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- 854 Future Opportunities for LWR Irradiations in US Test Reactors—*Nicolas E. Woolstenhulme (INL), Nate S. Oldham (INL), Austin D. Fleming (INL), Klint Anderson (INL), Charles P. Folsom (INL), Jacob P. Gorton (ORNL), Kory Linton (ORNL), David M. Carpenter (MIT), Gordon E. Kohse (MIT)*
- 864 Developing New Fuels for High Performance Research Reactors—*Rosemary A. Montgomery (ORNL), Scott Ravenhill (Department of Energy, NNSA), Brett Cox (Department of Energy, NNSA), Brian Waud (NNSA), Joan Dix (National Nuclear Security Administration)*
- 873 NEA Second Framework for Irradiation Experiments FIDES-II: Building and Maintaining Competences Through International Collaboration—*Markus Beilmann (Nuclear Energy Agency), Tatiana Ivanova (Nuclear Energy Agency), Koji Kitano (Nuclear Regulation Authority), Olivier Marchand (ASNR), Marek Miklos (Research Centre Rez), Ville Tulkki (Nuclear Energy Agency), Peter Ungelenk (Gesellschaft für Anlagen- und Reaktorsicherheit), Daniel M. Wachs (INL)*
- 879 Pressure Drop Measurement Comparison between the Westinghouse EMBLA Loop and the ŠKODA JS KAZEX Loop—*Fredrik Waldemarsson (Westinghouse Electric Co.), Michal Dostál (Škoda JS), Luděk Kroj (Škoda JS)*



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- 890 Exploring Spark Plasma Sintering as a Promising Method for TRISO Compact Fabrication—*Anil Prasad (Canadian Nuclear Laboratory), Adam Cruse (Canadian Nuclear Laboratory), Andrew Bergeron (Canadian Nuclear Laboratory), Hygreeva Namburi (Canadian Nuclear Laboratory), James Buckley (Canadian Nuclear Laboratory), Jeffrey Battersby (Canadian Nuclear Laboratory), Lava K. Pillari (University of British Columbia), Owen Mottershead (Canadian Nuclear Laboratory), Patrick Morrison (Canadian Nuclear Laboratory), Reeghan Osmond (Canadian Nuclear Laboratory), Victoria Szlachta (Canadian Nuclear Laboratory), Zainab Ali (Canadian Nuclear Laboratory), Madalena Spencer (Canadian Nuclear Laboratory), Catherine Thiriet (Canadian Nuclear Laboratory), Lukas Bichler (University of British Columbia)*
- 900 Advancements in TRISO Kernel Fabrication at Commercial Scale—*Griffin Gayne (Standard Nuclear), Michael Trammell (Standard Nuclear)*
- 905 TRISO-Particle-in-Compact Homogenization Methodology—*Joseph Y.R. Rashid (Structural Integrity Associates, Inc.), Deena Jaber (Structural Integrity Associates), Wenfeng Liu (Structural Integrity Associates, Inc.), Anant Mohan (Structural Integrity Associates, Inc.), Alipasha Sadri (Celeris Engineering)*
- 915 Development of a FEM-based TRISO Fuel Performance Code for Multi-scale FCM Fuel Analysis—*Jongho Park (Seoul Nat'l Univ.), Youho Lee (Seoul Nat'l Univ.)*

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- 946 Extended Fuel Cycle Sensitivity Studies of the GE BWRX-300 Design—*John Monaghan (Georgia Tech), Dan Kotlyar (Georgia Tech)*
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- 971 A Machine Learning Approach Towards Improving QA/QC of Coated Particle Fuels—*Bryan Conry (ORNL), Grant Helmreich (ORNL), Tyler Gerczak (ORNL)*
- 981 Extending the Deep Learning Based Thermal Limit Bias Reduction Methodology to Multiple Boiling Water Reactors—*Anirudh Tunga (Blue Wave AI Labs), Sanchari Banerjee (Blue Wave AI Labs), Michael J. Mueterthies (Blue Wave AI Labs), Jonathan Nistor (Blue Wave AI Labs)*
- 989 Neural Network-Based Surrogate Modeling for Accelerating BWR Equilibrium Cycle Optimization—*Maria Berardi (Blue Wave AI Labs), Michael J. Mueterthies (Blue Wave AI Labs), M. Rizki Oktavian (Blue Wave AI Labs), Anirudh Tunga (Blue Wave AI Labs), Phil McCalley (Blue Wave AI Labs), Jordan Heim (Blue Wave AI Labs), J. Thomas Gruenwald (Blue Wave AI Labs), Jonathan Nistor (Blue Wave AI Labs)*

