Russian Federation
RRFM2020-A0074	RHF CONVERSION ANALYSIS: FEASIBILITY OF SILICIDE FUEL IN AN UNCONSTRAINED GEOMETRY	Bergeron, A. (1); Pham, S. H. (1); Licht, J. R. (1); Thomas, F. (2); Calzavara, Y. (2) 1 - Argonne National Laboratory, United States 2 - Institut Laue-Langevin, France
RRFM2020-A0027	MICROSTRUCTURAL EXAMINATION AND INTERPRETATION OF BEHAVIOR OF IRRADIATED LEU FUELS	Keiser, D. (1); Miller, B. (1); Robinson, A. (1); Smith, C. (2); Aitkaliyeva, A. (2) 1 - Idaho National Laboratory, United States 2 - University of Florida, United States

RRFM2020-A0056	THE EMPIRE IRRADIATION TEST: FIRST RESULTS OF THE MONOLITHIC PIE	Baumeister, B. (1); Schwarz, C. (1); Reiter, C. (1); Steyer, C. (1); Stepnik, B. (2); Allenou, J. (2); Grasse, M. (2); Moyroud, C. (2); Johnson, R. (3); Mayfield, R. (3); Argon, G. (3); Miller, B. (4); Robinson, A. (4); Glagolenko, I. (4); Hanson, W. (4); Leenaers, A. (5); Wight, J. (5); Van den Berghe, S. (5); Palancher, H. (6); Hervieu, E. (6); Petry, W. (1) 1 - Technische Universität München - Forschungs-Neutronenquelle Heinz Maier-Leibnitz (FRM II), Germany 2 - Framatome - CERCA Division, France 3 - BWXT Nuclear Operations Group, United States 4 - Idaho National Laboratory (INL), United States 5 - Studiecentrum voor Kernenergie • Centre d'Étude de l'énergie Nucléaire (SCK•CEN), Belgium 6 - CEA, DEN, DEC, Cadarache, France
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Mo 13.00 – 14.40 Parallel Session: Innovative methods in reactor physics and thermo-hydraulics I

RRFM2020-A0020	A USER PERSPECTIVE ON AN IAEA PROJECT: "BENCHMARKS OF COMPUTATIONAL TOOLS AGAINST EXPERIMENTAL DATA ON FUEL BURNUP AND MATERIAL ACTIVATION FOR UTILIZATION, OPERATION AND SAFETY ANALYSIS OF RESEARCH REACTORS"	Mladin, M. (1) 1 - Institute for Nuclear Research Pitesti, Romania
RRFM2020-A0024	Deterministic and Stochastic assessment of an Education & Training neutronic session in TechnicAtome	Maresq, M. (1); Bouret, C. (1); Chabert, L. (1); Manificier, L. (1) 1 - TechnicAtome, France
RRFM2020-A0029	OPTIMIZED BR2 CONTROL ROD CONFIGURATIONS FOR THE CONVERSION TOWARD COBRA FUEL WITH GADOLINIUM ABSORBER	Kalcheva, S. (1); Van den Branden, G. (1); Van Dyck, S. (1); Van den Berghe, S. (1) 1 - SCK-CEN, Belgium
RRFM2020-A0030	Coupled 1D thermal-hydraulic calculations for research reactors with a compact core	Schönecker, R. (1); Reiter, C. (1); Petry, W. (1) 1 - Forschungs-Neutronenquelle Heinz Maier-Leibnitz (FRM II), Germany
RRFM2020-A0036	Benchmark Analysis of void coefficient of reactivity in a typical research reactor with MCNP	Iqbal, M. (1); Sajjad, M. (1); Mahmood, T. (1) 1 - Pakistan Institute of Nuclear Science and Technology (PINSTECH), Pakistan



Mo 14.40 – 15.00 Coffee break

Mo 15.00 – 16.00 Poster Session

Mo 16.00 – 17.40 Parallel Session: Research reactor fuel cycle II

RRFM2020-A0058	Scale Up of the TUM PVD Zr Coating Process for Monolithic U-Mo Fuel Foils	Schwarz, C. (1); Ploessner, N. (1); Mercz, J. (1); Steyer, C. (1); Baumeister, B. (1); Petry, W. (1) 1 - Forschungs-Neutronenquelle Heinz Maier-Leibnitz (FRM II), Technische Universität München, Germany
RRFM2020-A0087	REPORT ON U3Si2/Al DISPERSION FUEL FOR HIGH-POWER RESEARCH REACTORS: analysis and resolution plan	Kim, Y. S. (1); Oaks, A. (1); Ye, B. (1); Jamison, L. (1); Mo, K. (1); Miao, Y. (1); Mei, Z. (1); Hofman, G. (1); Yacout, A. (1); Robinson, A. (2); Keiser, D. (2); Leenaers, A. (3) 1 - ANL, United States 2 - INL, United States 3 - SCK.CEN, Belgium
RRFM2020-A0107	Testing and Design Update for LEU U-10Mo Monolithic Fuel Qualification	Cole, J. I. (1); Glagolenko, I. (1); Jones, W. (1); Jue, J.-F. (1); Housley, G. (1); Keiser jr., D. (1); Marshall, M. (1); Ozaltun, H. (1); Robinson, A. (1); Smith, J. (1); Schulthess, J. (1) 1 - Idaho National Laboratory, United States
RRFM2020-A0112	TOWARD AN ALTERNATIVE FUEL ASSEMBLY DESIGN FOR LVR-15 REACTOR	Stepnik, B. (1); Huet, F. (2); Allenou, J. (1); Pierrard, S. (1); Rontard, C. (1); Boyard, M. (2); Romanello, V. (3); Dambrosio, A. (3); Hrehor, M. (3) 1 - FRAMATOME - CERCA™, France 2 - TechnicAtome, France 3 - Centrum Výzkum Řež, France
RRFM2020-A0113	Post-irradiation Examination of KJRR-LTA with U-Mo Dispersion Fuel	Tahk, Y. W. (1); Yim, J. S. (1); Kim, H. J. (1); Kong, E. H. (1); Oh, J. Y. (1); Park, J. M. (1); Jeong, Y. J. (1); Lee, K. H. (1); Kim, S. H. (1); Robinson, A. B. (2); Johnson, T. A. (2); Choi, Y. J. (2) 1 - KAERI, Korea, Republic of 2 - Idaho National Laboratory, United States



