



# Programme

24 – 28 March 2019

Crowne Plaza Dead Sea Resort, Jordan



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## Sunday 24 March 2019

**17:00 - 19:00 Pre-registration**

**18:30 - 19:30 Welcome Reception**

## Monday 25 March 2019

### **Mo 9.00 - 11.00 Opening Plenary Session**

Chair: S. van Dyck, SCK-CEN, Belgium; G. Bignan, CEA, France

#### **Host Country introduction and presentation**

#### **IAEA activities in support of Research Reactors**

C. Xerri, IAEA

#### **Multinational NEA Joint Project on Nuclear Fuel and Material Qualification Testing**

D. Iracane, OECD/NEA

#### **Update from DoE**

C. Landers, U.S. Dept Energy

#### **Completion of the JRTR project and strengthening Technical cooperation for safe operation and high Utilization between JAEC and KAERI**

S. Wu, KAERI

#### **TechnicAtome at a glance, Welcome Address**

Benoit Desforges

### **Mo 11.00 - 11.40 Welcome break**

**Sponsored by TechnicAtome**





## Mo 11.40 – 13.20 Parallel session: Research reactor fuel cycle I

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

RRFMIGORR2019-A0207	CERCA™ Building the future: in fabrication facility upgrade for long term security of supply	Yann, G. (1) 1 - Framatome-CERCA, France
RRFMIGORR2019-A0045	FUEL ASSEMBLY DESIGN FOR AN IRRADIATION IN AN EUROPEAN MEDIUM POWER RESEARCH REACTOR	Boyard, M. (1); Huet, F. (1); Paturet, C. (1); Romanello, V. (2); Dambrosio, A. (2); Hreror, M. (2); Vidovszky, I. (3); Ferenc, G. (3); Gajewski, J. (4); Migdal, M. (4) 1 - TechnicAtome, France 2 - CVŘ, Czech Republic 3 - MTA EK, Hungary 4 - NCBJ, Poland
RRFMIGORR2019-A0078	MC type LEU fuel sipping test campaign in MARIA research reactor.	Migdal, M. (1) 1 - National Centre for Nuclear Research, Poland
RRFMIGORR2019-A0098	Overview of Aluminum Cladding Oxide Prediction Models for European High Power Research Reactors	Kim, Y. S. (1); Chae, H. T. (2); Yacout, A. (1); Van den Berghe, S. (3); Leenaers, A. (3); Kuzminov, V. (3) 1 - ANL, United States 2 - KAERI, Korea, Republic of 3 - SCK-CEN, United States
RRFMIGORR2019-A0009	The Effect of the Interaction Layer (IL) Thermal Conductivity Uncertainty on the Performance of U-Mo/Al Dispersion Research Reactor Fuel	Sweidan, F. (1); Mistarihi, Q. (1); Ryu, H. J. (1) 1 - Department of Nuclear and Quantum Engineering, Korea Advanced Institute of Science and Technology (KAIST), Korea, Republic of

## Mo 11.40 – 13.20 Parallel session: Utilisation of research reactors I

Chair: F. Marshall, IAEA

RRFMIGORR2019-A0001	Trace Elements Monitoring from Tree-Bark samples using Neutron Activation Analysis	Bouhila, Z. (1); Azli, T. (1); Boukhadra, D. (1); Hadri, A. (1); Mazouzi, C. (2); Nedjar, A. (1); Lounici, H. (2) 1 - Nuclear Research Center of Draria in Algiers (CRND)/Atomic Energy Commission of Algeria(COMENA), Algeria 2 - University of Bouira, Algeria, Algeria
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RRFMIGORR2019 -A0013	INSNU Project. Fuel Irradiation Devices.of sealed passages with optical fibers support of the development of innovative instrumentation.	Gaillot, S. (1); Cheymol, G. (1); Brinster, J. (1); Destouches, C. (1) 1 - CEA- French Alternative Energies & Atomic Energy Commission, France
RRFMIGORR2019 -A0018	Irradiation of Holmium Poli(L-Lactic Acid) Microspheres in the MARIA Reactor	Prokopowicz, R. (1); Pytel, K. (1); Jaroszewicz, J. (1); Tarchalski, M. (1); Gryzinski, M. (1); Dorosz, M. (1); Madejowski, G. (1); Zagubien, I. (1); Keler, R. (1); Zawadka, A. (1); Sigger, J. (2); Koelewijn, S. (2); Dijk, M. (2); Duivenvoorde, N. (2); Nijsen, F. (2) 1 - National Centre for Nuclear Research, Otwock-Świerk, Poland 2 - Quirem Medical BV, Deventer, Netherlands
RRFMIGORR2019 -A0035	Utilisation of the OPAL Research Reactor	Fraihat, R. (1); Vittorio, D. (1) 1 - Australian Nuclear Science and Technology Organisation (ANSTO), Australia
RRFMIGORR2019 -A0043	EFFECTIVE UTILIZATION OF THE WWR-SM RESEARCH REACTOR, UZBEKISTAN	Baytelesov, S. (1); Kungurov, F. (1); Yuldashev, B. (1) 1 - Institute of Nuclear Physics, Uzbekistan

## Mo 11.40 – 13.20 Parallel session: Innovative methods in reactor physics and thermo-hydraulics I

Chair: A. Hawari, North Carolina State University, United States

RRFMIGORR2019 -A0003	Comparative Study for Loss of Flow Accident (LOFA) at Research Reactor-1 (PARR-1) with High Density and Density Low Enriched Uranium Dispersion Fuel (U3Si2-Al)	Iqbal, M. (1); Muhammad, A. (1); Mahmood, T. (1) 1 - PINSTECH, Pakistan
RRFMIGORR2019 -A0038	OPAL Multicycle core benchmark using TRIPOLI4.10® and COCONEUT2.0	Decroocq, M. (1); Bouret, C. (1); Couybes, J. (1); Privas, E. (1); Gavaille, N. (1); Koubbi, J. (1); Manificier, L. (1); Braoudakis, G. (2) 1 - TechnicAtome, France 2 - ANSTO, Australia
RRFMIGORR2019 -A0048	Benchmarking of the MTR fuel simulation codes DART and MAIA	Valance, S. (1); Ye, B. (2); Monnier, A. (1); Palancher, H. (1); Yacout, A. (2) 1 - CEA centre de Cadarache, France 2 - Argonne National Laboratory, United States



RRFMIGORR2019 -A0075	Thermal hydraulic analysis of a loss of flow accident in a research reactor in respect of probabilistic safety analyses	Koppers, V. (1); Utschick, M. (1); Mayer, G. (1) 1 - Gesellschaft für Anlagen- und Reaktorsicherheit (GRS) gGmbH, Germany
RRFMIGORR2019 -A0085	Steady-state thermal-hydraulic analysis of the Jordan Research and Training Reactor by using PARET/ANL and TMAP codes	Altamimi, R. (1); Albate, M. (1) 1 - Jordan Atomic Energy Commission, Jordan