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- 1000 Metallic Fuel Research and Development in the U.S. National Program—*Colby B. Jensen (INL), Douglas L. Porter (INL), Nicolas E. Woolstenhulme (INL), Tiankai Yao (INL), Pavel G. Medvedev (INL), Randall S. Fielding (INL), Benjamin P. Eftink (LANL), Stuart A. Maloy (PNNL), Caleb P. Massey (ORNL), Kun Mo (ANL), Daniel M. Wachs (INL)*
- 1010 Metal Fuel Performance in Sodium Fast Reactors: Post-Irradiation Examination—*Tiankai Yao (INL), Randall S. Fielding (INL), Yachun Wang (INL), Colby B. Jensen (INL), Douglas L. Porter (INL)*
- 1015 Implementation of a Constituent Redistribution Model for Metallic U-Zr and U-Pu-Zr Fuels in the FAST Fuel Performance Code—*Dylan F. Wray (PNNL), Kenneth J. Geelhood (PNNL), Kevin T. Clarno (Univ. Texas, Austin)*
- 1025 Metallic Fuel Fabrication Optimization—*Randall S. Fielding (INL), Alejandro Dayag (INL), Adrian Silva (TAMU)*
- 1035 Conceptual Assessment of Lightbridge Fuel Post-CHF Performance—*Birol Aktas (Lightbridge)*

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- 1065 Evaluation of End-plug Joint Strength for Silicon Carbide Cladding under a Simulated Severe Accident Condition—R. Ishibashi (Hitachi GE Vernova Nuclear Energy, Ltd.), K. Hirotsuka (Hitachi GE Vernova Nuclear Energy, Ltd.), M. Shibata (Hitachi GE Vernova Nuclear Energy, Ltd.), M. Sasaki (Hitachi GE Vernova Nuclear Energy, Ltd.), Y. Nemoto (JAEA), T. Hinoki (Kyoto Univ.)
- 1075 GNF ATF Irradiations and PIE Programs—Ian Porter (Global Nuclear Fuel), Dan Lutz (Global Nuclear Fuel), Robert Schneider (Global Nuclear Fuel)
- 1085 Status and Development of Mo-Microcell UO<sub>2</sub> Fuel Pellets for ATF Application—D. S. Kim (KAERI), D.-J. Kim (KAERI), J. H. Yang (KAERI), H. S. Lee (KAERI), J. H. Yoon (KAERI), J. H. Lee (KAERI)

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- 1102 Flexible Operation Sensitivity Analysis for a Light Water Reactor with High Burnup Fuel—Isabelle Lindsay (Univ. Tennessee, Knoxville), Nicholas R. Brown (Univ. Tennessee, Knoxville)
- 1112 Impact of Cold Leg Temperature Differences on PWR Core Power Distribution—Emre Tatli (Westinghouse Electric Co.), Michael E. Gavalek (Westinghouse Electric Co.), Vefa Kucukboyaci (Westinghouse Electric Co.), Yixing Sung (Westinghouse Electric Co.)
- 1124 Solutions to Reduce Neutron Fluence and Increase Lifetime of a Nuclear Power Plant—L. Ackermann (Framatome), O. Dutkiewicz (Framatome), C. Möllmer (Framatome)

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- 1158 The U.S. Next Generation Fuels (NGF) Program: Unleashing Advanced Nuclear Fuels—Daniel M. Wachs (INL)
- 1165 The Use of Powder Injection Molding for the Fabrication of Oxygen-Sensitive Advanced Nuclear Fuels—Deana Tsang (LANL), Adrien Terricabras (LANL), Antoine Claisse (Westinghouse Electric Co.), Joshua White (LANL)
- 1173 Progress Toward Revolutionary Reactor Designs using Nature-Inspired Nuclear Fuel—Nicolas E. Woolstenhulme (INL), Nicolas P. Martin (INL), Joshua Zelina (INL), Paul A. Ferney (INL), Austen D. Fradeneck (INL), Adam Zabriskie (INL), Mark H. Anderson (University of Wisconsin Madison), Brett Prussack (University of Wisconsin - Madison), Koroush Shirvan (MIT), Youyeon Choi (MIT), Jeffrey L. Reed (Framatome), Kai Tai (Framatome)
- 1183 Experimental and Computational Studies on Thermal Hydraulics of Triply Periodic Minimal Surface Lattices as Nuclear Fuel—Brett A. Prussack (University of Wisconsin - Madison), Erik Pagenkopf (University of Wisconsin - Madison), Silvino B. Prieto (INL), Austen Fradeneck (INL), Zander Ray (Oregon State University), Joshua Gess (Oregon State University), Tai Kai (Framatome), Jeffrey L. Reed (Framatome), Nicholas E. Woolstenhulme (INL), Gregory Nellis (University of Wisconsin - Madison), Mark H. Anderson (University of Wisconsin - Madison)