Mo 16.00 – 17.40 Parallel Session: Innovative methods in reactor physics and thermo-hydraulics II

RRFM2020-A0054	A numerical analysis on hydrodynamic deformation of molten droplets in a sodium pool	Yassin, N. (1); Zhang, Z. (1); Rawashdeh, A. (1); Ali, M. (1) 1 - Harbin Engineering University, China
RRFM2020-A0063	Evaluation of various uncertainty propagation approaches as applied to the calculation of the SAFARI-1 peak clad temperature.	Khoza, S. (1); Erlank, A. (1); Bokov, P. (1); Van Heerden, F. (1); Prinsloo, R. (1); Montwedi, E. (1) 1 - Nuclear Energy Corporation of South Africa (Necsa), South Africa
RRFM2020-A0067	A COMPARISON OF REACTOR PARAMETERS DETERMINATION AT JORDAN SUBCRITICAL ASSEMBLY USING COMPUTATIONAL CALCULATIONS AND EXPERIMENTAL APPROACHES	Malkawi, S. (1) 1 - Jordan University of Science and Technology, Jordan
RRFM2020-A0071	Involute Working Group – Progress towards Validation of CFD for Involute-Plate Reactors Safety Analysis	Bojanowski, C. (1); Bergeron, A. (1); Licht, J. (1) 1 - Argonne National Laboratory, United States
RRFM2020-A0079	Reactor Analysis Code Benchmark to AFIP-7 Experiment	Stillman, J. (1); Peguero, L. (1); Nielsen, J. (2); Smith, M. (1); Jaluvka, D. (1); Mohamed, W. (1); Wilson, E. (1) 1 - Argonne National Laboratory, United States 2 - Idaho National Laboratory, United States

Tuesday 24 March 2020

Tu 8.40 – 10.20 Parallel Session: Utilisation of research reactors I

RRFM2020-A0008	THERMAL HYDRAULIC ANALYSIS OF COBALT AND IRIDIUM PRODUCTION IN A NUCLEAR RESEARCH REACTOR	Elsaied, M. (1); Badawi, A. (2); Mohamed, N. (1); El Saghier, A. (2); Abo Elnour, A. (3) 1 - ETRR-2, Atomic Energy Authority, Egypt 2 - Department of Nuclear and Radiation Engineering, Alexandria University, Egypt 3 - Atomic Reactors Department, Atomic Energy Authority, Egypt
RRFM2020-A0050	Stables isotopes supply by Orano to RR community	D Hennezel, A. (1) 1 - Orano Cycle, France
RRFM2020-A0072	Optimization of Material Testing Research (MTR) Reactors Isotope Production	Abdalaziz, R. O. (1); Ali Amin, E. (2) 1 - Sudan Atomic Energy Commission, Sudan 2 - Egyptian Nuclear & Radiological Regulatory Authority, Egypt

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RRFM2020-A0078	Importance of High Performance Research and Test Reactors in the U.S.	Wilson, E. (1); Newton, jr., T. (2); Foyto, L. (3); Hu, L.-W. (4); Jenkins, J. (5); Meszaros, J. (6) 1 - Argonne National Laboratory, United States 2 - National Institute of Standards and Technology, United States 3 - University of Missouri-Columbia Research Reactor, United States 4 - Massachusetts Institute of Technology, United States 5 - Idaho National Laboratory, United States 6 - Oak Ridge National Laboratory, United States
RRFM2020-A0031	The ENEEP (European Nuclear Experimental Educational Platform) for nuclear education in Europe.	Boeck, H. (1); Cagnazzo, M. (1); Čerba, Š. (2); Czifrus, S. (3); Haščík, J. (2); Jazbec, A. (4); Lüley, J. (2); Miglierini, M. (5); Osuský, F. (2); Radulović, V. (4); Schaden, F. (1); Sklenka, L. (5); Snoj, L. (4); Tormási, A. (3); Villa, M. (1); Vrban, B. (2) 1 - Technische Universität Wien – Atominstitut, Austria 2 - Slovak University of Technology in Bratislava - Institute of Nuclear and Physical Engineering, Slovakia 3 - Budapest University of Technology and Economics - Institute of Nuclear Techniques, Hungary 4 - Jožef Stefan Institute - Reactor Physics Division, Slovenia 5 - Czech Technical University in Prague - Faculty of Nuclear Sciences and Physical Engineering, Czech Republic
RRFM2020-A0124	Teaching nuclear physics with the EVOC platform	Bonnaud, L.-J. (1); Wohleber, X. (2); Bailly, I. (1); Perrette, X. (1); Caranicolas, A. (3) 1 - French Atomic and Alternative Energies Commission, National Institute for Nuclear Science and Technology, Saclay Centre, France 2 - French Atomic and Alternative Energies Commission, Nuclear Energy Division, Saclay Centre, France 3 - French Atomic and Alternative Energies Commission, Technological Research Division, Saclay Centre, France



