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Nuclear and Emerging Technologies for Space (NETS 2023)

1 Monday, July 17

- 3 Opening Plenary (Co-Located NPIC&HMIT and PSA)
- 5 From Signals to Insights: Situational Awareness in Nuclear Power Plants
- 7 Advanced Sensor Technology: I
- 8 In-Rod Sensor System Overview, Benefits and Recent Irradiation Test Results—Jorge Carvajal (Westinghouse Electric Co.), Shawn Stafford (Westinghouse Electric Co.), Jeffrey Arndt (Westinghouse Electric Co.), Paul Sirianni (Westinghouse Electric Co), Christian M. Petrie (ORNL), N. Dianne B. Ezell (ORNL), Daniel C. Sweeney (ORNL), Padhraic L. Mulligan (ORNL), A. Shay Chapel (ORNL)
- 21 Multi-Parameter Sensor for Next-Generation Nuclear Reactors—Alexander Hashemian (Analysis and Measurement Services Corp.), Shawn Tyler (Analysis and Measurement Services Corp.), Richard Skifton (INL)
- 34 Surface Acoustic Wave (SAW) Resonators for Nuclear Reactor Sensors—*Ryan Chesser (Ohio State), Maha Yazbeck (Ohio State), Matthew Van Zile (Ohio State), Joel Hatch (Ohio State), Marat Khafizov (Ohio State)*
- 44 IoT Based Optical Fiber Sensor Network for Emergency Response Application in Nuclear Power Plants—*Hoon-Keun Lee (Korea Institute of Nuclear Safety), Youngmi Kim (Korea Institute of Nuclear Safety), Sungbaek Park (Korea Institute of Nuclear Safety), Joonyoung Kim (Sangmyung Univ.)*

53 Cyber Security in Nuclear Power Plants: I

- 54 Lessons Learned from Performing Applied Cyber Exercises in Halden—*Bjørn Axel Gran (Institute for Energy Technology), John Eidar Simensen (Institute for Energy Technology), Per-Arne Jørgensen (Institute for Energy Technology), Espen Nystad (Institute for Energy Technology)*
- 64 Application of Zero Trust Architectures for Nuclear Power Plants: Benefits and Challenges to Implementation— Benjamin Karch (Sandia), Andrew Hahn (Sandia), Alexandria Haddad (Sandia), Christopher C. Lamb (Sandia)

- 74 Development of Procedure for Setting Cybersecurity Exercise Scenarios in Korean NPPs—Seungmin Kim (Korea Institute of Nuclear Nonproliferation and Control), Kibeom Son (Kyung Hee Univ.), Sejin Baek (Kyung Hee Univ.), Dohun Kwon (Kyung Hee Univ.), Gyunyoung Heo (Kyung Hee Univ.)
- 81 The IEC Standard Series on Cybersecurity for I&C and Electrical Systems in Nuclear Power Plants—*Tighe Smith* (Paragon Energy Solutions), Edward L. Quinn (Paragon Energy Solutions), Ludovic Pietre-Cambacedes (EDF), Thomas Walter (Preussen Elektra), Juergen Bochtler (Siemens Energy Global)

89 Control Room Modernization

- 90 Safety-Related Instrumentation and Control Upgrade Pilot Project Conceptual and Design Phase Lessons Learned—Paul J. Hunton (INL), Robert T. England (INL), Gerald Segner (Constellation Energy), Mark Samselski (Constellation Energy), George Bonnani (Constellation Energy), Scott Schumacher (Constellation Energy), Paul Krueger (Constellation Energy)
- 101 Safety-Related Instrumentation and Control Upgrade Pilot Project: NUREG-0711 Process Development, Planning and Analysis Activities, and Lessons Learned—*Casey Kovesdi (INL), Paul Hunton (INL), Jeffrey Joe (INL), Jeremy Mohon (INL)*
- 111 3D Modeling of Safety-Related Upgrade Pilot Project— Jeremy Mohon (INL), Casey Kovesdi (INL), Paul Hunton (INL), Jeffrey Joe (INL)
- 120 I&C and Control Room Modernization for Kozloduy NPP Unit 5&6—*Luis Rejas (Tecnatom), Maria Lopez (Tecnatom), Mateo Ramos (Tecnatom)*

129 I&C for Advanced Reactors

130 Development, Testing, and Validation of Fabry-Pérot Cavity Acoustic Sensors for Microreactor Applications— Anthony Birri (ORNL), Daniel C. Sweeney (ORNL), Holden C. Hyer (ORNL), Christian M. Petrie (ORNL)

- 140 SMRs I&C Associated Challenges: Case of Argentinian Design CAREM—*Ricardo Garcia (Tecnatom), Cecilia Laura Alberto (CNEA), Mateo Ramos (Tecnatom), Luis Rejas (Tecnatom)*
- 148 EPRI Digital Systems Engineering Framework: A Modern Approach—*Matt Gibson (EPRI)*
- 158 Planned Irradiation of IN-Pile Steady State Extreme Temperature Testbed—*Emily Hutchins (Univ. Tennessee, Knoxville), Lawrence Heilbronn (Univ. Tennessee, Knoxville), Brandon Wilson (ORNL), N. Dianne Ezell (ORNL)*

167 Human Reliability Analysis: I

- 168 Application of Human Reliability Analysis to DI&C Control Room Modernization—*Jing Xing (U.S. Nuclear Regulatory Commission), Y. James Chang (U.S. Nuclear Regulatory Commission)*
- 178 A Unified Approach: Human Factors, Human Reliability and Human Performance Data for Digital Systems— *Mary Presley (EPRI), Matt Gibson (EPRI)*
- 188 Time-Dependent Human Reliability of Nuclear Power Plants with Digital Interfaces—*Wondea Jung (KAERI)*
- 195 Preliminary Empirical Findings on Dependency from a Simulator Study—*Ronald Boring (INL), Thomas Ulrich (INL), Roger Lew (Univ. Idaho), Anna Hall (INL), Jooyoung Park (INL), Jisuk Kim (INL)*

205 Cyber Security in Nuclear Power Plants: II

- 206 U.S. Regulatory Efforts for Cybersecurity of Advanced Reactors—*Ismael L. Garcia (U.S. Nuclear Regulatory Commission)*
- 215 The Sliding Scale of Cybersecurity Applied to the Cybersecurity Analysis of Advanced Reactors—*Lee T. Maccarone (Sandia), Michael T. Rowland (Sandia)*
- 224 Development of a New IEC Technical Report on Cybersecurity Risk Management for I&C and ES in Nuclear Power Plants—*Michael T. Rowland (Sandia), Edward* L. Quinn (Paragon Energy Solutions), John Sladek (Canadian Nuclear Safety Commission)
- 234 Layered Attack Surface Model for Digital Assets of Nuclear Power Plants—*Michael T. Rowland (Sandia), Jenna deCastro (Sandia), Benjamin Karch (Sandia), Andrew Hahn (Sandia), Gregory White (LLNL), Shadya B. Maldonado Rosado (Sandia)*