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- 1202 Licensing Framatome's PROtect Fuel: Integrated Approaches to Accelerate the Licensing of E-ATF Fuel Design—M. Aumand (Framatome), L. Gerken (Framatome), Y. Qi (Framatome), P. Bellanger (Framatome)

- 1210 Practical Development of Accident Tolerant FeCrAl-ODS Fuel Claddings for BWRs in Japan—*Sakamoto K (Nippon Nuclear Fuel Development), Miura Y (Nippon Nuclear Fuel Development), Matsunaga J (Global Nuclear Fuel), Aomi M (Global Nuclear Fuel), Miyata H (Hitachi-GE Nuclear Energy), Yasuda K (Hitachi-GE Nuclear Energy), Sasaki M (Hitachi-GE Nuclear Energy), Oono-Hori N (Yokohama Nat'l Univ.)*
- 1218 Development of a Method for Comparison of Lightbridge's Advanced Fuel Material Against Conventional UO<sub>2</sub> Fuel Performance—*R. Wang (Lightbridge), C. Kirby (Lightbridge), K. Paaren (Lightbridge), B. Aktas (Lightbridge), S. Holcombe (Lightbridge)*
- 1227 Fuel Performance & Thermomechanical Effects**
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- 1238 Fission Gas Release Modeling and Validation with CTF Code for High Energy Fuel RIA Analysis—*Charles Cheron (NCSU), Gregory Stehle (Westinghouse Electric Co.), Daniel Torres (Westinghouse Electric Co.), Yixing Sung (Westinghouse Electric Co.), Agustin Abarca (NCSU), Maria Avramova (NCSU)*
- 1248 Investigation of Stepwise Power Increase Effects on VVER-440 Fuel Cladding—*Andras Vanyi (HUN-REN Centre for Energy Research), Gergely Kustar (MVM Paks Nuclear Power Plant), Peter Meszaros (MVM Paks Nuclear Power Plant), Viktor Holli (MVM Paks Nuclear Power Plant), Zoltan Kato (MVM Paks Nuclear Power Plant), Gabor Bona (MVM Paks Nuclear Power Plant)*
- 1257 Homogenization-Based Softening Model for Fragmented Nuclear Fuel—*Milica Krstovic (École Polytechnique Fédérale de Lausanne), Alessandro Scolaro (Ecole Polytechnique Federale de Lausanne), Paul Van Uffelen (European Commission, JRC), Mathieu Hursin (Ecole Polytechnique Federale de Lausanne)*
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- 1278 Fuel Bonding and its Impact on Axial Gas Communication Behavior in Light-Water Reactor Fuel Rods—*Daniel J. Van Wassenhova (INL), Wenfeng Liu (Structural Integrity Associates, Inc.), Kyle A. Gamble (INL), Joseph Y.R. Rashid (Structural Integrity Associates, Inc.), Ryan T. Sweet (INL), Stephen R. Novascone (INL)*
- 1286 Experiment to Investigate the On-set of Transient Fission Gas Release Under Simulated LOCA Conditions—*Jason M. Harp (ORNL), Yong Yan (ORNL), Robert N. Morris (ORNL), Charles A. Baldwin (ORNL), Matthew M. Jones (ORNL), Nathan A. Capps (ORNL)*
- 1292 Measurement of Transient Fission Gas Release from High-Burnup MOX Fuel Under a Simulated Reactivity-Initiated Accident Condition Using Fission Gas Dynamics Testing Technique—*Y. Taniguchi (JAEA), K. Urano (JAEA), T. Mihara (JAEA), Y. Udagawa (JAEA), K. Kakiuchi (JAEA), J. Katsuyama (JAEA)*
- 1303 Fuel Behavior and Irradiation Modeling**
- 1304 Understanding the Thermomechanical Response of Ferritic and Ferritic-Martensitic Steel Claddings to Accident Transients—*Samuel B. Bell (Oak Ridge National Laboratory (ORNL)), Mackenzie Ridley (ORNL), Nathan Capps (ORNL), Amy Godfrey (ORNL), Caleb Massey (ORNL)*
- 1316 Behavior of Inert Fission Gas Under Accelerated Irradiation Conditions for Prototypical LWR Conditions—*Mutaz Alshannaq (The ohio state University), Md Minaruzzaman (The ohio state University), Hany S. Abdel-Khalik (Purdue Univ.), Adam X. Zabriskie (INL), Marat Khafizov (The Ohio State University)*
- 1326 Development of a Reduced Order Model for the Thermal Assessment of Fuel Assembly Dry Lift for Refueling a Liquid Metal Fast Reactor—*Emre Tatli (Westinghouse Electric Co.), Mike Epstein (Fauske & Associates LLC), Sung J. Lee (Fauske & Associates LLC), Cory Stansbury (Westinghouse Electric Co.), Fausto Franceschini (Westinghouse Mangiarotti), Paolo Ferroni (Westinghouse Electric Co.), Alireza Mofidi (GE Hitachi Nuclear Energy)*
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- 1347 Advances on Coated Cladding R&D**
- 1348 The Gochrom Irradiation Program -- Lead Test Rod Irradiation Results of Framatome's PROtect-Cr Concept for up to 5 Annual Cycles—*E. W. Schweitzer (Framatome), P. B. Hoffmann (Framatome), A. Meyer (Framatome), T. Garnier (Framatome), K. Buchanan (Framatome), G. Girardin (NPP Gösens-Däniken), S. Canepa (KKG - Switzerland), R. M. Grabherr (Paul Scherrer Institute), M. Martin (Paul Scherrer Institute), H. Wiese (Paul Scherrer Institute), M. Bono (CEA), B. Rais (CEA), P. Grange (CEA), A. Petit (CEA), D. Schildknecht (CEA), A. Reverte (CEA), X. Pujol (CEA)*