### Mo 13.20 – 14.20 Lunch break

### Mo 14.20 – 16.00 Parallel session: Research reactor fuel cycle II

Chair: B. Stepnik, Framatome, France

RRFMIGORR2019 -A0092	Production of monolithic fuel plates with Molybdenum barrier coating	Steyer, C. (1); Baumeister, B. (1); Schwarz, C. (1); Rehms, N. (1); Petry, W. (1); Stepnik, B. (2); Allenou, J. (2) 1 - Forschungs-Neutronenquelle Heinz Maier-Leibnitz (FRM II), Germany 2 - Framatome (CERCA Division), France
RRFMIGORR2019 -A0110	A transmission electron microscopy study of low burnup UMo samples	Salvato, D. (1); Leenaers, A. (1); Van Renterghem, W. (1); Van den Berghe, S. (1); Detavernier, C. (2) 1 - SCK•CEN, Belgium 2 - Ghent University, Belgium
RRFMIGORR2019 -A0111	Effect of ion irradiation on aluminium hydroxide on an Al-Mg-Si alloy	L'Haridon-Quaireau, S. (1); Colas, K. (1); Kapusta, B. (1); Delpech, S. (2); Verhaeghe, B. (1); Cloute-Cazalaaa, V. (1); Gutierrez, G. (3); Loyer-Prost, M. (3); Gosset, D. (4) 1 - DEN-Service d'Études des Matériaux Irradiés, CEA, France 2 - IPNO, Paris Sud University, Paris, France 3 - DEN-Service de Recherches de Métallurgie Physique, CEA, France 4 - DEN- Service de Recherches Métallurgies Appliquées, CEA, France
RRFMIGORR2019 -A0135	European MiniPlate Irradiation Experiment (EMPIrE) in the Advanced Test Reactor (ATR)	Glagolenko, I. (1); Housley, G. (1); Robinson, A. (1); Bybee, M. (1); Hammond, M. (1); Nielsen, J. (1); Crawford, D. (1); Wiest, J. (1); Jacobson, J. (1) 1 - Idaho National Laboratory, United States



RRFMIGORR2019 -A0164	Microstructure evolution and phase transformation of heavy-ion irradiated U-Mo/Al fuels up to 275°C	Shi, J. (1); Breitzkreutz, H. (1); Petry, W. (1); Onofri, C. (2); Palancher, H. (2) 1 - Forschungs-Neutronenquelle Heinz Maier-Leibnitz (FRM II), Technical University of Munich, Germany 2 - CEA Cadarache, France
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### Mo 14.20 – 16.00 Parallel session: Utilisation of research reactors II

Chair: C. Heysel, McMaster University, Canada

RRFMIGORR2019 -A0051	Analysis of the low power neutronic commissioning tests in the CABRI reactor	Hudelot, J.-P. (1); Garnier, Y. (1); Duc, B. (1); Biard, B. (1); Lecerf, J. (1); Fougeras, P. (1); Clamens, O. (1); Maillot, M. (1); Pantera, L. (1) 1 - CEA Cadarache, France
RRFMIGORR2019 -A0056	Reactor Utilization and Key Upgrades at Oak Ridge National Laboratory's High Flux Isotope Reactor (HFIR)	Bryan, C. (1) 1 - Oak Ridge National Laboratory, United States
RRFMIGORR2019 -A0103	Irradiation Testing at HANARO after Reoperation due to Safety Reinforcement Project	Choo, K.-N. (1); Cho, M.-S. (1); Yang, S.-W. (1); Shin, Y.-T. (1); Park, S.-J. (1); Kim, M.-S. (1) 1 - Korea Atomic Energy Research Institute, Korea, Republic of
RRFMIGORR2019 -A0116	PRODUCTION OF ULTRACOLD NEUTRONS AT THE RESEARCH REACTOR TRIGA MAINZ	Eberhardt, K. (1); Geppert, C. (1); Gorges, C. (1); Karpuk, S. (1); Riemer, J. (1); Ries, D. (1); Ross, K. (1) 1 - Institut für Kernchemie, Johannes Gutenberg-Universität Mainz, Germany
RRFMIGORR2019 -A0118	IS THERE A LIMIT FOR LEU MO PLATE IRRADIATION IN DOWNWARD FLOW?	Doval, A. (1); Sardella, F. (1); Guirado, I. (2); Lupiano, J. (1) 1 - INVAP SE, Argentina 2 - Instituto Balseiro, Universidad de Cuyo, Argentina

### Mo 14.20 – 16.00 Parallel session: Innovative methods in reactor physics and thermo-hydraulics II

Chair: A. Leenaers, SCK-CEN, Belgium

RRFMIGORR2019 -A0020	FULL-CORE BURN-UP CALCULATIONS USING MCNP6 CODE FOR THE JORDAN RESEARCH AND TRAINING REACTOR	Farouki, I. (1) 1 - Jordan Research and Training Reactor – Jordan Atomic Energy Commission, Jordan
RRFMIGORR2019 -A0096	Comparison of SLOWPOKE-2 Burnup Simulations against Reactor Period Measurements	Atfield, J. (1); Jewett, C. (1) 1 - Canadian Nuclear Laboratories, Canada



RRFMIGORR2019 -A0099	The impact of Fuel Shuffling strategy on the Neutronic Parameters of the Material Test Research Reactor Core	Abdalaziz , R. O. (1) 1 - Sudan Atomic Energy Commission, Sudan
RRFMIGORR2019 -A0100	Determination of NUR research reactor fuel burnup using SCALE code system	Sellaoui, N. (1); Zidi, T. (2); Belgaid, M. (3); Zergoug, T. (1) 1 - Centre de Recherche Nucléaire de Draria, Algeria 2 - Commissariat à l'énergie atomique, Algeria 3 - University of Sciences and Technology, Houari Boumediene, Algeria
RRFMIGORR2019 -A0224	A model system for transient scenarios for FRM II	Reiter, C. (1); Breitzkreutz, H. (1); Röhrmoser, A. (1); Petry, W. (1) 1 - Technische Universität München/FRM II, Germany

**Mo 16.00 – 16.30 Coffee break**

**Mo 16.30 – 18.10 Parallel session: Research reactor fuel cycle III**

Chair: JF Valery, ORANO, France

RRFMIGORR2019 -A0165	The SEMPER FIDELIS experiment	Leenaers, A. (1); Van Eyken, J. (1); Van den Berghe, S. (1) 1 - SCK•CEN, Belgium
RRFMIGORR2019 -A0203	Progress on Testing and Qualification of U-Mo Monolithic Fuel for High Performance Research Reactors	Cole, J. (1); Glagolenko, I. (1); Beeler, B. (1); Jones, W. (1); Jue, J.-F. (1); Housley, G. (1); Keiser, D. (1); Marshall, M. (1); Moore, G. (1); Ozaltun, H. (1); Robinson, A. (1); Smith, J. (1); Schulthess, J. (1) 1 - Idaho National Laboratory, United States
RRFMIGORR2019 -A0208	High density fuel plate developments in LEU FOREVER Project	Stepnik, B. (1); Allenou, J. (1); Rontard, C. (1); Schwarz, C. (2); Steyer, C. (2); Baumeister, B. (2); Petry, W. (2); Van den berghe, S. (3); Leenaers, A. (3); Valence, S. (4); Palancher, H. (4); Hervieu, E. (4); Calzavara, Y. (5); Guyon, H. (5) 1 - Framatome-CERCA, France 2 - TUM-FRM2, Germany 3 - SCK-CEN, Belgium 4 - CEA, France 5 - ILL, France





RRFMIGORR2019 -A0209	3D printing initiative in Framatome-CERCA™	Stepnik, B. (1); Liboutet, E. (1); Rontard, C. (1); Guinard, Y. (1) 1 - Framatome-CERCA, France
RRFMIGORR2019 -A0215	Current status of the SM-3 reactor core modernization	Tuzov, A. (1); Izhutov, A. (1); Petelin, A. (1); Divnogorskii, A. (1) 1 - JSC "SSC RIAR", Russian Federation