Tu 9.00 – 10.20 Parallel Session: Innovative methods in reactor physics and thermo-hydraulics III

RRFM2020-A0091	Optimization Study to Identify Isotopes to be tracked in Monte Carlo Burnup Calculations	Farouki, I. (1) 1 - Jordan Research and Training Reactor - Jordan Atomic Energy Commission, Jordan
RRFM2020-A0092	EVALUATION OF APPROXIMATIONS AND UNCERTAINTIES IN THEORETICAL MODELS DESCRIBING PULSE MODE OPERATION	Vavtar, I. (1); Čalič, D. (1); Pungercič, A. (1); Snoj, L. (1) 1 - Jozef Stefan Institute, Slovenia
RRFM2020-A0108	Serpent 2 and FRM II – a symbiotic collaboration for medical applications	Reiter, C. (1); Chemnitz, T. (1); Petry, W. (1); Valtavirta, V. (2); Leppänen, J. (2) 1 - Forschungs-Neutronenquelle Heinz Maier-Leibnitz Technische Universität München, Germany 2 - VTT Technical Research Centre of Finland, Ltd, Finland
RRFM2020-A0110	Reduction of Uncertainties in ZED-2 Reactor Experiments	Atfield, J. (1); Yaraskavitch, L. (1) 1 - Canadian Nuclear Laboratories, Canada

Tu 10.20 – 10.50 Coffee break

Tu 10.50 – 12.10 Parallel Session: Research reactor fuel cycle III

RRFM2020-A0032	PREPERATION OF THE COLD TRIAL AND THE FIRST HOT LOADING OF THE CASTOR® MTR3 AT THE FRM II RESEARCH REACTOR	Graf, J. M. (1); Fopp, S. (1) 1 - GNS Gesellschaft für Nuklear-Service mbH, Germany
RRFM2020-A0073	PERFORMANCE OF FIRST SHIPMENT OF ISOTOPIC GENERATORS FROM FRANCE TO THE US: THE CEA MANON AND ORANO TN TN@MTR SOLUTIONS	Gammella, N. (1); Jacot, P. (2); Vo van, V. (3) 1 - CEA, France 2 - Orano TN, France 3 - Orano Cycle, France
RRFM2020-A0076	COMPREHENSIVE SOLUTIONS FOR RESEARCH REACTORS' BACK-END OPERATIONS	Chabeuf, J.-M. (1); Le Blevenec, R. (2); Talbi, A. (3); Valery, J.-F. (3); Vo van, V. (3) 1 - Orano DS, France 2 - Orano TN, France 3 - Orano Cycle, France
RRFM2020-A0117	CONVERGING PLANS FOR SPENT NUCLEAR FUEL MANAGEMENT AT FIR 1 TRIGA REACTOR	Auterinen, I. (1); Airila, M. (1) 1 - VTT Technical Research Centre of Finland, Finland



Tu 10.50–12.10 Parallel Session: Research reactor safety & security I

RRFM2020-A003	COMPUTER SECURITY: FOCUS ON DIGITAL NUCLEAR SAFETY I&C PLATFORM	Duthou, A. (1); Magot, D. (1) 1 - Rolls-Royce Civil Nuclear, France
RRFM2020-A0010	Identification of External Events for Probabilistic Safety Assessment of Thai Research Reactor-1/Modification 1 using Phenomena Identification and Ranking Table under Context of Thailand	Vechgama, W. (1) 1 - Thailand Institute of Nuclear Technology (Public Organization), Thailand
RRFM2020-A0026	REVISION OF UKRAINE'S SAFETY REQUIREMENTS FOR RESEARCH REACTORS	Kukhotskyi, O. (1); Shepitchak, A. (2) 1 - State Enterprise "State Scientific and Technical Center for Nuclear and Radiation Safety" (SSTC NRS), Ukraine 2 - State Nuclear Regulatory Inspectorate of Ukraine (SNRIU), Ukraine
RRFM2020-A0033	Comparison between using local and global conditions of a critical heat flux correlation in upward and downward flow in Plate-Type Fuel	Rawashdeh, A. (1); Cong, T. (1); Ali, M. (1); Yassin, N. (1); Khan, S. (1); Rawashdeh, A. (2) 1 - Harbin Engineering University, China 2 - Jordan Atomic Energy Commission, Jordan

Tu 12.10 – 13.10 Lunch break

Tu 13.10 – 15.10 Parallel Session: Operation & maintenance and ageing management I

RRFM2020-A0021	REFURBISHMENT OF RESEARCH REACTORS IN THE RUSSIAN FEDERATION: ACHIEVEMENTS AND REGULATORY ISSUES	Sapozhnikov, A. (1) 1 - Rostechnadzor, Russian Federation
RRFM2020-A0011	The modernization of IRT-T research reactor experimental channel for NCT studies	Smolnikov, N. (1); Anikin, M. (1); Lebedev, I. (1); Naymushin, A. (1) 1 - National Research Tomsk Polytechnic University, Russian Federation
RRFM2020-A0015	INSTITUT LAUE-LANGEVIN – HIGH FLUX REACTOR – PREPARATIONS FOR LONG-TERM FUTURE OPERATIONS	Estrade, J. (1); Guyon, H. (1); Dewhurst, C. (1); Desbriere, B. (1); Durieu, J. L. (1) 1 - Institut Laue Langevin, France
RRFM2020-A0019	HEU/LEU- CONVERSION OF NIRR-1 (PROJECT STATUS, SAFETY & SECURITY)	Adedoyin, K. J. (1) 1 - Centre for Energy reserch and training, Nigerian Nuclear Regulatory Authority, Nigeria
RRFM2020-A0022	High Flux Reactor Continued Safe Operation - Scoping, Screening and Grouping	Stefanini, L. (1); Ratti, L. (1); Wouters, O. (1); De Haan-de Wilde, C. (1); Blom, F. (1) 1 - NRG, Netherlands