243 Data Analytics, Machine Learning, and Artificial Intelligence: I

- 244 Enhanced Video-Level Anomaly Feature Detection for Nuclear Power Plant Component Inspections Using the Latency Mechanism—*Zhouxiang Fei (Univ. Strathclyde), Graeme M. West (Univ. Strathclyde), Paul Murray (Univ. Strathclyde), Gordon Dobie (Univ. Strathclyde)*
- 254 PVC Detection in Sellafield Repackaging Procedures via Hyperspectral Imaging—Jaime Zabalza (Univ. Strathclyde), Paul Murray (Univ. Strathclyde), Stephen Marshall (Univ. Strathclyde), Jinchang Ren (Robert Gordon Univ.), Robert Bernard (Sellafield), Steve Hepworth (Sellafield)
- 262 Automated X-ray Classification of Special Nuclear Materials as an Operator Aid—Andrew Campbell (Univ. Strathclyde), Jaime Zabalza (Univ. Strathclyde), Paul Murray (Univ. Strathclyde), Stephen Marshall (Univ. Strathclyde), Neil Cockbain (National Nuclear Laboratory), Douglas Offin (National Nuclear Laboratory), Gareth Myers (Sellafield), Robert Bernard (Sellafield)
- 272 Classification of Ultrasonic B-Scan Images from Welding Defects Using a Convolutional Neural Network—*Hongbin Sun (ORNL), Richard Jacob (PNNL), Pradeep Ramuhalli (ORNL)*

283 On-line Monitoring for Maintenance Optimization: I

- 284 Risk Models Utilizing Historical Plant Data for Optimizing Maintenance Strategy at Nuclear Power Plants—Vaibhav Yadav (INL), Andrei V. Gribok (INL), Koushik Araseethota Manjunatha (INL), Vivek Agarwal (INL)
- 292 Reliability Modeling: An Alternative Causal Approach—*D. Mandelli (INL), K.A. Manjunatha (INL), V. Agarwal (INL), C. Wang (INL), L. Lin (INL)*
- 302 Nuclear Power Plant Risk-Informed Surveillance Frequency Control Program Implementation for Instrumentation and Control Systems—*Edward L. (Ted) Quinn (Paragon Energy Solutions), Tighe Smith (Paragon Energy Solutions)*
- 311 Constellation FitzPatrick Nuclear Power Plant Risk-Informed Surveillance Frequency Control Program for I&C Systems—Karim Habayeb (James A. Fitzpatrick NPP), Jeremy Torrez (James A. Fitzpatrick NPP), Tanner Hamm (James A. Fitzpatrick NPP), David Poulin (James A. Fitzpatrick NPP), Anthony Yost (James A. Fitzpatrick NPP), Edward L. (Ted) Quinn (Paragon Energy Solutions)

321 Human Factors in Advanced and Small Modular Reactors

- 322 Human Factors Considerations for Remote Operation of Small Modular Reactors—*Claire Blackett (Institute for Energy Technology), Gyrd Skraaning (Institute for Energy Technology), Magnhild Kaarstad (Institute for Energy Technology), Maren H. Rø Eitrheim (Institute for Energy Technology)*
- 332 Development of Scalable HFE Review Guidance for Advanced Reactors—David Desaulniers (U.S. Nuclear Regulatory Commission), Stephen Fleger (U.S. Nuclear Regulatory Commission), Brian Green (U.S. Nuclear Regulatory Commission), Niav Hughes Green (U.S. Nuclear Regulatory Commission), Jesse Seymour (U.S. Nuclear Regulatory Commission), John O'Hara (Brookhaven)
- 342 The Role of HFE for Multi-Reactors Control Rooms for SMR—*Luis Rejas (Tecnatom), Mateo Ramos (Tecnatom)*
- 351 Function Allocation Perspectives for Advanced Reactors—*Ronald L. Boring (INL), Torrey Mortenson (INL), Thomas A. Ulrich (INL), Roger Lew (Univ. Idaho)*
- 363 Artificial Intelligence and Machine Learning: Present and Future Challenges
- 364 Digital Modernization of Plant Protection Systems
- 365 Safety Related I&C Upgrade Pilot Project

367 Tuesday, July 18

- 369 Harnessing the Power of AI/ML in Nuclear Power
- 371 Advanced Sensor Technology: II
- 372 Proton Irradiation Experiments on Commercial CMOS Image Sensor—Duckhyun Kim (KAERI), Dongseong Shin (KAERI), Hosang Yoon (HCT), Hongjoon Park (HCT), Inyong Kwon (Yonsei Univ.)
- 380 Wireless, High-Temperature, Radiation-Endurance Ultrasonic Sensor System for Structural Health Monitoring of Nuclear Reactors—*Dan Xiang (X-wave Innovations), Uday Singh (X-wave Innovations), Gong Xi (X-wave Innovations)*
- 391 Design and Numerical Simulation of a Multi-Measurand Resonant Sensor—*Thomas Hinds (Univ. Pittsburgh), Heng Ban (Univ. Pittsburgh), Nikhil Bajaj (Univ. Pittsburgh)*

401 Analytical Models Developed for In-Pile Thermal Conductivity Determination Utilizing Line Heat Source Probes—*Katelyn Wada (Boise State), Austin Fleming (INL), Joshua Eixenberger (Boise State), Brian Jaques (Boise State), David Estrada (Boise State)*

411 Advanced Surveillance, Diagnostics, and Prognostics: I

- 412 Use of Novelty Detection or Distance Metrics to Improve Confidence in Machine Learning Algorithm Results— Nancy J. Lybeck (INL), Cody M. Walker (INL), Vivek Agarwal (INL)
- 422 A Study on the Development of a Condition Diagnosis and Failure Prediction System for the Digital Instrumentation and Control System of NPPs—*Chang Hwoi KIm (KAERI), In Seck Jang (KAERI)*
- 431 Prediction of Trip Parameters and Remaining Trip Time with Uncertainty Estimation in Abnormal Situations of Nuclear Power Plants—*Hyojin Kim (Chosun Univ.), Jonghyun Kim (Chosun Univ.)*
- 441 Anomaly Detection and Identification Using a Leave-One-Variable-Out Method—*Jacob A. Farber (INL), Ahmad Y. Al Rashdan (INL), Randall Reese (INL)*