### Mo 16.30 – 18.10 Parallel session: Utilisation of research reactors III

Chair: H. Gerstenberg, TU Munich, Germany

RRFMIGORR2019 -A0131	The world's largest proficiency testing exercise for neutron activation analysis laboratories by interlaboratory comparison	Pessoa Barradas, N. (1); Migliori, A. (1); Katukhov, A. (1); Bode, P. (2) 1 - International Atomic Energy Agency, Austria 2 - NUQAM Consultancy, Netherlands
RRFMIGORR2019 -A0133	Utilization of BAEC TRIGA Research Reactor in the field of Nuclear programs and Human resource development in Bangladesh	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 - Center for Research Reactor (CRR), Atomic Energy Research Establishment (AERE), BAEC, Bangladesh 2 - Bangladesh Atomic Energy Commission (BAEC), Bangladesh
RRFMIGORR2019 -A0137	PRODUCTION OF RADIOISOTOPES AT THE JULES HOROWITZ REACTOR	Coulon, J.-P. (1); Antony, M. (1); Chapuis, C. (1) 1 - CEA, DEN, Cadarache, France
RRFMIGORR2019 -A0138	Neutron activation measurements and calculations in support of detector testing experiments at the JSI TRIGA reactor	Radulović, V. (1); Ambrožič, K. (1); Goričanec, T. (1); Kos, B. (1); Rupnik, S. (1); Jazbec, A. (1); Snoj, L. (1) 1 - Jožef Stefan Institute, Slovenia
RRFMIGORR2019 -A0139	Networking multinational fuel and materials testing capacities for science, safety and industry: The SLOWTRANS Joint Project Proposal in the frame of the OECD/NEA	Parrat, D. (1); Miklos, M. (2); Boer, B. (3); Ambard, A. (4); Ton-That, M. (5); Bignan, G. (1) 1 - Commissariat à l'Énergie Atomique et aux Énergies Alternatives, Nuclear Energy Division, CEA Cadarache, France 2 - Centrum vyzkumu Rez s.r.o., CVR, Rez, Czech Republic 3 - Studiecentrum voor Kernenergie, SCK•CEN, Mol, Belgium 4 - Electricité de France, Research and Development, Department MMC, EDF Lab Les Renardières, France 5 - Electricité de France, Direction Technique, Lyon, France
RRFMIGORR2019 -A0181	RECENT PROGRESS IN ADVANCED MATERIALS AND INSTRUMENTATION IRRADIATION TESTS AT THE MIT RESEARCH REACTOR	Hu, L.-W. (1); Kohse, G. (1); Carpenter, D. (1) 1 - MIT Nuclear Reactor Laboratory, United States



## Mo 16.30 – 18.10 Parallel session: Innovative methods in reactor physics and thermo-hydraulics III

Chair: F. Marshall, IAEA

RRFMIGORR2019 -A0122	Exact geometrical implementation of involute shaped surfaces in Serpent 2	Faust, K. (1); Breitzkreutz, H. (1); Reiter, C. (1); Petry, W. (1) 1 - Forschungs-Neutronenquelle Heinz Maier-Leibnitz (FRM II), Germany
RRFMIGORR2019 -A0132	Calculation of complete burnup history of the JSI TRIGA Mark II with SERPENT and TRIGLAV	Pungerčič, A. (1); Čalič, D. (1); Snoj, L. (1) 1 - Jozef Stefan Institute, Reactor Physics Department, Slovenia
RRFMIGORR2019 -A0142	On how a Best Estimate Plus Uncertainty analysis can improve the design of a Research Reactor	Lupiano Contreras, J. (1); Doval, A. S. (1); Alberto, P. A. (1) 1 - INVAP S.E., Argentina
RRFMIGORR2019 -A0144	Methodology for the design of the primary coolant circuit shielding for an open pool research reactor	Maître, A. (1); Rey, R. (1); Albornoz, F. (1) 1 - INVAP S.E., Argentina
RRFMIGORR2019 -A0152	VALIDATION OF THE CALCULATION LINE AND TRAINING OF HUMAN RESOURCES, MAIN OUTPUTS OF INVAP PARTICIPATION IN IAEA CRP 'S	Villarino, E. (1); Albornoz, F. (1); Boschetti, F. (1); Ferrari, I. (1); Maître, A. (1); Matzkin, S. (1); Meier, H. (1) 1 - INVAP SE, Argentina

## Mo 19.30 – 22.00 Conference Dinner

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## Tuesday 26 March 2019

### **Tu 09.00 – 11.00 Parallel session: Research reactor fuel cycle IV**

Chair: I. Morlaes, ORANO, France

	Bimetallic and ceramic fuel compositions of research reactors and critical stands	Solntsev, V. (1); 1 - "Luch" Research Institute, Rosatom State Corporation
RRFMIGORR2019 -A0032	RESULTS OF COMMISSIONING TESTS AND FULL POWER OPERATION OF NIRR-1 LEU CORE	Jonah, S. (1) 1 - Centre for Energy Research and Training, Ahmadu Bello University, Zaria, Nigeria, Nigeria
RRFMIGORR2019 -A0157	US High Performance Research Reactor Preliminary Design Milestone for Conversion to Low Enriched Uranium Fuel	Wilson, E. (1); Jaluvka, D. (1); Hebden, A. (1); Stillman, J. (1); Jamison, L. (1) 1 - Argonne National Laboratory, United States
RRFMIGORR2019 -A0180	PROGRESS UPDATE ON THE MIT RESEARCH REACTOR (MITR) CONVERSION FROM HIGHLY ENRICHED URANIUM TO LOW ENRICHED URANIUM FUEL	Hu, L.-W. (1); Sun, K. (1); Dave, A. (1); Wilson, E. (2); Jaluvka, D. (2); Pham, S. H. (2) 1 - 2 - Argonne National Laboratory, United States
RRFMIGORR2019 -A0093	HEU Converter Characterization Study	Di Gasbarro, F. (1); Proietti, A. (1); Bianchilli, B. (2); Egidio, M. (2); Gorello, E. (2) 1 - Sogin S.p.A., Italy 2 - Nucleco S.p.A., Italy
RRFMIGORR2019 -A0107	OPAL SPENT FUEL MANAGEMENT: STATUS IN 2018	Finlay, R. (1); Healy, M. (1); Naidoo-Ameglio, P. (1); Valery, J.-F. (2); Halle, L. (2) 1 - Australian Nuclear Science and Technology Organisation (ANSTO), Australia 2 - ORANO, France

### **Tu 09.00 – 11.00 Parallel session: Operation & maintenance and ageing management I**

Chair: J. Estrade, Institut Laue Langevin, France

RRFMIGORR2019 -A0010	SAFARI-1 RESEARCH REACTOR AGEING MANAGEMENT AND IMPLEMENTATION UPDATE	Malaka, S. (1); Du Bruyn, K. (1) 1 - NECSA-SAFARI-1 RESEARCH REACTOR, South Africa
RRFMIGORR2019 -A0017	HARDLINE: HARDWIRED SAFETY I&C TECHNOLOGY FOR RESEARCH REACTORS	Duthou, A. (1); Boue, A. (1) 1 - Roll-Royce Civil Nuclear, France
RRFMIGORR2019 -A0024	Continued Safe Operation High Flux Reactor, Petten	Stefanini, L. (1); De Haan - de Wilde, F. H. E. (1); Offerein, J. (1) 1 - NRG, Netherlands



RRFMIGORR2019 -A0039	Lessons learned from maintaining instrumentation and control (I&C) systems of Jordan Research and Training Reactor (JRTR)	Suh, Y. S. (1); Baang, D. (1); Shin, S. K. (1); Lee, J. B. (1); Suh, S. M. (1) 1 - Korea Atomic Energy Research Institute, Korea, Republic of
RRFMIGORR2019 -A0071	Long Term Operation and Age Management of the Advanced Test Reactor	O'Kelly, S. (1); Rowsell, D. (1); Vogel, H. (1) 1 - Idaho National Laboratory, United States
RRFMIGORR2019 -A0090	The influence of the thermomechanical process on the behavior of 6xxx aluminum alloys under ion irradiation	Garric, V. (1); Colas, K. (1); Donnadieu, P. (2); Kapusta, B. (1) 1 - DEN-Service d'Etudes des Matériaux Irradiés, CEA, France 2 - Univ. Grenoble Alpes, France