RRFM2020-A0023	Ageing Management Program of BAEC TRIGA Research Reactor (BTRR) for Life Extension and Safe Operation	Hasan, M. R. (1); Uddin, M. M. (1); Haque, A. (1); Soner, M. A. M. (1); Shohag, M. B. (1); Salam, M. A. (2) 1 - CRR, AERE, Bangladesh Atomic Energy Commission, Bangladesh 2 - Bangladesh Atomic Energy Commission, Bangladesh
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Tu 13.10–15.10 Parallel Session: Research reactor safety & security II

RRFM2020-A0037	PRELIMINARY ASSESSMENT OF THE SAFETY CRITERIA FOR THE 4EVERTEST FUEL ASSEMBLY IRRADIATION IN THE FRAME OF THE LEU-FOREVER PROJECT	Romanello, V. (1); Dambrosio, A. (1); Ernest, J. (1); Zabcikova, M. (2); Hrehor, M. (2); Boyard, M. (3); Huet, F. (3) 1 - Research Center Rez (CVR), Czech Republic 2 - National Radiation Protection Institute (SURO), Czech Republic 3 - TechnicAtome (TA), France
RRFM2020-A0069	MIT RESEARCH REACTOR LOW ENRICHED URANIUM FUEL CONVERSION STATUS UPDATE	Hu, L.-W. (1); Sun, K. (1); Dave, A. (1); Wilson, E. (2); Jaluvka, D. (2); Pham, S. (2) 1 - MIT Nuclear Reactor Laboratory, United States 2 - Argonne National Laboratory, United States
RRFM2020-A0040	Safety aspects related to the development of new technologies for safety related instrumentation	Zinoni, C. (1); Janvier, L. (1); Symoens, B. (1) 1 - TechnicAtome, Centre Jean-Louis Andrieu, France
RRFM2020-A0044	New Regulatory Framework for Research Reactors in Argentina	Perrin, C. (1) 1 - Autoridad Regulatoria Nuclear, Argentina
RRFM2020-A0049	Thermal hydraulic calculations of the WWR-SM research reactor	Baytelesov, S. (1); Kungurov, F. (1); Yuldashev, B. (1) 1 - Institute of Nuclear Physics, Uzbekistan
RRFM2020-A0068	Environmental radiation monitoring for research and test reactors	Breitkreutz, H. (1); Rieck, W. (1); Stuffer, S. (1) 1 - ENVINET GmbH, Germany

Tu 15.10 – 15.40 Coffee break



Tu 15.40 – 18.00 Parallel Session: Operation & maintenance and ageing management II

RRFM2020-A0041	Optimization of the IR-8 reactor maintenance as an experimental base for structural materials and perspective fuel compositions research	Erak, D. (1); Nasonov, V. (1); Pesnya, Y. (1); Kruglikov, A. (1); Glyva, K. (1); Trofimchuk, V. (1) 1 - NRC Kurchatov institute, Russian Federation
RRFM2020-A0048	Modernization of the structures, systems and components of the WWR-SM research reactor	Baytelesov, S. (1); Kungurov, F. (1); Yuldashev, B. (1) 1 - Institute of Nuclear Physics of the Academy of Sciences of the Republic of Uzbekistan, Uzbekistan
RRFM2020-A0100	Indonesia GA Siwabessy 30MW Periodic Safety Review	Sunaryo, G. R. (1); Umbara, H. (1) 1 - Batan, Indonesia
RRFM2020-A0102	Monitoring of ageing related effects on FRM II near core components after 15 years of reactor operation	Gerstenberg, H. (1); Kastenmüller, A. (1); Pichlmaier, A. (2); Debnar, A. (3); Wiegner, N. (1); Zill, V. (1) 1 - Technical University of Munich - ZWE FRM II, Germany 2 - Institut Max von Laue - Paul Langevin, France 3 - Westinghouse Electric Germany GmbH, Germany
RRFM2020-A0116	Recycled Fuel for Use at the University of Maryland Research Reactor	Johnson, A. (1); Gilde, L. (1); Koeth, T. (1) 1 - University of Maryland, College Park, MD, United States
RRFM2020-A0120	The Refurbishment and Revalidation of an Existing Research Facility	Ellis, K. (1) 1 - Rolls-Royce, United Kingdom
RRFM2020-A0123	ORPHEE – A RESEARCH REACTOR OF CEA SACLAY–40 YEARS OF OPERATION	Menelle, A. (1); Petitrenaud, A. (1) 1 - CEA, France

Tu 15.40–17.40 Parallel Session: Research reactor safety & security III

RRFM2020-A0070	IMPACT ASSESSMENT FOR THE MIT RESEARCH REACTOR LEU FUEL FABRICATION	Allen, D. (1); Dave, A. (1); Sun, K. (1); Hu, L.-W. (1); Pham, S. (2); Jaluvka, D. (2); Wilson, E. (2) 1 - MIT Nuclear Reactor Laboratory, United States 2 - Argonne National Laboratory, United States
RRFM2020-A0077	THE CYBERSECURITY POSTURE OF RESEARCH REACTORS	Pederson, P. (1); Mylrea, M. (2); Mahn, A. (2) 1 - Pacific Northwest National Laboratory, United States 2 - National Institute of Standards and Technology, United States