447 Autonomous Control and Operation

- 448 Adaptive Data-Driven Model Predictive Control for Heat Pipe Microreactors—*Linyu Lin (INL), Benjamin Zastrow (Univ. Texas, Austin), Joseph Oncken (INL), Vivek Agarwal (INL)*
- 458 Adaptive Model Predictive Control for Heat-Pipe-Cooled Microreactors Under Normal and Heat Pipe Failure Conditions—*Joseph Oncken (INL), Linyu Lin (INL), Vivek Agarwal (INL)*
- 468 Design and Prototyping of Diagnostic Methods to Support Autonomous Operations of Advanced Reactors—*Tat Nghia Nguyen (ANL), Akshay J. Dave (ANL), Roberto Ponciroli (ANL), Richard B. Vilim (ANL)*
- 478 An Interpretation of the Bellman Equation for Risk-Informed Decision Making—Kyle Warns (Rensselaer Polytechnic Institute), Asad Ullah Amin Shah (Rensselaer Polytechnic Institute), Junyung Kim (Rensselaer Polytechnic Institute), Hyun Gook Kang (Rensselaer Polytechnic Institute)

485 Data Analytics, Machine Learning, and Artificial Intelligence: II

- 486 Knowledge-Informed Uncertainty-Aware Machine Learning for Time Series Forecasting of Dynamical Engineered Systems—*Xingang Zhao (ORNL), Bryan Maldonado Puente (ORNL), Siyan Liu (ORNL), Seung-Hwan Lim (ORNL), William Gurecky (ORNL), Dan Lu (ORNL), Matthew Howell (ORNL), Frank Liu (ORNL), Wesley Williams (ORNL), Pradeep Ramuhalli (ORNL)*
- 496 Quantifying Uncertainty of Deep Reinforcement Learning Based Decision Making for Operations and Maintenance of Nuclear Power Plant—*Ryan M. Spangler (Univ. Pittsburgh),* Daniel G. Cole (Univ. Pittsburgh)
- 506 Development of a Virtual Sensor for Leading Edge Flow Meter Measurements in Nuclear Power Plants—*Brent Shumaker (Analysis and Measurement Services Corp.), Christopher Guillotte (Analysis and Measurement Services Corp.), Brian Moazen (Analysis and Measurement Services Corp.), Zachary Becker (Analysis and Measurement Services Corp.), Jamie Coble (Univ. Tennessee, Knoxville)*
- 516 Using Machine Learning to Extract and Normalize Historic Maintenance Data from Work Descriptions— Nicholas Zwiryk (Westinghouse Electric Co.), Steven Yurkovich (Westinghouse Electric Co.)

527 Human Reliability Analysis: II

- 528 Why do Human-Machine Teams Fail: Investigating Failure Mechanisms in Human Reliability Analysis— Vincent Philip Paglioni (Univ. Maryland, College Park), Camille S. Levine (Univ. Maryland, College Park), Ahmad Al-Douri (Univ. Maryland, College Park), Katrina M. Groth (Univ. Maryland, College Park)
- 537 Causal Pathways Leading to Human Failure Events in Information-Gathering System Response Activities— *Camille S. Levine (Univ. Maryland, College Park), Ahmad Al-Douri (Univ. Maryland, College Park), Katrina M. Groth (Univ. Maryland, College Park)*
- 547 Advanced Human-System Interface Risk Analysis Based on Redundancy-Guided Systems-Theoretic Hazard Analysis and Human Reliability Analysis—*Jooyoung Park* (*INL*), Edward Chen (NCSU), Han Bao (INL), Tate Shorthill (Univ. Pittsburgh), Jisuk Kim (INL), Sai Zhang (INL), Ronald Boring (INL)
- 556 HAMSTER -- A New EDF HRA-Type C Methodology—Jean-François Enjolras (EDF Technical Direction), Anne Gailleton (EDF Technical Direction)

567 NPIC&HMIT Student Paper Competition

- 568 Generative Model for Sensor Fault Detection in Nuclear Power Plant Accidents—*Jeonghun Choi (Ulsan Nat'l Institute Science and Technology), Seung Jun Lee (Ulsan Nat'l Institute Science and Technology)*
- 579 Bridging the Data-Model Gap for HRA: Creating Bayesian Networks from HRA Data—Vincent Philip Paglioni (Univ. Maryland, College Park), Katrina M. Groth (Univ. Maryland, College Park)
- 589 Implementing Component Degradations into a Modelica Model of an iPWR System to Develop Health Monitoring Techniques—*David Anderson (Univ. Tennessee, Knoxville), Jamie Coble (Univ. Tennessee, Knoxville)*
- 599 Dynamic Model Agnostic Reliability Evaluation of Machine-Learning Models Integrated in Instrumentation and Control Systems—*Edward Chen (NCSU), Han Bao (INL), Nam Dinh (NCSU)*

609 Data Analytics, Machine Learning, and Artificial Intelligence: III

- 610 Remaining Useful Life Prediction of Filters in Nuclear Power Plants—A. Young (Univ. Strathclyde), M. Devereux (Univ. Strathclyde), B. Brown (Univ. Strathclyde), B. Stephen (Univ. Strathclyde), G. West (Univ. Strathclyde), S. McArthur (Univ. Strathclyde)
- 619 AI Enabled Neutron Flux Measurement and Virtual Calibration in Boiling Water Reactors—A. Tunga (Blue Wave AI Labs), J. Heim (Blue Wave AI Labs), M. Mueterthies (Blue Wave AI Labs), J. Thomas Gruenwald (Blue Wave AI Labs), J. Nistor (Blue Wave AI Labs)
- 629 Prediction of Safety-Related Process Variables for Nuclear Power Plants Using Progressive Layered Extraction—*Hye Seon Jo (Chosun Univ.), Min Seon Kim (Chosun Univ.), Man Gyun Na (Chosun Univ.)*
- 639 Thermal Fluids Field Reconstruction with Bayesian Inference for Forced Convection System—*Haeseong Kim (MIT), Sacit Cetiner (INL), Matteo Bucci (MIT)*

649 Human Factors Engineering in Nuclear

650 Developing and Implementing Human Factors Engineering (HFE) Requirements for the Finnish Nuclear Industry—*Paula Savioja (Radiation and Nuclear Safety Authority STUK)*