## Tu 09.00 – 11.00 Parallel session: Utilisation of research reactors IV

Chair: D. Ridikas, IAEA

RRFMIGORR2019 -A0143	DESIGN OF NEUTRON FLUX FLATTENERS FOR NTD FACILITIES	Ferrari, I. (1); Hergenreder, D. (1); Camusso, P. (1) 1 - INVAP SE, Argentina
RRFMIGORR2019 -A0145	The COLIBRI experimental programme in the CROCUS reactor: development and licensing of a fuel rods oscillator	Lamirand, V. (1); Frajtag, P. (1); Godat, D. (1); Hursin, M. (1); Perret, G. (2); Pakari, O. (1); Laureau, A. (1); Rais, A. (1); Fiorina, C. (1); Pautz, A. (1) 1 - Laboratory for Reactor Physics and Systems behaviour (LRS), Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland 2 - Laboratory for Reactor Physics and Thermal Hydraulics (LRT), Paul Scherrer Institut (PSI), Switzerland
RRFMIGORR2019 -A0154	MEDICALLY ORIENTED MARIA REACTOR AND MARIA AS A MTR LIKE REACTOR – RADIOBIOLOGY, NEUTRON METROLOGY, RADIONUCLIDES CARRIERS, NEW TECHNOLOGIES FOR MEDICINE	Gryzinski, M. (1) 1 - National Centre for Nuclear Research, Poland
RRFMIGORR2019 -A0158	A new approach in molybdenum separation	Chemnitz, T. (1); Stene, R. (1); Petry, W. (1); Kraus, F. (2) 1 - Forschungs-Neutronenquelle Heinz Maier Leibnitz (FRM II), Germany 2 - Philipps-Universität Marburg, Germany
RRFMIGORR2019 -A0172	RADIOISOTOPES PRODUCTION AT JORDAN RESEARCH & TRAINING REACTOR	El Habashneh, I. (1); Khawaj, A. (1); Almomani, H. (1); Alhmad, N. (1); Elkhairy, M. (1); Alawad, S. (1) 1 - JORDAN ATOMIC ENERGY COMMISSION, Jordan



**Tu 11.00 – 11.30 Coffee break**

**Tu 11.30 – 13.10 Parallel session: Research reactor fuel cycle V**

Chair: E. Wilson, ANSTO, Australia

RRFMIGORR2019 -A0149	First shipment of isotopic generators from France to the US: the TN@MTR solution coupled with CEA's MANON package	Baumet, N. (1); Gammella, N. (1); Jacot, P. (2); De Araujo, L. (2); Vo van, V. (3) 1 - CEA, France 2 - Orano TN, France 3 - Orano Cycle, France
RRFMIGORR2019 -A0150	Research Reactor Back-End Operations: Growing needs and available services	Vo van, V. (1); Talbi, A. (1); Valery, J.-F. (1); Chabeuf, J.-M. (2); Jacot, P. (3); Le Blevenec, R. (3) 1 - Orano Cycle, France 2 - Orano DS, France 3 - Orano TN, France
RRFMIGORR2019 -A0173	Evacuation and reprocessing of non-standard fuel elements from the BR2 reactor	Smets, J. (1); Valery, J.-F. (2); Hallé, L. (2); Van Dyck, S. (1) 1 - Sck Cen, Belgium 2 - ORANO group, France
RRFMIGORR2019 -A0185	IAEA CRP on Research Reactor Spent Fuel Management: Options and Support to Decision Making	Marshall, F. (1) 1 - International Atomic Energy Agency, Austria
RRFMIGORR2019 -A0226	GNS CASTOR® CASKS FOR SPENT FUEL FROM RESEARCH REACTORS	Romanowski, D. (1) 1 - GNS Gesellschaft für Nuklear-Service mbH, Germany

**Tu 11.30 – 13.10 Parallel session: Operation & maintenance and ageing management II**

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

RRFMIGORR2019 -A0105	Optimising Asset Maintenance Strategies for OPAL Reactor using Plant Condition Monitoring Data	Eeson, L. (1) 1 - ANSTO, Australia
RRFMIGORR2019 -A0167	Extending the Life Expectancy of SLOWPOKE-2 Reactor of Polytechnique Montréal	Chilian, C. (1) 1 - Polytechnique Montréal, Canada
RRFMIGORR2019 -A0186	COMPREHENSIVE NEUTRON FLUX AND SAFETY CRITICAL RADIATION MONITORING FOR TEST, RESEARCH AND TRAINING REACTORS	Liebhart, E. (1); Gueldner, I. (1) 1 - Mirion Technologies (MGPI H&B) GmbH, Germany



RRFMIGORR2019 -A0188	Dose Assessment for Faulty Fuel Assembly by Sipping Test at the JRTR	Farouki, I. (1); Alkhatib, S. (1); Khalefih, H. (1); Alghawi, O. (1) 1 - Jordan Research and Training Reactor (JRTR)-Jordan Atomic Energy Commission (JAEC), Jordan
RRFMIGORR2019 -A0197	INSTRUMENTATION AND CONTROL AT JORDAN RESEARCH & TRAINING REACTOR	Al-Theeb, R. (1) 1 - JORDAN RESEARCH & TRAINING REACTOR, Jordan

## Tu 11.30 – 13.10 Parallel session: Innovative methods in reactor physics and thermo-hydraulics IV

Chair: N. Pessoa Barradas, IAEA

RRFMIGORR2019 -A0195	IRR1 benchmark in the IAEA CRP T19029: measurements vs. calculations	Neder, I. (1); Krakovich, A. (1); Aviv, O. (1); Nir, H. (1) 1 - Soreq Nuclear Research Center, Israel
RRFMIGORR2019 -A0212	Subcritical Boron Experiments in the IPEN/MB-01 Reactor	Dos Santos, A. (1); Souza, G. (1) 1 - IPEN-CNEN/SP, Brazil
RRFMIGORR2019 -A0214	PERFORMANCE CAPABILITIES OF THE MIR.M1 REACTOR FOR DEMONSTRATING TECHNICAL FEASIBILITY OF ENHANCED ACCIDENT TOLERANT FUEL	Tuzov, A. A. (1); Izhutov, A. L. (1); Petelin, A. L. (1); Burukin, A. V. (1); Ovchinnikov, V. A. (1) 1 - JSC "SSC RIAR", Russian Federation
RRFMIGORR2019 -A0086	Verification and Validation of OSCAR-5 Core Analysis for the SAFARI-1 Reactor	Bedhesi, L. (1); Jacobs, C. (1); Van Heerden, F. (1); Prinsloo, R. (1); Groenewald, S. (1) 1 - South African Nuclear Energy Corporation, South Africa
RRFMIGORR2019 -A0026	Benchmark Study of OPAL Research Reactor using MCNP Codes	Mohamed, N. (1); Abdelrazek, I. (2); Badawi, A. (3) 1 - Atomic Reactors Department, Atomic Energy Authority, Egypt 2 - Atomic Energy Authority, ETRR-2, Egypt 3 - Department of Nuclear and Radiation Engineering, Alexandria University, Egypt

**Tu 13.10 – 14.00 Lunch break**

**Tu 14.00 – 15.00 Plenary session: Poster session**



## Tu 15.00 – 16.00 Parallel session: Research reactor security

Chair: C. Heysel, McMaster University, Canada

	International Atomic Energy Agency Safeguards Issues in Research Reactors and Critical Assemblies	Boyer, B.D.(1); Poirier, S. (1); Whitlock, J. (1); 1- International Atomic Energy Agency
RRFMIGORR2019 -A0007	BETWEEN NUCLEAR SAFETY SYSTEMS AND SECURITY SYSTEM USING LEU	Elsayed, H. (1) 1 - Egyptian Atomic Energy Authority, Egypt
RRFMIGORR2019 -A0153	RFID-Based Tracking System for Nuclear Materials Management	Zahran, E. (1); Arafa, A. (1); Saleh, H. (1); Dessouky, M. (2) 1 - Radiation Engineering Department, National Center for Radiation Research and Technology, Atomic Energy Authority, Egypt 2 - Electrical Communications department, Faculty of Electronic Engineering, Menoufia University, Egypt