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RRFM2020-A0081	Calculation models for the evaluation of a double guillotine LOCA for the licensing of a Research Reactor	Lupiano Contreras, J. (1); Abdul , H. (1); Puente, G. (1); Doval, A. S. (1) 1 - INVAP S.E., Argentina
RRFM2020-A0097	Thermal Analysis of Decay Heat Removal from a University of Missouri Research Reactor Discharged Low-Enriched Uranium Fuel Element	Yoon, D. (1); Stillman, J. (1); Feldman, E. (1); Wilson, E. (1); Cowherd, W. (2); Foyto, L. (2); Kutikkad, K. (2); Peters, N. (2) 1 - Argonne National Laboratory, United States 2 - University of Missouri-Columbia Research Reactor, United States
RRFM2020-A0114	First Periodic Safety Review in MARIA Research Reactor after 45 years of operation	Wilińska, E. (1) 1 - National Centre for Nuclear Research, Poland
RRFM2020-A0118	Comparison of RODOS and LASAIR for simulation of dispersion scenarios after severe accidents in TRIGA MARK II reactor	Langegger, E. (1) ; Böck, H. (1); Villa, M. (1); Hofer, P. (2) 1 - Atominstytut, TU Wien, Austria 2 - Ministry for Sustainability and Tourism, Division I/7 Radiation Protection, Austria

Tuesday 24 March 2020

We 8.40 – 10.40 Parallel Session: Utilisation of research reactors II

RRFM2020-A0057	Establishment of the Integrated Research Reactor Utilization Review IAEA peer review service	Pessoa Barradas, N. (1); Borio di Tigliole, A. (1); Ridikas, D. (1); Sharma, R. (1) 1 - International Atomic Energy Agency, Austria
RRFM2020-A0006	Sustainability Management System Model for Operating Organizations of Nuclear Research Reactors.	Kibrit, E. (1); Aquino, A. R. D. (1) 1 - Instituto de Pesquisas Energéticas e Nucleares, IPEN-CNEN/SP, Brazil
RRFM2020-A0009	Performance and safety aspects of the pneumatic irradiation system of the Brazilian Multipurpose Reactor	Camusso, P. (1); Maître, A. (1); Miranda, M. (1); Ferrari, I. (1); Matzkin, S. (1); Brizuela, M. (1); Boschetti, F. (1); Perrotta, J. (2); Dos Santos, A. (2); Soares, A. (2) 1 - INVAP S.E., Argentina 2 - CNEN, Brazil
RRFM2020-A0017	RETURNING NIRR-1 TO OPERABILITY AFTER CONVERSION TO LEU	Jonah, S. (1); Ibrahim, Y. (1) 1 - Centre for Energy Research and Training, Ahmadu Bello University, Zaria, Nigeria
RRFM2020-A0001	The idea of heat pump integration into the MARIA research reactor secondary cooling loop	Lipka, M. (1); Malicki, M. (2); Migdal, M. (1); Zwierzchowski, R. (3)



		1 - National Centre for Nuclear Research, Poland 2 - New Energy Transfer, Poland 3 - Warsaw university of Technology, Poland
RRFM2020-A0034	THE COMPLETE ACTIVATION ANALYSIS LABORATORY: THERMAL, EPITHERMAL, CYCLIC, COMPTON SUPPRESSION, GAMMA-GAMMA AND PROMPT GAMMA FACILITIES	Landsberger, S. (1); Charlton, W. (1); Artnak, J. (1); Drescher, A. (1); Lohmeier, D. (2); Martinez, F. (2) 1 - University of Texas, United States 2 - Los Alamos National Laboratory, United States

We 9.00 – 10.40 Parallel Session: Decommissioning and dismantling of research reactors and waste management I

RRFM2020-A0119	IAEA assistance in research reactor decommissioning	Michal, V. (1) 1 - IAEA, Austria
RRFM2020-A0042	Waste water management during the decommissioning of FRM – and a forbidding example	Rehberger, J. (1); Wunderskirchner, A. (1); Lichnovsky, U. (1) 1 - Technische Universität München, Germany
RRFM2020-A0055	Liquid SNF Removal and Decommissioning of IIN 3M Research Reactor	Baytelesov, S. (1); Derganov, D. (2); Kungurov, F. (1); Kuzmin, I. (2); Michal, V. (3); Salikhbaev, U. (3) 1 - Institute of Nuclear Physics, Uzbekistan 2 - Sosny R&D Company, Russian Federation 3 - International Atomic Energy Agency, Austria
RRFM2020-A0061	Logistic Solutions for Research Reactors Waste Management	Talbi, A. (1); Le Blevenec, R. (2); Grandhomme, C. (2) 1 - Orano, France 2 - Orano TN, France

We 10.40 – 11.00 Coffee break

We 11.00 – 12.20 Parallel Session: Utilisation of research reactors III

RRFM2020-A0066	The CABRI fast neutron Hodoscope: Calibration campaign results	Chevalier, V. (1); Mirota, S. (1); Monchalin, N. (1) 1 - IRSN, France
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RRFM2020-A0082	Present status and new developments of Boron Neutron Capture Therapy: moving from research reactors to in-hospital based accelerator technologies	Ridikas, D. (1); Swainson, I. (1); Igawa, K. (2); Belyakov, O. (1); Ono, K. (3); Kamitani, K. (1) 1 - International Atomic Energy Agency, Vienna International Centre, Vienna, Austria 2 - Neutron Therapy Research Centre, Okayama University, Okayama, Japan 3 - Kansai BNCT Medical Center, Osaka Medical College, Osaka, Japan, Japan
RRFM2020-A0088	Radiation hardness studies at the JSI TRIGA reactor	Snoj, L. (1); Lengar, I. (1); Jazbec, A. (1); Ambrožič, K. (1); Radulović, V. (1) 1 - Jozef Stefan Institute, Slovenia
RRFM2020-A0096	ADVANCED COLD NEUTRON SOURCES AT THE REACTOR PIK:(Status and prospects for development)	Mityukhlyayev, V. (1); Onegin, M. (1) 1 - Petersburg Nuclear Physics Institute named by B.P.Konstantinov of NRC «Kurchatov Institute», Russian Federation