- 659 Investigating Human Factors Issues in Flexible Operation of Nuclear Power Plants—*Hanna Koskinen (VTT Technical Research Centre of Finland), Eva Simonsen (Vattenfall), Jari Laarni (VTT Technical Research Centre of Finland), Satu Pakarinen (Finnish Institute of Occupational Health)*
- 669 Method to Investigate Cognitive Aging Effects in Nuclear Operations Using the Rancor Microworld Simulator—*Michelle L. Velazquez (Idaho State), Anna Hall (INL), Ronald L. Boring (INL), Thomas A. Ulrich (INL), Roger Lew (Univ. Idaho)*
- 677 The Next-Generation Control Room: Using the Rancor Microworld Simulator to Modernize Digital Control Rooms—*Ronald L. Boring (INL), Thomas A. Ulrich (INL), Roger Lew* (Univ. Idaho)

685 Digital Control System Applications

- 686 Non-Nuclear Advanced Controls Testbed—*N. Dianne Bull Ezell (ORNL), Brandon Wilson (ORNL), Pradeep Ramuhalli (ORNL), Wesley Williams (ORNL), Christian M. Petrie (ORNL)*
- 694 Tackling Challenges of Digital I&C Implementation in Nuclear Power Plants—*Steve Yang (NuScale Power), Trevor Taylor (NuScale Power)*
- 704 A Study on the Solution Methods for Control Problem Caused by Valve Stiction in NPP—Hosun Ryu (Korea Hydro & Nuclear Power Co.), Min-seok Kim (Korea Hydro & Nuclear Power Co.)

709 Digital Twins and Their Applications: I

- 710 Technical Challenges and Gaps in Integration of Advanced Sensors, Instrumentation, and Communication Technologies with Digital Twins for Nuclear Application—Vaibhav Yadav (INL), Vivek Agarwal (INL), Prashant Jain (ORNL), Pradeep Ramuhalli (ORNL), Xingang Zhao (ORNL), Christopher Ulmer (U.S. Nuclear Regulatory Commission), Jesse Carlson (U.S. Nuclear Regulatory Commission), Doug Eskins (U.S. Nuclear Regulatory Commission), Raj Iyengar (U.S. Nuclear Regulatory Commission)
- 720 Digital Twin Development as a Holistic Representation for Advanced Reactor Systems Using Graph Neural Network—Yang Liu (ANL), Farah Alsafadi (NCSU), Travis Mui (ANL), Daniel O'Grady (ANL), Rui Hu (ANL)
- 730 Digital Twins for Nuclear Safeguards and Security Applications—Vaibhav Yadav (INL), Robby Christian (INL), Ashley Shields (INL), Mark Schanfein (INL), Gustavo Reyes (INL), Paul Zahnle (Sandia), Emily Sandt (Sandia)

740 Modeling of Vertical Motor-Driven Pump for Simulation of a Fault Signature for Condition Monitoring—*Vivek Agarwal (INL), Han Bao (INL), Harry Palas (Public Service Enterprise Group, Nuclear)*

751 Microreactor Controls and Monitoring

- 752 Data-Driven Model Predictive Control for Temperature Management of Heat-Pipe Microreactor—*Linyu Lin (INL), Joseph Oncken (INL), Vivek Agarwal (INL)*
- 762 Integrating Control Methods and Digital Twins for Advanced Nuclear Reactors—*Jacob A. Farber (INL), Ahmad* Y. Al Rashdan (INL), Maria Coelho (INL), Craig Primer (INL), Vaibhav Yadav (INL)
- 768 Opportunities and Challenges for Remote Microreactor Operations—*Kaeley Stevens (INL), Joseph Oncken (INL), Ronald Boring (INL), Thomas Ulrich (INL), Haydn Bryan (INL), Megan Culler (INL), Izabela Gutowska (Oregon State)*
- 777 Embedded Sensing Technologies for Microreactor Online Monitoring—J.R. Houser (Analysis and Measurement Services Corp.), S.N. Tyler (Analysis and Measurement Services Corp.), A.H. Hashemian (Analysis and Measurement Services Corp.), M. Davis (Luna Innovations), D. King (Fabrisonic)

787 Cyber Security in Nuclear Power Plants: III

- 788 Security Informed Safety Guidance: "If it's not Secure, it's not Safe"—*Robin Bloomfield (Adelard), Robert Stroud* (Adelard), Kate Netkachova (Adelard)
- 798 Resilience Strategy for False Data Injection Attacks Targeting Nuclear I&C Systems—*Stephen Yoo (Georgia Tech), Fan Zhang (Georgia Tech)*
- 808 Wavy-Attention Network for Real-Time Cyber-Attack Detection in a Pressurised Water Reactor Digital Control System—Abiodun Ayodeji (Bangor Univ.), Antonio Di Buono (National Nuclear Laboratory), Mokhtar Mohamed (Bangor Univ.), Iestyn Pierce (Bangor Univ.), Hafiz Ahmed (Bangor Univ.)
- 818 Assessment and Experience Using Open-Source NPP Environments for Cyber-Security Training—Andrew Hahn (Sandia), Michael Rowland (Sandia), Shannon Eggers (INL), Christopher C. Lamb (Sandia), Romuald Valme (Sandia)

829 Human Reliability Analysis: III

830 Human Reliability Analysis Regarding Electric Power Grid Reliability and Resiliency—Heather Medema (INL), Jeremy Mohon (INL), Ronald Boring (INL), Siobhan Heide (Sandia), Elizabeth Fleming (Sandia), Susan Stevens Adams (Sandia)

- 840 Simulation-Based Recovery Action Analysis Using the EMRALD Dynamic Risk Assessment Tool—*Jooyoung Park* (*INL*), Chad Pope (Idaho State), Yunyeong Heo (Ulsan Nat'l Institute Science and Technology), Ronald Boring (*INL*), Steven Prescott (*INL*)
- 848 Evaluation of Human Error Probability from Simulator Experiments Based on Operator Response Times—Vipul Garg (Bhabha Atomic Research Centre), Gopika Vinod (Bhabha Atomic Research Centre), Vivek Kant (Indian Institute on Technology Bombay), Curtis Smith (INL)
- 855 Dynamicizing SPAR-H: Generalized Form for Auto-Calculating the Performance Shaping Factor for Experience and Training—*Ji Suk Kim (INL), Ronald L. Boring* (*INL), Torrey J. Mortenson (INL), Thomas A. Ulrich (INL), Jooyoung Park (INL), Taewon Yang (Chosun Univ.), Jonghyun Kim (Chosun Univ.)*
- 865 Advanced Technology and Business Processes for Sustaining the Nuclear Industry
- 866 DI&C Research for Application in Nuclear Power Plants – Status Update
- 867 MCR / Concept of Operations Modernization Strategy
- 868 Process Sensors for Next Generation Reactors
- 869 The Development of Advanced Sensors and Instrumentation for Irradiation Experiments and Advanced Reactors
- 870 Utility Digital Transformation Strategies
- 871 Wednesday, July 19
- 873 Beyond Baseload: Nuclear in Nontraditional Markets
- 875 Cyber Security in Nuclear Power Plants: IV
- 876 Optimized FPGA Based Cyber Threat Detection Algorithm for Nuclear Power Plant Systems—*Vincent Le (Univ. Texas, San Antonio), Claire Walton (Univ. Texas, San Antonio), Miltiadis Alamaniotis (Univ. Texas, San Antonio)*
- 885 The Benefits of a Software Bill of Materials Program at Nuclear Facilities—Shannon L. Eggers (INL), Baleigh R. Morgan (INL), Drew N. Christensen (PNNL), Tori B. Simon (INL), Ethan S. Bauer (INL)
- 895 Cyber-Attack Detection and Distinguish System for Nuclear Power Plants—Sungmin Kim (Georgia Tech), Stephen Yoo (Georgia Tech), Fan Zhang (Georgia Tech)