## Tu 15.00 – 16.00 Parallel session: New research reactor projects I

Chair: N. De Lorenzo, INVAP, Australia

RRFMIGORR2019 -A0036	JULES HOROWITZ REACTOR (JHR): MANUFACTURE OF THE REACTOR PILE- BLOCK	Duquesnoy, F. (1); Parraud, P. (2) 1 - CEA, France 2 - TechnicAtome, France
RRFMIGORR2019 -A0065	JULES HOROWITZ REACTOR PROJECT: PREPARATION OF THE COMMISSIONING PHASE AND NORMAL OPERATION	Marcille, O. (1); Vallee, R. (1); Bignan, G. (1); Chauvin, J. P. (1); Fardeau, A. (1); Fabre, J. L. (1); Federici, V. (1) 1 - CEA, France
RRFMIGORR2019 -A0074	Lessons Learned from Design and Construction of Pools and Pool Operation Facilities for JRTR	Ryu, J.-S. (1); Oh, J. (1); Wu, S. (1) 1 - Korea Atomic Energy Research Institute (KAERI), Korea, Republic of

## Tu 15.00 – 16.00 Parallel session: Low power research reactors, critical and subcritical assemblies

Chair: A. Douveneau, TechnicAtome, France

RRFMIGORR2019 -A0041	Feasibility study of sub-criticality measurement using MCNP6 in zero power reactor AGN-201K	Moon, S. (1); Hong, S. (1) 1 - Kyung Hee University, Korea, Republic of
RRFMIGORR2019 -A0095	Licensing of Ukraine Neutron Source Facility: Challenges and Breakthroughs	Kukhotskiy, O. (1); Shepitschak, A. (2); Dybach, O. (1); Nemtsova, S. (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



RRFMIGORR2019 -A0168	Preliminary Analysis of the critical and sub-critical configuration of the KUCA reactor with MCNP6 using JEFF3.3 nuclear dataset.	Burgio, N. (1); Fabrizio, V. (1); Gatto, R. (2); Tofani, G. M. (2); Santagata, A. (1) 1 - ENEA, Italy 2 - DIAEE, Italy
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## Tu 16.00 – 16.30 Coffee break

### Tu 16.30 – 18.10 Parallel session: Research reactor safety I

Chair: M. Summerfield, ANSTO, Australia

RRFMIGORR2019 -A0216	IAEA Activities on the Safety of Research Reactors: 2019 Update	Sears, D. (1); Shokr, A. (1) 1 - International Atomic Energy Agency, Austria
RRFMIGORR2019 -A0006	Institut Laue-Langevin – High Flux Reactor – Stress Test Response after Fukushima	Estrade, J. (1); Guyon, H. (1); Desbriere, B. (1); Durieu, J. L. (1) 1 - Institut Laue Langevin, France
RRFMIGORR2019 -A0014	Experiencing an Extreme External Event – Bushfires near ANSTO’s Lucas Heights Site, April 2018	Summerfield, M. (1); Waters, D. (1); Wilson, S. (1) 1 - Australian Nuclear Science and Technology Organisation, Australia
RRFMIGORR2019 -A0028	Licensing of Innovative Nuclear Research Facilities	Sapozhnikov, A. (1) 1 - Federal Environmental, Industrial and Nuclear Supervision Service of Russia, Russian Federation
RRFMIGORR2019 -A0040	Licensing Process of Jordan Research and Training Reactor- Lessons Learned: a regulator’s perspective	Almomani, B. (1) 1 - Energy and Mineral Regulatory Commission (EMRC), Jordan

### Tu 16.30 – 17.50 Parallel session: Utilisation of research reactors V

Chair: S. O’Kelly, Idaho National Laboratory, United States

	Irradiation Testing and Post-Irradiation Examination of Advanced Fuels and Materials at the Institute of Nuclear Materials	Varivtsev, A. (1); 1- JSC Institute of Nuclear Materials, Rosatom State Corporation, Russian Federation
RRFMIGORR2019 -A0198	Research and Education Activities at the Nuclear Reactor Program and the PULSTAR Reactor	Hawari, A. (1) 1 - Nuclear Reactor Program, Department of Nuclear Engineering, North Carolina State University, United States
RRFMIGORR2019 -A0159	Diverse Programs for Reactor Physics Education with AGN-201K	Kim, M. H. (1) 1 - Kyung Hee University, Korea, Republic of
RRFMIGORR2019 -A0037	A New IAEA Service: Integrated Research Reactor Utilization Review	Pessoa Barradas, N. (1); Borio di Tigliole, A. (1); Ridikas, D. (1); Sharma, R. (1) 1 - IAEA, Austria





## Tu 16.30 – 17.50 Parallel session: Decommissioning and dismantling of research reactors and waste management I

Chair: I. Vidovszky, Centre for Energy Research (CER), Hungary

RRFMIGORR2019 -A0025	Radioactive Waste Management by Using Cold Sintering over Ceramic Matrices	Hassan, M. U. (1); Ryu, H. J. (1) 1 - Korea Advanced Institute of Science and Technology (KAIST), Korea, Republic of
RRFMIGORR2019 -A0050	Dedicated logistic Products & Services to optimize waste management	Grandhomme, C. (1); Valery, J.-F. (2) 1 - Orano TN, France 2 - Orano , France
RRFMIGORR2019 -A0062	Safety Regulation of Decommissioning of Nuclear Research Facilities in the Russian Federation	Sapozhnikov, A. (1) 1 - Federal Environmental, Industrial and Nuclear Supervision Service of Russia, Russian Federation
RRFMIGORR2019 -A0067	OPTIMUS™ Packaging for Reactor Wastes	England, J. (1); Sisley, S. (1); Subiry, J. (1) 1 - NAC International, United States

## Tu 19.30 – 22.00 Gala Dinner

**JAEC cordially invites all RRFM/IGORR delegates to this dinner**





## Wednesday 27 March 2019

### **We 09.00 – 10.40 Parallel session: Research reactor safety II**

Chair: C. Pascal, TechnicAtome, France

RRFMIGORR2019 -A0073	Identification of Reactor Specific Initiating Events using Hazard and Operability Analysis for Probabilistic Safety Assessment of Thai Research Reactor-1/Modification 1	Vechgama, W. (1); Silva, K. (1); Wetchagarun, S. (1); Pechrak, A. (1); Rassame, S. (2) 1 - Thailand Institute of Nuclear Technology, Thailand 2 - Department of Nuclear Engineering, Faculty of Engineering, Chulalongkorn University, Thailand
RRFMIGORR2019 -A0076	The Periodic Safety Review of HANARO Reactor	Shin, J.-W. (1); Doo, S.-G. (1); Han, J.-S. (1); Choi, Y.-S. (1); Park, S.-J. (1) 1 - Korea Atomic Energy Research Institute (KAERI), Korea, Republic of
RRFMIGORR2019 -A0080	Simulation of the radiological consequences of the hypothetical accident in MARIA research reactor.	Lipka, M. (1) 1 - National Centre for Nuclear Research, Poland
RRFMIGORR2019 -A0083	PRELIMINARY UNAVAILABILITY ANALYSIS OF SHUTDOWN SYSTEM FOR AGN-201K RESEARCH REACTOR	Ahmed, I. (1); Heo, G. (1) 1 - Department of Nuclear Engineering, Kyung Hee University, Korea, Republic of
RRFMIGORR2019 -A0088	Study of switching from natural to forced convection regime during research reactor operation	Gaheen, M. (1); Shaat, M. (2) 1 - Depart. of Nuclear Safety and Radiological Emergencies, NCRRT Center, Egyptian Atomic Energy Authority (EAEA), Egypt 2 - Department of Reactors, NRC Center, Egyptian Atomic Energy Authority (EAEA), Egypt