We 11.00 – 12.20 Parallel Session: Decommissioning and dismantling of research reactors and waste management II

RRFM2020-A0062	Orano Decommissioning Experience with Ulysse for Research Reactors	Talbi, A. (1); Chabeuf, J. M. (2) 1 - Orano, France 2 - Orano DS, France
RRFM2020-A0099	THE CHALLENGES OF MANAGING RADIOACTIVE WASTE FROM THE PRODUCTION OF MO-99 IN INDONESIA	Wisubroto, D. S. (1) 1 - National Nuclear Energy Agency of Indonesia - BATAN, Indonesia
RRFM2020-A0121	Summary of IAEA Technical Meeting Concerning Research Reactor Radioactive Waste	Marshall, F. (1); Robbins, R. (1) 1 - International Atomic Energy Agency, Austria
RRFM2020-A0012	Identification of Risk Factor and Evaluation of Associated Consequences of IRT-5000 Research Reactor Pool	Ahmed, B. (1) 1 - Ministry of Health and Environment / Radiation Protection Center, Iraq

We 12.20 – 13.00 Lunch break

We 13.00 – 14.20 Plenary Session: New research reactor projects I

RRFM2020-A0016	Neutronic Analysis of the Hybrid Low-power Research Reactor for Education and Neutron Application	Kim, K.-O. (1); Roh, G. (1); Lee, B. (1) 1 - Korea Atomic Energy Research Institute, Korea, Republic of
RRFM2020-A0028	A New Critical Assembly: STACY	Araki, S. (1); Kobayashi, F. (1); Tonoike, K. (1); Izawa, K. (1); Ogawa, K. (1) 1 - Japan Atomic Energy Agency, Japan



RRFM2020-A0083	REALISING A SAFE, HIGH UTILISATION RESEARCH REACTOR – DEVELOPMENT OF THE PALLAS PROJECT	Mcgrath, M. (1); Tielens, T. (1); Van der Walt, M. (1) 1 - PALLAS, Netherlands
RRFM2020-A0085	Jules Horowitz Reactor Project: Preparation of the commissioning phase and normal operation	Marcille, O. (1); Emond, D. (1); Bignan, G. (1); Chauvin, J. P. (1); Pillot, F. (1); Fardeau, A. (1); Catherine Dumont, V. (1) 1 - CEA, France

We 14.20 – 14.30 Break

We 14.30 – 15.50 Plenary Session: New research reactor projects II

RRFM2020-A0089	UPDATES ON THE VERSATILE TEST REACTOR PROJECT	Heidet, F. (1); Roglans-Ribas, J. (1) 1 - Argonne National Laboratory, United States
RRFM2020-A0090	TRANSFORMATIONAL CHALLENGE REACTOR: PROGRAM OVERVIEW	Heidet, F. (1); Terrani, K. (2); Buchanan, S. (2) 1 - Argonne National Laboratory, United States 2 - Oak Ridge National Laboratory, United States
RRFM2020-A0098	SYSTEM ENGINEERING FRAMEWORK FOR NUCLEAR RESEARCH REACTOR DESIGN	Caumo, A. (1); Mazufri, C. (1) 1 - INVAP S.E., Argentina
RRFM2020-A0103	TRANSFORMATIONAL CHALLENGE REACTOR: REACTOR DESIGN POSSIBILITIES ENABLED BY ADDITIVE MANUFACTURING	Bergeron, A. (1); Heidet, F. (1); Betzler, B. B. R. (2); Ade, B. J. (2); Wysocki, A. J. (2); Greenwood, M. S. (2); Heineman, J. J. W. (2); Chesser, P. C. (2); Jain, P. K. (2) 1 - Argonne National Laboratory, United States 2 - Oak Ridge National Laboratory, United States

We 15.50 – 16.00 Closing

Thursday 26 March 2020

Technical tours



Poster

RRFM2020-A0002	Fuel burnup and material activation calculation for the BME Training Reactor	Horváth, A. (1) 1 - Budapest University of Technology and Economics, Hungary
RRFM2020-A0004	DIGITAL - ANALOG: CHOOSING THE MOST SUITABLE SAFETY I&C PLATFORM FOR RESEARCH REACTOR	Duthou, A. (1); Mauduit, J.-P. (1) 1 - Rolls-Royce Civil Nuclear, France
RRFM2020-A0005	The commissioning of Nigeria MNSR with LEU core	Li, Y. (1); Peng, D. (1); Wu, X. (1); Hong, J. (1); Lu, J. (1); Wang, M. (1); Hao, Q. (1) 1 - China Institute of Atomic Energy, China
RRFM2020-A0007	Core Reloading Pattern Optimization for TRIGA Mark-II Research Reactor using Catfish Particle Swarm Optimization Technique	Khan, R. (1); Shaukat, N. (1); Boeck, H. (2); Villa, M. (2); Stummer, T. (2) 1 - Pakistan Institute of Engineering and Applied Sciences (PIEAS), Pakistan 2 - Atominstytut-Vienna University of Technology, Austria
RRFM2020-A0013	Radiological risk of Ground Water at Al-Tuwaitha Nuclear Site	Ahmed, B. (1) 1 - Ministry of Health and Environment / Radiation Protection Center, Iraq
RRFM2020-A0014	High-Resolution Residual Stress Neutron Diffraction Measurements in NPI Řež at Medium Power Research Reactor LVR-15	Mikula, P. (1); Stammers, J. (1) 1 - Nuclear Physics Institute ASCR, v.v.i., Czech Republic
RRFM2020-A0018	Design of facility for NTD-Si 8-inch diameter at IRT-T reactor	Lebedev, I. (1); Smolnikov, N. (1); Anikin, M. (1); Naymushin, A. (1) 1 - National Research Tomsk Polytechnic University, Russian Federation
RRFM2020-A0025	EXPERIMENTAL AND CALCULATED DATA ON CRITICALITY OF HEXAGONAL LATTICES OF 90 % ENRICHED URANIUM FUEL RODS WITH AND WITHOUT THE BORON ABSORBER RODS IN WATER	Sikorin, S. (1); Mandzik, S. (1); Polazau, S. (1); Kuzmin, A. (1); Damarad, Y. (1); Razmyslovich, Y. (1); Hryharovich, T. (1) 1 - The Joint Institute for Power and Nuclear Research-Sosny of the National Academy of Sciences of Belarus, Belarus
RRFM2020-A0035	Lessons learned from the preparation of technical specification of safety grade neutronic detectors for a Korean new research reactor	Suh, Y. (1) 1 - Korea Atomic Energy Research Institute, Korea, Republic of