905 Advances in Quantifying Data Harm and Physical Harm for Defense-in-Depth Cybersecurity Measures—*Lee T. Maccarone (Sandia), Michael T. Rowland (Sandia)*

915 Data Analytics, Machine Learning, and Artificial Intelligence: IV

- 916 Automated Diagnostics of Control Rod Drive Mechanisms with Machine Learning—Brent Shumaker (Analysis and Measurement Services Corp.), Christopher Guillotte (Analysis and Measurement Services Corp.), Brian Moazen (Analysis and Measurement Services Corp.), Zachary Becker (Analysis and Measurement Services Corp.)
- 924 Inference of BWR Irradiation History Employing Discharged Fuel Isotopics—*Tarikul Islam (Purdue), Shiming Yin (Purdue), Jeongwon Seo (Purdue), Hany S. Abdel-Khalik (Purdue)*
- 933 Transfer Learning Technique Using Similar Phenomena Training for Fuel Digital Twins of Nuclear Systems— James Daniell (Missouri Univ. Science and Technology), Kazuma Kobayashi (Missouri Univ. Science and Technology), Palash Bhowmik (INL), Souvik Chakraborty (IIT Delhi), Syed Alam (Missouri Univ. Science and Technology)
- 942 Development of a Scalable, Risk-Informed, Predictive Maintenance Cloud Based Strategy at Nuclear Power Plants—*Cody Walker (INL), Rita Appiah (Purdue), Vivek Agarwal (INL)*

953 I&C Regulations, Standards, and Guidelines

- 954 Experience with Using International Guidance to Design Accident Monitoring Instrumentation for New Small Passive Reactors—*Mark J. Burzynski (NewClear Day), Shelby Small (GE-Hitachi)*
- 965 Smart Device Safety Demonstration -- Proportional Approach Taking into Account System Context—*Sofia Guerra (Adelard), Luke Hinde (Adelard), Ben Phillips (Adelard)*
- 975 Development of an Update to ISA S67.04 and RP 67.04: "Setpoints for Nuclear Safety-Related Instrumentation for Nuclear Power Plants"—*Ryan Hoover (Westinghouse Electric Co.), Edward L. Quinn (Paragon Energy Solutions), Ron Jarrett (Technology Resources), Kirklyn R. Melson (Melson Engineering and Technical Services), David Rahn (U.S. Nuclear Regulatory Commission)*
- 983 Assessment of Model-Based Systems Engineering Processes in a Regulatory Review Context for Digital Instrumentation and Controls in Nuclear Power Plants—Derek Halverson (U.S. Nuclear Regulatory Commission)

993 Human Performance Evaluation, Monitoring, and Verification and Validation

- 994 Evaluation of the Reliability of the Emergency Response Organizations of Nuclear Power Plants Based on the Resilience Concept—*Jaehyun Kim (Chosun Univ.), Jonghyun Kim (Chosun Univ.)*
- 1002 An Experimental Investigation of Students' Learning Effects when Using a Simplified Nuclear Simulator— Taewon Yang (Chosun Univ.), Jooyoung Park (INL), Ronald Boring (INL), Jonghyun Kim (Chosun Univ.)
- 1012 Development of Automatic Human System Performance Evaluation System—*Kenji Mashio (Mitsubishi Heavy Industries)*
- 1022 An Empirical Study on the Impact to Human Performance Caused by Fundamental Surprise According to the Real-Sense of Earthquake in Nuclear Power Plants—Sa Kil Kim (KAERI), In Seok Oh (KAERI), Yong Hee Lee (KAERI), Jang Yeol Kim (KAERI)

1033 Data Analytics, Machine Learning, and Artificial Intelligence: V

- 1034 Anomaly Detection Using Graph Neural Network in Nuclear Power Plants—*Ji Woo Hong (Chosun Univ.), Man Gyun Na (Chosun Univ.)*
- 1043 Scalability of Condition-Based Maintenance Using Federated Learning—Vivek Agarwal (INL), Koushik A. Manjunatha (INL), Harry Palas (Public Service Enterprise Group)
- 1053 Within-Bank Condition Monitoring and Fault Detection of Fine Motion Control Rod Drives—*Ark Ifeanyi (Univ. Tennessee, Knoxville), Abhinav Saxena (GE-Research), Jamie Coble (Univ. Tennessee, Knoxville)*
- 1063 Impact of AI/ML on Nuclear Regulation: Tactics and Strategy—*Robin Bloomfield (Adelard), Timothy Burd (Adelard), Gareth Fletcher (Adelard), Luke Hinde (Adelard)*

1073 Diversity and Defense in Depth

- 1074 Approaches for Defense-in-Depth and Diversity (D3) for Advanced Reactor Deployment—Jerry Mauck (Paragon Energy Solutions), Glenn Lang (Paragon Energy Solutions), Michael Howard (Numerical Solutions), Edward L. Quinn (Paragon Energy Solutions)
- 1081 U.S. NRC Staff's Focus to Expand the Use of Risk-Informed Approaches to Address Digital Instrumentation and Controls Common-Cause Failures—*Samir Darbali* (U.S. Nuclear Regulatory Commission), Steven Alferink (U.S. Nuclear Regulatory Commission), Norbert Carte (U.S. Nuclear Regulatory Commission)

- 1090 Best Estimate and Uncertainty Analysis for Safety Analysis and Plant Margins—*K. Ivanov (NINE), M. Avramova (NINE), M. Modro (NINE), M. Cherubini (NINE), A. Petruzzi (NINE), Edward L. (Ted) Quinn (Paragon Energy Solutions)*
- 1100 An Approach to Modeling Postulated Software Common Cause Failures of Diverse Digital Instrumentation and Control Systems—*Tate Shorthill (Univ. Pittsburgh), Han Bao* (*INL), Edward Chen (NCSU), Sai Zhang (INL), Heng Ban (Univ. Pittsburgh)*