### **We 09.00 – 10.40 Parallel session: New research reactor projects II**

Chair: A. Tuzov, JSC "SSC RIAR", Russian Federation

RRFMIGORR2019 -A0136	JULES HOROWITZ REACTOR (JHR): START-UP EQUIPEMENTS AND EXPERIMENTAL UTILITIES	Coulon, J.-P. (1) 1 - CEA, DEN, France
RRFMIGORR2019 -A0148	DESIGN PERFORMANCE OF RMB REACTOR	Camusso, C. P. (1); Hergenreder, D. (1); Boschetti, F. N. (1); Ferrari, I. (1); Sarabia, H. G. (1); Villarino, E. A. (1); Korochinsky, S. A. (1); Dos Santos, A. (2); Soares, A. (2); Perrota, J. A. (2) 1 - INVAP SE, Argentina 2 - CNEN, Brazil



RRFMIGORR2019 -A0163	UPDATE OF THE JHR EXPERIMENTAL CAPACITY AND FIRST ORIENTATIONS FOR THE EXPERIMENTAL PROGRAMS	Gonnier, C. (1); Chauvin, J.-P. (1); Bignan, G. (1); Maugard, B. (1) 1 - CEA French Alternative Energies and Atomic Energy Commission, France
RRFMIGORR2019 -A0166	The Dual Fluid Research Reactor - A novel reactor design for long time and proliferation safe high energy neutron generation.	Lewitz, J.-C. (1); Huke, A. (2); Ruprecht, G. (2); Weißbach, D. (2); Czerski, K. (2); Gottlieb, S. (2) 1 - LTZ-Consulting GmbH, Germany 2 - Institute for Solid-State Nuclear Physics, Germany
RRFMIGORR2019 -A0171	Status of the new ZEPHYR critical facility project (Zero power Experimental Physics Reactor) at CEA	Fougeras, P. (1); Routsonis, K. (1); Tommasi, J. (1); De Saint Jean, C. (1); Minot-Taïoglou, B. (1); Blaise, P. (1) 1 - CEA Cadarache, France

## We 09.00 – 10.40 Parallel session: Decommissioning and dismantling of research reactors and waste management II

Chair: N. De Lorenzo, INVAP, Australia

RRFMIGORR2019 -A0082	The New Radioactive Waste Treatment Facility at the Jordan Research and Training Reactor.	Altamimi, R. (1); Alkhawaldeh, A. (1) 1 - Jordan Atomic Energy Commission, Jordan
RRFMIGORR2019 -A0123	Activation computation for MINERVE cleanup and dismantling	Ritter, G. (1) 1 - Commissariat à l'Energie Atomique et Aux Energies Alternatives, France
RRFMIGORR2019 -A0134	Orano Decommissioning and Waste Management services for Research Reactors.	Talbi, A. (1); Valery, J. F. (1); Vo van, V. (1); Chabeuf, J. M. (2) 1 - ORANO, France 2 - ORANO DS, France
RRFMIGORR2019 -A0160	Innovative Digestion and Decommissioning of Irradiated HTR Pebble Fuel	Mank, G. (1); Pierce, R. (2); Maxted, M. (3); Wilden, A. (4); Modolo, G. (4); Damm, G. (5) 1 - Jülicher Entsorgungsgesellschaft für Nuklearanlagen (JEN) mbH, Germany 2 - Savannah River National Laboratory, United States 3 - Department of Energy, Savannah River Site, United States 4 - Forschungszentrum Jülich GmbH, Germany 5 - DIC International Consulting, Germany
RRFMIGORR2019 -A0162	Radiography analysis using newly developed underwater gamma scanner for establishing fuel blueprint	Husain, M. A. A. (1); Zakaria, N. (2) 1 - Universiti Teknologi Malaysia, Malaysia 2 - Malaysian Nuclear Agency, Malaysia



## We 10.40 – 11.00 Coffee break

## We 11.00 – 12.40 Parallel session: Research reactor safety III

Chair: D. Sears, IAEA

RRFMIGORR2019 -A0112	A possible application of the graded approach to German research reactors	Trapp, M. (1); Nünighoff, K. (2) 1 - Reactor Safety Department, Plant Safety Division, GRS, Germany 2 - International Major Projects Department, International Projects Division, GRS, Germany
RRFMIGORR2019 -A0175	SAFETY IMPLICATIONS OF USING THE THERMAL-HYDRAULICS CODE (RELAP5) FOR THE SAFETY ANALYSIS OF THE KSU TRIGA MARK II RESEARCH REACTOR	Abu Saleem, R. (1); Gairola, A. (2); Bindra, H. (2); Murad, A. (1) 1 - Jordan University of Science and Technology, Jordan 2 - Kansas State University, United States
RRFMIGORR2019 -A0184	A Study on the Tritium Generated in the Beryllium (Be) Reflector Assemblies of the JRTR Core	Khalefih, H. (1); Alkhatib, S. (1); Farouki, I. (1) 1 - Jordan Research and Training Reactor (JRTR)-Jordan Atomic Energy Commission (JAEC), Jordan
RRFMIGORR2019 -A0202	RA-10 Project Safety Assessment and Licensing Planning for the Commissioning Stage	Ramirez, P. (1); Blaumann, H. (1); Brollo, F. (1); Cantero, P. (1) 1 - Argentine National Atomic Energy Commission (CNEA), Argentina
RRFMIGORR2019 -A0218	IDENTIFICATION OF SAFETY FUNCTIONS FOR RESEARCH REACTORS	De Lorenzo, N. (1); Weigandt, J. (1) 1 - INVAP S.E., Argentina

## We 11.00 – 12.40 Parallel session: New research reactor projects III

Chair: K. AbuSaleem, JAEC, Jordan

RRFMIGORR2019 -A0177	THE ROLE OF PALLAS IN SUPPORTING NUCLEAR TECHNOLOGY RESEARCH AND DEVELOPMENT	McGrath, M. (1) 1 - PALLAS, Netherlands
RRFMIGORR2019 -A0179	Current status of the Versatile Test Reactor core design	Heidet, F. (1) 1 - Argonne National Laboratory, United States
RRFMIGORR2019 -A0213	Recent progress and perspectives in the Belgian MYRRHA ADS programme	De Bruyn, D. (1); Ait Abderrahim, H. (1); Schyns, M. (1) 1 - Belgian Nuclear Research Centre (SCK•CEN), Belgium
RRFMIGORR2019 -A0229	International research center MBIR developments and view in the future	Zagornov, A. (1) 1 - ROSATOM, Russian Federation
RRFMIGORR2019 -A0230	International collective use centers on the basis of scientific mega-installations of the NRC "Kurchatov Institute"	Kovalchuk, M. (1); Aksenov, V. (1); Altynbaev, A. (1); Gorchakov, S. (1) 1 - NRC "Kurchatov Institute", Russian Federation