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RRFM2020-A0038	FIRST EXPERIMENTS ON NEW NEUTRON RADIOGRAPHY AND TOMOGRAPHY FACILITY AT THE WWR-K REACTOR	Shaimerdenov, A. (1); Mukhametuly, B. (1); Aitkulov, M. (1); Dyussambayev, D. (1); Nakipov, D. (1); Kenzhin, Y. (1); Nazarov, K. (2); Kichanov, S. (2); Kozlenko, D. (2) 1 - The Institute of Nuclear Physics, Kazakhstan 2 - Joint Institute for Nuclear Research, Russian Federation
RRFM2020-A0045	Primary Loop Pump Transient Simulation of Second Egyptian Research Reactor	Elkhatib, H. (1); Alyan, A. (1); Abdelrahman, A. (1); Eldegwy, A. (2); Aly, W. (3) 1 - Egyptian Atomic Energy Authority, Egypt 2 - Cairo University, Egypt 3 - Helwan University, Egypt
RRFM2020-A0046	Current Status on The Development of Fission Mo LEU Target Using Atomized U-Al Alloy Powder.	Jeong, Y. J. (1); Kim, K. N. (1); Kim, S. (1); Lee, K. H. (1); Park, J. M. (1) 1 - KAERI, Korea, Republic of
RRFM2020-A0051	Environmental impact assessment of Ar41 released by normal operation of Triga-Mark reactor. of the submitted Moroccan inputs to the IAEA Nuclear Information System related to research reactor and waste management	Qassoud, D. (1) 1 - cnesten, Morocco
RRFM2020-A0053	Advanced spectrometry solutions for D&D towards clearance and characterization	Rotty, M. (1) 1 - Mirion Technologies (Canberra) Inc, Belgium
RRFM2020-A0060	Tungsten PVD Coatings as Diffusion Barrier for Monolithic U-Mo Fuel Foils	Schwarz, C. (1); Matuschik, S. (1); Shi, J. (1); Steyer, C. (1); Baumeister, B. (1); Petry, W. (1) 1 - Forschungs-Neutronenquelle Heinz Maier-Leibnitz (FRM II), Technische Universität München, Germany
RRFM2020-A0064	Parametrical study for the coupling of a Silicon Carbide (SiC) detector and a calorimeter to measure simultaneously neutron flux and radiation absorbed dose rate in research reactors.	Valero, V. (1); Ottaviani, L. (1); Lyoussi, A. (2); Carette, M. (1); Brun, J. (1); Reynard-Carette, C. (1) 1 - Aix Marseille Univ, Université de Toulon, CNRS, IM2NP, Marseille, France, France 2 - CEA, DEN, DER, Instrumentation Sensors and Dosimetry Laboratory, Cadarache, F-13108, Saint Paul-lez-Durance, France, France
RRFM2020-A0065	Modelling of U3Si2-Al dispersion fuel plates	Ye, B. (1); Hofman, G. (1); Yacout, A. (1) 1 - Argonne national laboratory, United States