1111 Operator Aids and Support Systems

- 1112 Design of Operation Support System Under the Abnormal Situation in NPPs—Younhee Choi (Chosun Univ.), Ji Hun Park (Chosun Univ.), Man Gyun Na (Chosun Univ.), Jonghyun Kim (Chosun Univ.)
- 1124 SPIDAR: System-Level Physics-Informed Detection of Anomalies in Reactors—*Ezgi Gursel (Univ. Tennessee, Knoxville), Bhavya Reddy (San Jose State), Benjamin Smith (Univ. Tennessee, Knoxville), Shahrbanoo Rezaei (Univ. Tennessee, Knoxville), Katy Daniels (Univ. Tennessee, Knoxville), Jamie Baalis Coble (Univ. Tennessee, Knoxville), Mahboubeh Madadi (San Jose State), Vivek Agarwal (INL), Ronald Boring (INL), Vaibhav Yadav (INL), Anahita Khojandi (Univ. Tennessee, Knoxville)*
- 1134 Quantitative Estimation and Visualization of the Normal Operation Region for Power Transient Planning—*Haoyu Wang (ANL), Roberto Ponciroli (ANL), Thomas Elmer (ANL), Hubert Ley (ANL), Akshay J. Dave (ANL), Richard B. Vilim (ANL)*
- 1144 Intelligent Early Warning Technique for Transient Recognition at Nuclear Power Plants—Seo Ryong Koo (KAERI), Jaekwan Park (KAERI)

1153 Tools for Human Performance Enhancement in NPPs

- 1154 Experience of Implementation and Use of Dynamic Instructions in MCR—*Javier Barroso (Tecnatom), Mateo Ramos (Tecnatom)*
- 1161 The Concept of Seamless Dynamic Emergency Operating Procedure—Jung Sung Kang (Ulsan Nat'l Institute Science and Technology), Seung Jun Lee (Ulsan Nat'l Institute Science and Technology)
- 1170 Generation-Proof Alarm Design—*Reginald Seay (Jacobs Technology)*

1178 Developing Expertise and Collaboration of Nuclear Power Plant Field Operators in Virtual Reality—S. Pakarinen (Finnish Institute of Occupational Health), J. Laarni (VTT Technical Research Centre of Finland), T. Passi (Finnish Institute of Occupational Health), H. Koskinen (VTT Technical Research Centre of Finland), K. Lukander (Finnish Institute of Occupational Health), T.-T. Salonen (VTT Technical Research Centre of Finland)

1189 Advanced Surveillance, Diagnostics, and Prognostics:

- 1190 Development and Testing of Advanced Hydrogen Sensors for Severe Accidents—*James Gleason (GLSEQ), Patrick Gleason* (GLSEQ)
- 1199 XAI Module for Reactor Core Component Analysis Using Metallic Fuels—James Daniell (Missouri Univ. Science and Technology), Kazuma Kobayashi (Missouri Univ. Science and Technology), Syed Alam (Missouri Univ. Science and Technology)
- 1210 Plant Electrical Output Monitoring Implementation Experience in a 3-Loop PWR—Javier Gonzalez (Tecnatom), Mariano Martín (Tecnatom), Javier Barroso (Tecnatom)
- 1220 Combining Hidden Markov Models for Prognostics of Systems Subjected to Perfect and Imperfect Maintenance Operations—*Mattia Zanotelli (Univ. Tennessee, Knoxville), J. Wesley Hines (Univ. Tennessee, Knoxville), Jamie B. Coble (Univ. Tennessee, Knoxville)*

1231 Cybersecurity in Wireless Technologies, Digital I&C, and Digital Twins

- 1232 Lessons Learned from Advanced Reactor Cyber Analysis and Development Environment (ARCADE)—*Andrew Hahn* (Sandia), Michael Higgins (Sandia), Lee Maccarone (Sandia), Michael Rowland (Sandia), Romuald Valme (Sandia)
- 1241 Cyber Secure Sensors for I&C—James Gleason (GLSEQ), Patrick Gleason (GLSEQ)
- 1248 Cybersecurity Concerns from the use of Wireless Technologies in Nuclear Power Plants—*Erick Martinez Rodriguez (U.S. Nuclear Regulatory Commission), Ismael Garcia (U.S. Nuclear Regulatory Commission), Leroy Hardin (U.S. Nuclear Regulatory Commission)*
- 1257 Leveraging Secure Elements in Nuclear Power Plant Instrumentation and Control Systems for Trustworthy Data Exchange—*Benjamin Karch (Sandia), Jacob James (Sandia), Michael T. Rowland (Sandia)*

1267 Data Analytics, Machine Learning, and Artificial Intelligence: VI

- 1268 Leveraging Knowledge from Historic Engineering Drawings—A.M. Fagan (Univ. Strathclyde), G.M. West (Univ. Strathclyde), S.D.J. McArthur (Univ. Strathclyde)
- 1278 Multi-Stage Neural Network Framework for Probabilistic-to-Continuous Predictions—James Daniell (Missouri Univ. Science and Technology), Kazuma Kobayashi (Missouri Univ. Science and Technology), Syed Alam (Missouri Univ. Science and Technology), Ayodeji Alajo (Missouri Univ. Science and Technology), Souvik Chakraborty (IIT Delhi), Dinesh Kumar (Univ. Bristol)
- 1288 System-Level Modelling of Liquid Metal Loop Using Time Series Analysis and Network Graph Laplacian—*Molly Ross (Purdue), Hitesh Bindra (Purdue)*
- 1298 Deployment and In-Reactor Test of an Instrument for Real-Time Monitoring Thermal Conductivity Evolution of Nuclear Fuels—*Zilong Hua (INL), Caleb Picklesimer (INL), Austin Fleming (INL), David Hurley (INL), Weiyue Zhou (MIT), Michael Short (MIT), David Carpenter (MIT)*