## We 11.00 – 12.40 Parallel session: Decommissioning and dismantling of research reactors and waste management III

Chair: G. Bignan, CEA, France

RRFMIGORR2019 -A0174	A Novel Approach to the Minimization of Low Irradiated HEU Materials	Lillo, J. (1); Vinson, D. (2); Aucott, T. (2); Dunn, K. (2); Iyer, N. (2) 1 - U.S. Department of Energy - National Nuclear Security Administration, United States 2 - Savannah River National Laboratory, United States
RRFMIGORR2019 -A0176	FRM – Fast Build, Steady Operation, Slow Decommissioning	Lichnovsky, U. (1) 1 - Technische Universität München (FRM), Germany
RRFMIGORR2019 -A0178	Shipment of Irradiated HEU Nuclear Fuel from Nigeria to China	Dewes, J. (1); Bolshinsky, I. (1); Tozser, S. (1); Moses, S. (1); Ahmed, Y. (2); Gaines, K. (3); Adamu, H. (3); Chakrov, P. (4) 1 - Idaho National Laboratory, United States 2 - Center for Energy Research and Training, Ahmadu Bello University, Nigeria 3 - Oak Ridge National Laboratory, United States 4 - International Atomic Energy Agency, Austria
RRFMIGORR2019 -A0182	Lessons learned during planning and first phases of decommissioning the Finnish TRIGA FIR 1	Airila, M. I. (1); Auterinen, I. (1); Kotiluoto, P. (1); Rätty, A. (1) 1 - VTT Technical Research Centre of Finland Ltd, Finland
RRFMIGORR2019 -A0183	Destructive and Non-Destructive Characterisation of various LLW/ILW at NRG	Ménard, G. (1); Hart, J. (1) 1 - Nuclear Research and consultancy Group (NRG), Netherlands

## We 12.40 – 13.30 Lunch break

## We 13.30 – 15.10 Plenary session: Utilisation of research reactors and capacity building

Chair: L.W. Hu, MIT Nuclear Reactor Laboratory, United States

	IAEA activities on Nuclear Capacity Building based on Research Reactors- Status and recent developments	Sharma, R. (1); 1-International Atomic Energy Agency
RRFMIGORR2019 -A0155	IAEA's support towards self-reliance and sustainability of national nuclear institutions	Ridikas, D. (1); Swainson, I. (1); Pessoa Barradas, N. (1); Syahril, S. (1) 1 - International Atomic Energy Agency, Austria



RRFMIGORR2019 -A0029	The CEA scientific and technical offer as a designated ICERR (International Center based on Research Reactor) by the IAEA: Update as of Spring 2019 and focus on the example of support to BATAN-Indonesia for establishing an Internet Reactor Lab.	Bignan, G. (1); Wohleber, X. (1) 1 - CEA, France
RRFMIGORR2019 -A0196	Tunisian activities on Nuclear Capacity Building based on Research Reactors: CNSTN-CEA ICERR project status	Dridi, W. (1); Daoudi, M. (1); Hosni, F. (1); Harzli, K. (1) 1 - Laboratory of Energy and Matter for Development of Nuclear Science, National Center of Nuclear Science and Technology, Tunisia
RRFMIGORR2019 -A0200	The EVOC project: a multimodal reactor training platform	Wohleber, X. (1); Caranicolas, A. (2); Bonnaud, L.-J. (3); Ivanovic, S. (3) 1 - Nuclear Energy Division, CEA, France 2 - Technological Research Division, CEA, France 3 - National Institute for Nuclear Science and Technology INSTN, CEA, France

## We 15.10 – 15.45 Closing session

Chair: G. Bignan, CEA, France; S. Van Dyck, SCK-CEN, Belgium

### The Research Reactor Life Cycle through the IAEA Technical Cooperation Programme

F. Marshall, IAEA

## Thursday 28 March 2019

### 8:00 – 18:00 Technical Tour



## Poster

RRFMIGORR2019 -A0005	Thermalhydraulic analysis of control rods effect on safty parameters in Tehran Research Reactor	Torabi, M. (1); Lashkari, A. (1); Masoudi, S. F. (1) 1 - K.N. Toosi University of Technology, Faculty of science Physics department, Iran, Islamic Republic of
RRFMIGORR2019 -A0015	ON THE ONE OF THE PRACTICAL SCIENTIFIC UTILISATION OF LOW POWER RESEARCH REACTOR LVR-15 IN ŘEŽ	Mikula, P. (1); Michalcová, A. (2); Rogante, M. (3) 1 - Nuclear Physics Institute ASCR, REZ, Czech Republic 2 - Dept. of Metals and Corosion Engineering of University of Chemistry and Technology, Czech Republic 3 - Rogante Engineering Office, Italy
RRFMIGORR2019 -A0016	RESEARCH REACTORS SAFETY I&C MODERNIZATION LEVERAGING EXPERIENCE WITH NPPs	Duthou, A. (1); Mattei, A. (1) 1 - Roll-Royce Civil Nuclear, France
RRFMIGORR2019 -A0021	CHARACTARIZATION OF VERTICAL NEUTRON IRRADIATION CHANNELS IN THE JORDAN RESEARCH AND TRAINING REACTOR	Farouki, I. (1) 1 - Jordan Research and Training Reactor – Jordan Atomic Energy Commission, Jordan
RRFMIGORR2019 -A0027	X-ray 3D CT Analysis for High-density LEU Dispersion Target Fabrication	Kim, H.-J. (1); Ryu, H. J. (1) 1 - KAIST, Korea, Republic of
RRFMIGORR2019 -A0049	LEU-FOREVER PROJECT: PRELIMINARY NEUTRONIC CALCULATIONS STATUS	Koubbi, J. (1); Boyard, M. (1); Huet, F. (1); Romanello, V. (2); Dambrosio, A. (2); Hrehor, M. (2) 1 - TechnicAtome, France, France 2 - CV Řež, Czech Republic , Czech Republic
RRFMIGORR2019 -A0053	FUEL ASSEMBLY THERMAL HYDRAULICS DESIGN FOR AN IRRADIATION IN AN EUROPEAN MEDIUM POWER RESEARCH REACTOR	Duperray, R. (1); Roux, L. (1) 1 - TechnicAtome, France
RRFMIGORR2019 -A0057	EDUCATION AND RESEARCH UTILISING UTR-KINKI	Wakabayashi, G. (1) 1 - Atomic Energy Research Institute, Kindai University, Japan
RRFMIGORR2019 -A0058	Graded Approach for the Periodic Safety Review of AGN-201K in Korea	Park, J. (1); Lee, G. (1); Hwang, S. (1); Na, H. (1); Yoon, T. (1) 1 - FNC Technology, Korea, Republic of
RRFMIGORR2019 -A0070	THE PRESENT AND FUTURE OF THERMAL-HYDRAULIC PERFORMANCE AND SAFETY ANALYSES OF RESEARCH REACTORS BY KAERI: FOCUSED ON THE JRTR	Kim, H. (1); Jung, Y.-G. (1); Park, C. (1); Park, S.-K. (1); Kim, D. (1); Park, J.-P. (1); Jang, D.-W. (1); Jun, I.-S. (1); Chun, J.-H. (1); Lee, B. (1); Lee, S.-W. (1) 1 - Korea Atomic Energy Research Institute, Korea, Republic of
RRFMIGORR2019 -A0072	Development of High-density LEU U3Si2 Plate-type Fuel with Atomized Powder	Jeong, Y. J. (1); Kim, S. H. (1); Kim, J. H. (1); Song, H. Y. (1); Park, J. M. (1) 1 - KAERI, Korea, Republic of