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RRFM2020-A0075	Criticality search of an Accelerator Driven System using the ANET code	Xenofontos, T. (1); Savva, P. (1); Varvayanni, M. (1); Maillard, J. (1); Silva, J. (1); Catsaros, N. (1) 1 - Institute of Nuclear and Radiological Sciences & Technology, Energy & Safety, NCSR 'Demokritos', Greece
RRFM2020-A0080	Plans for Development of New Systemic and Comprehensive Ageing Management Program for HANARO	Kim, H. (1) 1 - Korea Atomic Energy Research Institute, Korea, Republic of
RRFM2020-A0084	The MOBIL-APP program: a new international mobility program in the field of nuclear instrumentation for research reactors	Reynard-Carette, C. (1) 1 - Aix Marseille Univ, Université de Toulon, CNRS, IM2NP, Marseille, France, France
RRFM2020-A0086	Innovation in Waste Management	Talbi, A. (1); Chabeuf, J. M. (2) 1 - Orano, France 2 - Orano DS, France
RRFM2020-A0093	Microstructural characterization of an EMPIRE fresh monolithic mini-plate with Zr-PVD coating	Iltis, X. (1); Drouan, D. (1); Blay, T. (1); Zacharie-Aubrun, I. (1); Sabathier-Devals, C. (1); Onofri-Marroncle, C. (1); Palancher, H. (1); Hervieu, E. (1); Baumeister, B. (2); Steyer, C. (2); Petry, W. (2); Stepnik, B. (3); Allenou, J. (3) 1 - CEA, DEN, DEC, Cadarache, 13108 Saint Paul Lez Durance, France 2 - FRM II, Technische Universität München, Lichtenbergstr. 1, 85747 Garching, Germany 3 - FRAMATOME CERCA, SPL, ZI Les Bérauds, 54 Av. de la Déportation, BP 114, 26104 Romans-sur-Isère, France
RRFM2020-A0095	COMPREHENSIVE NEUTRON FLUX AND SAFETY CRITICAL RADIATION MONITORING FOR TEST, RESEARCH AND TRAINING REACTORS	Gueldner, I. (1); Liebhart, E. (1) 1 - Mirion Technologies (MGPI H&B) GmbH, Germany
RRFM2020-A0101	Indonesia Experimental Power Reactor (RDE) Design Project	Sunaryo, G. R. (1); Wisnubroto, D. S. (1); Bakhri, S. (1); Setiadipura, T. (1); Subekti, M. (1); Deswandri, D. (1) 1 - Batan, Indonesia
RRFM2020-A0104	Evaluation of the Safety Systems of Tehran Research Reactor Fuel Test Loop during Loss of Flow Accident	Safaei Arshi, S. (1); Amin Mozafari, M. (1); Abedi, E. (1); Mirvakili, S. M. (1) 1 - Nuclear Science and Technology Research Institute (NSTRI), Tehran 143995-1113, Iran, Iran, Islamic Republic of
RRFM2020-A0105	Inspection, Repair and Test of Pool Steel Lining in Tehran Research Reactor in the Framework of Aging Management Program	Mirvakili, S. M. (1); Kardan, M. R. (1); Rokrok, B. (1); Ezati, A. (1) 1 - Nuclear Science and Technology Research Institute (NSTRI), Tehran 143995-1113, Iran, Iran, Islamic Republic of

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RRFM2020-A0106	Assessment of safety aspects of performing fuel irradiation experiments in TRR core	Safaei Arshi, S. (1); Mirvakili, S. M. (1); Khalafi, H. (1) 1 - Nuclear Science and Technology Research Institute (NSTRI), Tehran 143995-1113, Iran, Islamic Republic of
RRFM2020-A0109	VALIDATION OF THE HYDRAULIC MODELS OF MOLYBDENUM IRRADIATION RIGS	Nasso, M. (1); Doval, A. (1); Alberto, P. (1) 1 - INVAP SE, Argentina
RRFM2020-A0111	Comparison of NAA methods at Triga Mark II Research Reactor of CNESTEN (Morocco) using soil and plant samples.	Bounouira, H. (1); Chahidi, H. (2); Embarch, K. (1); Amsil, H. (1); Aarab, I. (1); Bounakhla, M. (1); Laraki, K. (1); Marah, H. (1); Choukri, A. (2) 1 - Centre National de l'Energie, des Sciences et Techniques Nucléaires (CNESTEN), Maroc. , Morocco 2 - Département de Physique, Faculté des Sciences, Université Ibn Tofail, Morocco
RRFM2020-A0115	Analysis of the experimental characterization of the neutron flux in the TRIGA RC-1 reactor.	Carta, M. (1); Falconi, L. (1); Fabrizio, V. (1); Grossi, A. (1); Palomba, M. (1); Chiesa, D. (2); Nastasi, M. (2); Tacconi, M. (2); Previtali, E. (2); Rancoita, P. (3) 1 - ENEA C.R. CASACCIA - S.P.040 via Anguillarese 301, 00123 S. Maria di Galeria (Roma) Italy, Italy 2 - Dipartimento di Fisica, Università degli Studi di Milano - Bicocca, Milano I-20126 - Italy, Italy 3 - INFN - Sezione di Milano Bicocca, Milano I-20126 - Italy, Italy
RRFM2020-A0122	Proliferation Resistance Optimized Core (Pro-Core)	Landers, C. (1); Dix, J. (1); Waud, B. (1); Dickerson, J. (1); Soule, M. (1); Stevens, J. (2); Morman, J. (2); Iyer, N. (3); Hanlon, T. (4) 1 - U.S. Department of Energy, United States 2 - Argonne National Laboratory, United States 3 - Savannah River National Laboratory, United States 4 - International Atomic Energy Agency, Austria
RRFM2020-A0125	Modification impact of nuclear fuel swelling correlation on mechanical behavior of dispersion fuel in high burnups	Roustaei, B. (1); Khakshournia, S. (1); Kazeminejad, H. (1) 1 - NSTRI (Nuclear Science and Technology Research Institute), Iran, Islamic Republic of
RRFM2020-A0126	First LEU Fuel Coupons Manufacturing for KUCA Dry Cores Conversion	Allenou, J. (1); Stepnik, B. (1); Coullomb, C. (1); Rontard, C. (1); Unesaki, H. (2); Misawa, T. (2); Morman, J. (3); Stevens, J. (3) 1 - Framatome - CERCA, France 2 - KURNS, Japan

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		3 - ANL, United States
RRFM2020-A0127	Modeling of the UMo dispersed fuel plate hot rolling manufacturing process	Allenou, J. (1); Bourdat, G. (1); Stepnik, B. (1); Pigeat, X. (1); Querez, V. (1); Gaillac, A. (1) 1 - Framatome - CERCA, France
RRFM2020-A0128	3D printing initiative in Framatome-CERCA - Work in progress	Stepnik, B. (1); Liboutet, E. (1); Rontard, C. (1) 1 - Framatome, France

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