- 1359 PROtect Cr-Cr: The Evolutionary E-ATF Solution by Framatome - Ramping Towards Industrial Capacity—*K. Buchanan (Framatome), V. Huet (Framatome), T. Garnier (Framatome)*
- 1368 On-going R&D Program at JAEA on the Advanced Technology Fuels: An Update on the Cr-coated Zry Cladding Research—*A. Mohamad (JAEA), S. Yamashita (JAEA), Y. Nemoto (JAEA), Y. Abe (JAEA), H. V. Pham (JAEA), I. Ioka (JAEA), Y. Soma (JAEA), Y. Ishijima (JAEA), T. Sato (JAEA), M. Rizaal (JAEA), S. Miwa (JAEA), K. Nakajima (JAEA), Y. Kaji (JAEA)*
- 1377 Experimental Assessment of Hydrogen Generation of Post-Eutectic Cr-Coated ATF Under Severe Accident Conditions—*Boyeon Kweon (Seoul Nat'l Univ.), Seunglee Hong (Chung-Ang Univ.), Youho Lee (Seoul Nat'l Univ.)*
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- 1398 Coupled Particle Transport and Light Water Reactor Chemistry Modelling of Local Corrosion Phenomena Using GEANT4 and LwrChem—*M. Nilsson Lind (Vattenfall Nuclear Fuel), C. Anghel (Vattenfall Nuclear Fuel), E. Branger (Uppsala Univ.), R. Land (Forsmark kraftgrupp AB), D. Schrire (Studsvik), K. Lundgren (Studsvik)*
- 1408 The Evaluation of High Burnup Spent Nuclear Fuel Characteristic under Different Operation Models—*W. J. Chiu (National Atomic Research Institute), Y. H. Shiu (National Atomic Research Institute), Y. F. Tseng (National Atomic Research Institute), S. W. Chen (National Tsing Hua University, Taiwan)*
- 1419 Fuel-Coolant Interaction and Dispersal Behavior**
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- 1430 Analysis of Fuel Dispersal Behavior through Integral LOCA and Separate Effect Tests—*Hyunwoo Yook (Seoul Nat'l Univ.), Youho Lee (Seoul Nat'l Univ.)*
- 1440 Effect of Rod Internal Gas State on FFRD Behavior of High Burnup Fuel during LOCA Conditions—*Kazuo Kakiuchi (JAEA), Takafumi Narukawa (The University of Tokyo), Yutaka Udagawa (JAEA), Jinya Katsuyama (JAEA), Takeshi Mihara (JAEA), Masaki Amaya (JAEA)*
- 1450 Fuel Rod Bowing During Non-Axisymmetrical Rewetting After DND: Thermomechanical Analysis—*Charbal A. (CEA), Ambard A. (EDF), Ton-That M. (EDF), Mubarak A. (EDF), Le Jolu T. (CEA), Vermoyal J.-J. (EDF)*
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- 1480 Investigation of Burn-up Dependent Thermo-mechanical Behavior of Heat-Pipe Cooled Microreactors—*Chiara Genoni (Texas A&M), Vefa N. Kucukboyaci (Westinghouse Electric Co.), Fausto Franceschini (Westinghouse Mangiatrotti), Alessandro Scolaro (EPFL), Carlo Fiorina (Texas A&M)*
- 1490 Power Density Uprates through High Surface-to-Volume Fuels in Integral Pressurized Water Reactors—*Assil Halimi (MIT), Koroush Shirvan (MIT)*
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- 1509 Analysis of the Behavior of ATF Microcell UO<sub>2</sub> Fuel under Irradiation—*V. D'Ambrosi (CEA), R. Masson (CEA), J. Fauque (CEA), J. Lechelle (CEA), L. Portelet (CEA), N. Chikhi (CEA)*
- 1519 Manufacturing and Characterization of UO<sub>2</sub>-Gd203 Pellet with High Gd Contents—*Jae Ho Yang (KAERI), Ji-Hwan Lee (KAERI), Dong-Seok Kim (KAERI), Dong-Joo Kim (KAERI), Ji-Hae Yoon (KAERI), Yeon-Soo Na (Korea Nuclear Fuel Co.)*
- 1525 Post-Irradiation Examination of a Wrought FeCrAl Alloy C26M Following Commercial Reactor Irradiation—*Caleb Massey (ORNL), Ben Garrison (ORNL), Jesse Werden (ORNL), Casey McKinney (ORNL), Dan Lutz (Global Nuclear Fuel), Russ Fawcett (Global Nuclear Fuel), Rajnikant Umretiya (GE Research Center), Hamdy Abouelella (GE Vernova), Randall Dunavant (Southern Company), Yukinori Yamamoto (ORNL), Geeta Kumari (ORNL), Kevin Field (Univ. Michigan), Jason Harp (ORNL)*