1305 On-line Monitoring for Maintenance Optimization: II

- 1306 Coolant Pump Predictive Data Analytics from Signatures Generated by the Recursive Short Time Fast Fourier Transform—*James A. Smith (INL), Vivek Agarwal (INL)*
- 1317 Development of a Heat Pipe Based Testbed for Online Monitoring of Microreactors—Shawn Tyler (Analysis and Measurement Services Corp.), Jacob Houser (Analysis and Measurement Services Corp.), Brent Shumaker (Analysis and Measurement Services Corp.), Alexander Hashemian (Analysis and Measurement Services Corp.)
- 1325 The ARENA Test Bed -- A Versatile Resource for I&C Development and Validation—Samuel W. Glass III (PNNL), Mychal P. Spencer (PNNL), Matthew S. Prowant (PNNL), Aishwarya Sriraman (PNNL), Jiyoung Son (PNNL), Leonard S. Fifield (PNNL)
- 1335 Small Modular Reactor Condensate and Feedwater System Maintenance Methods by Utilizing Event Modeling Risk Assessment Using Linked Diagram— Saeed Alhadhrami (Univ. Wisconsin, Madison), Steven Prescott (INL), Vivek Agarwal (INL), Ben Lindley (Univ. Wisconsin, Madison)

1345 Human-Automation Interaction

1346 Anomaly Recovery Algorithm Based on Robust Al Concept for Nuclear Power Plants—*Hee-Jae Lee (Chosun Univ.), Daeil Lee (KAERI), Jonghyun Kim (Chosun Univ.)*

- 1356 Considerations for Artificial Intelligence and Machine Learning in Nuclear Power: Interface Design and Experiment—*Rachael Hill (INL), Torrey Mortenson (INL), Cody Walker (INL)*
- 1364 A Conceptual Communication Framework Utilizing NLP Technology in Advanced MCRs of NPPs—*Taejin Kim* (KAERI), Donghan Yoo (KAERI), Juseung Lee (KAERI), Geeyong Park (KAERI)
- 1369 A Thermal Power Dispatch Concept of Operations Research Plan—*Thomas A. Ulrich (INL), Tyler Westover (INL), Roger Lew (Univ. Idaho)*
- 1379 Advanced Controls for Advanced Nuclear Reactors
- 1380 Cybersecurity for LWRs and Advanced Reactors
- 1381 Human Factors Aspects of Information Automation
- 1382 Instrumentation and Control (I&C) Systems in Nuclear Space Technologies: Challenges and Opportunities
- 1383 The What, Why, and How of Work Digitalization

1385 Thursday, July 20

1387 Human-System Interface Design

- 1388 Identifying Good Practices for Overview Displays in Nuclear Power Plants: A Cross-Plant Interview Study— Marten Bloch (Institute for Energy Technology), Alf Ove Braseth (Institute for Energy Technology), Alexandra Fernandes (Institute for Energy Technology)
- 1398 Conceptual Design of Information Displays for Supporting Severe Accident Management in Nuclear Power Plants Using Ecological Interface Design (EID) Framework—*Piljae Cho (Chonnam Nat'l Univ.), Dong-Han Ham (Chonnam Nat'l Univ.), Hyunchul Lee (KAERI)*
- 1408 Finnish Nuclear Regulatory Lessons Learnt from the Boeing 737 Max Accidents—*Paula Savioja (STUK), Marja-Leena Järvinen (STUK), Jan-Erik Holmberg (STUK), Jorma Sandberg (STUK), Martti Vilpas (STUK)*

1419 Research Reactor I&C

1420 High Flux Isotope Reactor Irradiation of Self-Powered Neutron Detectors—*Padhraic L. Mulligan (ORNL), Daniel C. Sweeney (ORNL), Kara M. Godsey (ORNL), N. Dianne B. Ezell (ORNL), Christian M. Petrie (ORNL)*

- 1431 Methods for Continuously Resolving Spectral Shifts in Distributed Optical Fiber Sensors Irradiated to Extreme Neutron Fluence—*Daniel C. Sweeney (ORNL), Christian M. Petrie* (ORNL)
- 1441 Demonstration of a Model-Based Approach for Formal Verification of I&C Logics—Joonas Linnosmaa (VTT Technical Research Centre of Finland), Antti Pakonen (VTT Technical Research Centre of Finland), Jarmo Alanen (VTT Technical Research Centre of Finland)

1451 I&C Failure Modes

- 1452 State of the Art for Addressing Hazards from Common Causes in Engineering Digital Instrumentation & Control (I&C) Systems—*Sushil Birla (U.S. Nuclear Regulatory Commission)*
- 1462 An Evaluation Approach to Common Cause Failures for Instrumentation and Control Systems Design—*Xiaoxu Diao (Ohio State), Boyuan Li (Ohio State), Carol Smidts (Ohio State)*
- 1472 Failure Modes of Programmable Logic Circuits—*Raimund* J. Heigl (TÜV Rheinland Industrie Service), Horst Miedl (TÜV Rheinland Industrie Service)

1483 Human Factors in Cybersecurity

- 1484 A Product Life Cycle Human-System Interrelationship Approach for Cybersecurity—*Ruixuan Li (INL), Rachael A. Hill (INL), Katya Le Blanc (INL)*
- 1494 Data Masking with DIOD for Anomaly Detection Problems—*Tyler Lewis (Purdue), Arvind Sundaram (Purdue), Ahmad Al Rashdan (INL), Hany Abdel-Khalik (Purdue)*
- 1502 Human Factors in Cybersecurity: From Human Error to Vulnerability Factors for Effective Prevention—*Cecilia De Ia Garza (EDF Lab Paris-Saclay), Charles Stoessel (Opus Citatum), Youssef Laarouchi (EDF Lab Paris-Saclay), So Seng (EDF Lab Paris-Saclay)*

1513 HFE of Advances in Control Rooms

- 1514 Regulatory Review on Human Factors Engineering of Advanced Power Reactor 1400 in the Application of Operating License—*Dhonghoon Lee (Korea Institute of Nuclear Safety)*
- 1522 Have Perspectives on Main Control Room Modernization Changed in the Last 10 Years?—*Anna Hall (INL), Jeffrey C. Joe (INL)*
- 1532 Experience of Implementation and use of Dynamic Instructions in MCR—*Javier Barroso (Tecnatom), Mateo Ramos* (*Tecnatom*)

- 1540 Application of Rule Extraction for Explainability of Artificial Intelligence in Nuclear Power Plants—*Ji Hun Park (Chosun Univ.), Sang Won Oh (Chosun Univ.), Man Gyun Na (Chosun Univ.)*
- 1550 Development of Abnormal State Diagnosis Model Including "Unknown" Situation Using OpenMax Algorithm at Nuclear Power Plants—*Ho Jun Lee (Chosun Univ.), Sang Hyun Lee (Chosun Univ.), Man Gyun Na (Chosun Univ.)*
- 1560 Addressing Unaccounted Uncertainties for in GLLSM's Best-Estimate Calculation by Uncertainty Relaxations—*Jeongwon Seo (Purdue), Hany S. Abdel-Khalik (Purdue)*
- 1568 Selection Criteria for Optimal Sensor Placement in Online Monitoring Systems—*Xiaoxu Diao (Ohio State), Md Ragib Rownak (Ohio State), Samuel Olatubosun (Ohio State), Pavan Kumar Vaddi (Ohio State), Carol Smidts (Ohio State)*