RRFMIGORR2019 -A0089	Experiment Research of Nigeria MNSR with LEU core	Li, Y. (1); Peng, D. (1); Hong, J. (1); Wu, X. (1); Lu, J. (1); Wang, M. (1); Hao, Q. (1) 1 - China Institute of Atomic Energy, China
RRFMIGORR2019 -A0097	A REPORT: "HIGH-DENSITY U-Mo/Al AND U <sub>3</sub> Si <sub>2</sub> /Al DISPERSION FUELS FOR HIGH-POWER RESEARCH REACTORS"	Kim, Y. S. (1); Jamison, L. (1); Ye, B. (1); Mohamed, W. (1); Mei, Z. (1); Miao, Y. (1); Oaks, A. (1); Mo, K. (1); Hofman, G. (1); Yacout, A. (1) 1 - Argonne National Laboratory, United states
RRFMIGORR2019 -A0108	Role of AE(Architect Engineering) in the design and construction of new research reactor in Korea	Lee, C. S. (1) 1 - Yon-Sei University, Korea, Republic of
RRFMIGORR2019 -A0117	Nuclide-specific environmental radiation mapping of the vicinity of FRM II	Breitkreutz, H. (1); Niadbaila, A. (1); Bruev, D. (1); Kastenmüller, A. (2); Schmidt, M. (2) 1 - Envinet GmbH, Germany 2 - Forschungs-Neutronenquelle Heinz Maier-Leibnitz (FRM II), Germany
RRFMIGORR2019 -A0126	Beta radionuclide sources for cancer treatment produced in research reactor	Viererbl, L. (1); Pochop, P. (2); Šoltés, J. (1); Kolečka, M. (1); Vinš, M. (1); Assmann v Bratislavská, H. (1) 1 - Research Centre Rez Ltd., Czech Republic 2 - Motol University Hospital, V Úvalu 84, Prague, 150 06, Czech Republic
RRFMIGORR2019 -A0129	Analysis of safety issues related to restart of the reactor after a SCRAM	Gaheen, M. (1); Elsaied, M. (2); Zaky, M. (2) 1 - Depart. of Nuclear Safety and Radiological Emergencies, NCRRT Center, Egyptian Atomic Energy Authority (EAEA), Egypt, Egypt 2 - Egypt Second Research Reactor (ETRR-2), NRC centre, Egyptian Atomic Energy Authority (EAEA), Egypt, Egypt
RRFMIGORR2019 -A0130	The TN@MW, an optimized cask for Research Reactors' waste management	Talbi, A. (1); Valery, J. F. (1); Vo van, V. (1); Grandhomme, C. (2); Kerr, B. (2); Lamouroux, C. (1) 1 - ORANO, France 2 - ORANO TN, France
RRFMIGORR2019 -A0140	ORANO TN casks solutions for fuel research reactors and laboratories	Le Blévenec, R. (1) 1 - ORANO TN, France
RRFMIGORR2019 -A0141	Theoretical and experimental reactor physic on the BME training reactor during the periodic safety review	Horváth, A. (1) 1 - Budapest University of Technology and Economics, Hungary
RRFMIGORR2019 -A0146	Methodology for the Shielding design of the heavy water cooling and purification system in high performance multipurpose research reactors	Meier, H. (1); Brizuela, M. (1); Maître, A. (1) 1 - INVAP S.E., Argentina





RRFMIGORR2019 -A0156	DELAYED GAMMA DETERMINATION IN RESEARCH REACTORS BY SYNCHRONOUS MEASUREMENTS WITH FISSION AND IONIZATION CHAMBERS	Ambrožič, K. (1); Gruel, A. (2); Radulović, V. (1); Blaise, P. (2); Destouches, C. (2); Snoj, L. (1) 1 - "Jožef Stefan" Institute, Slovenia 2 - CEA, DEN, DER, SPESI, France
RRFMIGORR2019 -A0161	UTILIZATION OF HYPER METHODOLOGY APPROACH TO SUPPORT U-2 LOOPS RETURN TO SERVICE SEISMIC QUALIFICATION	Elaghoury, A. (1) 1 - Canadian Nuclear Laboratories, Canada
RRFMIGORR2019 -A0189	Preparations for transport of the FiR 1 irradiated fuel from Finland to INTEC in Idaho, USA	Auterinen, I. (1); Robb, A. (2); Airila, M. (1) 1 - VTT Technical Research Centre of Finland, Finland 2 - Fluor Idaho, Finland
RRFMIGORR2019 -A0193	Development of Hot Channel Factors for Pin-Type Fuel in an Annular Geometry	Desplats, F. (1); Licht, J. (1); Kalimullah, M. (1); Olson, A. (1); Stevens, J. (1) 1 - Argonne National Laboratory, United states
RRFMIGORR2019 -A0194	Investigating the Shielding Effectiveness for Spent Fuel Dry Storage Cask Using MCNP Code	Khrais, R. (1); Alomari, R. (1); Alsabbagh, A. (1) 1 - Jordan University of Science and Technology, Jordan
RRFMIGORR2019 -A0199	Initial study to set a preliminary design for neutron transmutation doping in Jordan Research and Training Reactor (JRTR)	Alnajjar, A. (1); Farouki, I. (1) 1 - Jordan Atomic Energy Commission - Jordan Research and Training Reactor, Jordan
RRFMIGORR2019 -A0201	The experience of the Ulysse training reactor decommissioning	Ivanovic, S. (1); Jouenne, P. (2); Wohleber, X. (2) 1 - National Institute for Nuclear Science and Technology, CEA, France 2 - Nuclear Energy Division, CEA, France
RRFMIGORR2019 -A0210	Preliminary Uranium Manufacturing Studies of the KUCA LEU Conversion Fuels	Allenou, J. (1); Stepnik, B. (1); Coullomb, C. (1); Rontard, C. (1); Unesaki, H. (2); Stevens, J. (3); Morman, J. (3) 1 - Framatome-CERCA, France 2 - KURNS, Japan 3 - ANL, United states



RRFMIGORR2019 -A0211	Morphological characterization of the UMo(ZrN) fresh powders used in SEMPER FIDELIS in-pile test	<p>Allenou, J. (1); Stepnik, B. (1); Grasse, M. (1); Rontard, C. (1); Callarec, E. (2); Rolland, A. (2); Housaer, F. (2); Tougait, O. (2); Touzin, M. (2); Beclin, F. (2); Van den Berghe, S. (3); Leenaers, A. (3); Breitzkreutz, H. (4); Petry, W. (4); Palancher, H. (5); Iltis, X. (5); Hervieu, E. (5); Calzavara, Y. (6); Guyon, H. (6)</p> <p>1 - Framatome-CERCA, France 2 - Lille University, France 3 - SCK-CEN, Belgium 4 - TUM, Germany 5 - CEA, France 6 - ILL, France</p>
RRFMIGORR2019 -A0219	Neutron beams application at the WWR-K reactor after conversion to LEU fuel	<p>Shaimerdenov, A. (1); Mukhametuly, B. (1); Gizatulin, S. (1); Nakipov, D. (1); Kenzhin, Y. (1)</p> <p>1 - The Institute of Nuclear Physics, Kazakhstan</p>
RRFMIGORR2019 -A0225	The summarized results of development of fuel elements for research reactors	<p>Kulakov, G. (1); Bubenschikov, D. (1); Vatulin, A. (1); Suprun, V. (1); Konovalov, Y. (1)</p> <p>1 - Stock Company «A.A. Bochvar High-Technology Research Institute of Inorganic Materials», Moscow, Russia - SC "VNIINM", Russian Federation</p>
RRFMIGORR2019 -A0227	Irradiation of Holmium Poli(L-Lactic Acid) Microspheres in the MARIA Reactor	<p>Prokopowicz, R. (1); Pytel, K. (1); Jaroszewicz, J. (1); Tarchalski, M. (1); Gryzinski, M. (1); Dorosz, M. (1); Madejowski, G. (1); Zagubien, I. (1); Keler, R. (1); Zawadka, A. (1); Sigger, J. (2); Koelewijn, S. (2); Dijk, M. (2); Duivenvoorde, N. (2); Nijssen, F. (2)</p> <p>1 - National Centre for Nuclear Research, Otwock-Świerk, Poland 2 - Quirem Medical BV, Deventer, Netherlands</p>
RRFMIGORR2019 -A0228	Lightbridge Fuel™: Innovative UZr metallic fuel	<p>Lorand, S. (1); Stepnik, B. (1); Mercier, L. (1); Hoff, L. (1); Gallarec, E. (2); Touzin, M. (2); Beclin, F. (2); Tougait, O. (2)</p> <p>1 - Enfission™ - Framatome - CERCA™, France 2 - Université de Lille, France</p>





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