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- 1536 Framatome Codes and Methods Solution for Economical Increased Enrichment and Increased Burnup Fuel Management—*Philippe Bellanger (Framatome), Chris Allison (Framatome), Lisa Gerken (Framatome), Brian Lockamon (Framatome), Steven Cole (Framatome)*
- 1544 UJV Role in the Licensing of New Fuel Designs for Czech NPPs—*Jan Klouzal (UVV Rez), Radim Vočka (UVV Rez), Petr Vácha (UVV Rez)*
- 1550 BISON PCI Failure Analysis during Repeated BWR Load Following—*Oliver Baldwin (Univ. Tennessee, Knoxville), Nathan Capps (ORNL), Joe Rashid (Structural Integrity Associates, Inc), Daniel Jädermäs (Vattenfall), Paul Blair (Vattenfall), David Palko (Vattenfall), Brian D. Wirth (Univ. Tennessee, Knoxville)*
- 1559 FIDES-II/P2M Simulation Exercise on AN3 and AN10 Bump Tests: Main Results—*J. Sercombe (CEA), A. Vernier (CEA), V. D'Ambrosi (CEA Cadarache), I. Guénot-Delahaie (CEA), S. Béjaoui (CEA), D. Rozzia (SCK CEN), G. Bonny (SCK CEN), B. Boer (SCK CEN), R.-W. Bosch (SCK CEN), A. Ambard (EDF), A. Chaieb (EDF), A. Mohamad (IAEA), Y. Udagawa (IAEA), J. Corson (U.S. Nuclear Regulatory Commission), A. Scheuermann (U.S. Nuclear Regulatory Commission), K.A. Gamble (INL), R. Armstrong (INL), L.-E. Herranz (CIEMAT), C. Aguado (CIEMAT), F. Feria (CIEMAT), A. Toptan (Westinghouse Electric Co.), Y. Long (Westinghouse Electric Co.)*

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- 1579 Differential Scanning Calorimetry Experiments for Determining the Alpha to Beta Phase Transformation of Zr-1.1Nb Alloy with Varying Oxygen and Hydrogen Concentrations—*Tian Chen (Seoul Nat'l Univ.), Dongju Kim (Seoul Nat'l Univ.), Donghyeon Son (Seoul Nat'l Univ.), Junhee Lim (Seoul Nat'l Univ.), Youho Lee (Seoul Nat'l Univ.)*

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- 1608 Fabrication of Low-O/M Fast Reactor MOX Fuel and Analysis on its Oxygen Potential Behaviors—*Shun Hirooka (IAEA), Romain J. Vauchy (IAEA), Yuta Horii (IAEA), Takeo Sunaoshi (Inspection Development Company), Kosuke Saito (IAEA)*
- 1618 Enhanced Fuel Performance Analysis in the AGR-like FHR: A Two-Dimensional Approach Using OFFBEAT—*Alejandra De Lara (Univ. Cambridge), Alessandro Scolari (EPFL), Eugene Shwageraus (Univ. Cambridge)*