1579 Digital I&C Reliability

- 1580 Nuclear Energy Agency's Consensus Position on Regulatory Inspections of Digital Instrumentation and Control Systems and Components Important to Safety used at Nuclear Power Plants – Inspection Framework—*Ismael L. Garcia (U.S. Nuclear Regulatory Commission)*
- 1590 Analyzing Defense-in-Depth Properties of Nuclear Power Plant Instrumentation and Control System Architectures Using Ontologies—*Kim Björkman (VTT Technical Research Centre of Finland), Antti Pakonen (VTT Technical Research Centre of Finland)*
- 1600 Development of a new IEC Technical Report on System Software Vulnerability Management and System Software End-of-Life Management for I&C and Electrical Power Systems in Nuclear Power Plants— Juergen E. Bochtler (Siemens Energy Global), Edward L. Quinn (Paragon Energy Solutions)
- 1610 Model-Checking I&C Logics -- Practical Examples— Antti Pakonen (VTT Technical Research Centre of Finland)

1621 Sensor for Structural Applications in Nuclear

1622 Ultrasonic Assessment of Neutron Irradiated Concrete-Forming Aggregates—Hongbin Sun (ORNL), Elena Tajuelo Rodriguez (ORNL), Jose Arregui Mena (ORNL), Yann Le Pape (ORNL), Thomas M. Rosseel (ORNL)

- 1632 Acceptance Criteria for Instrumentation and Control Cabling—Patrick Ward (Analysis and Measurement Services Corp.), Codi Ferree (Analysis and Measurement Services Corp.), Elijah Connatser (Analysis and Measurement Services Corp.), Casey Sexton (Analysis and Measurement Services Corp.)
- 1642 Signal Processing of Multiplexed Optical PWM Signals for Sensor Arrays in Nuclear Environments—*Daniel C. Sweeney (ORNL), F. Kyle Reed (ORNL), K.C. Goetz (ORNL), N. Dianne Bull Ezell (ORNL)*
- 1651 Additively Manufactured Strain Sensing for Nuclear Reactor Applications—*Timothy L. Phero (Boise State), Kaelee A. Novich (Boise State), Kiyo T. Fujimoto (INL), Amey R. Khanolkar (INL), Benjamin C. Johnson (Boise State), Michael D. McMurtrey (INL), David Estrada (Boise State), Brian J. Jaques (Boise State)*

1661 Integrated Energy Systems

- 1662 Latest Trend in Worldwide Nuclear Energy Production— H.M. Hashemian (Analysis and Measurement Services Corp.)
- 1668 Digital Twins for Optimizing the Real-Time Economy of Integrated Energy Systems—*Takanori Kajihara (INL), Daniel Garrett (INL), Junyung Kim (INL), Linyu Lin (INL), Jeren M. Browning (INL), Paul Talbot (INL)*
- 1678 Operation Optimization Using Reinforcement Learning with Integrated Artificial Reasoning Framework— Junyung Kim (INL), Daniel Mikkelson (INL), Xinyan Wang (MIT), Xingang Zhao (ORNL), Hyun Gook Kang (Rensselaer Polytechnic Institute)
- 1688 Rancor Reduced Order Model Nuclear Power Plant Simulator for Real-Time Simulations and Hardware inthe-Loop Testing—*Roger Lew (Univ. Idaho), Thomas Ulrich (INL)*
- 1697 Wireless Technologies and EMI/RFI Considerations
- 1698 Safety Concerns from the use of Wireless Technologies in Nuclear Power Plants—*Leroy Hardin (U.S. Nuclear Regulatory Commission), Erick Martinez Rodriguez (U.S. Nuclear Regulatory Commission)*
- 1705 Potential Impacts to NPP Safety from an EM Event— Leroy Hardin (U.S. Nuclear Regulatory Commission)
- 1711 Fault Detection of Digital Instrumentation and Control Systems Using Integrated Electromagnetic Compatibility and Automated Functional Testing—*G.W. Morton (Analysis and Measurement Services Corp.), B.D. Shumaker (Analysis and Measurement Services Corp.), D.E. McCarter (Analysis and Measurement Services Corp.)*

1717 Design and Implementation of a Sensor Node Prototype for Monitoring Special Nuclear Material Storage Facility—Antonio Di Buono (National Nuclear Laboratory), Peter R. Green (Univ. Manchester), Neil Cockbain (National Nuclear Laboratory), Barry Lennox (Univ. Manchester)

1727 Digital Twins and Their Applications: II

- 1728 Multi-Fidelity Machine Learning Approach to Material Modeling for Digital Twin Framework—*Kazuma Kobayashi* (Missouri Univ. Science and Technology), James Daniell (Missouri Univ. Science and Technology), Dinesh Kumar (Missouri Univ. Science and Technology), Syed Alam (Missouri Univ. Science and Technology)
- 1737 Components of Intelligent Digital Twin Framework for Complex Nuclear System—Kazuma Kobayashi (Missouri Univ. Science and Technology), James Daniell (Missouri Univ. Science and Technology), Md Nazmus Sakib (Missouri Univ. Science and Technology), Dinesh Kumar (Missouri Univ. Science and Technology), Syed Alam (Missouri Univ. Science and Technology)

- 1744 Applications of APR1400 MMIS Virtualization Simulator for the NPP's Performance—Sungjin Lee (Korea Hydro & Nuclear Power Co.), Ho Sun Ryu (Korea Hydro & Nuclear Power Co.), Min-seok Kim (Korea Hydro & Nuclear Power Co.), Yong Sik Kim (Korea Hydro & Nuclear Power Co.)
- 1753 Explainable Artificial Intelligence for Identification of Human Errors in Nuclear Power Plants—Bhavya Reddy Kotla (San Jose State), Ezgi Gursel (Univ. Tennessee, Knoxville), Katy Daniels (Univ. Tennessee, Knoxville), Anahita Khojandi (Univ. Tennessee, Knoxville), Jamie Baalis Coble (Univ. Tennessee, Knoxville), Vivek Agarwal (INL), Vaibhav Yadav (INL), Ronald L. Boring (INL), Mahboubeh Madadi (San Jose State)
- 1763 Advanced Reactor Instrumentation and Control Licensing
- 1764 Digital I&C and HFE Two-Day Workshop: Modernization of the Nuclear Fleet