

| DAY 1: MONDAY, OCTOBER 23, 2023 | | | | |
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| SESSIONS | PAPER TITLE | AUTHORS / PANELISTS | STARTING TIME (Central Time) | |
| Session 1: AI and ML to support risk analysis and risk-informed decision-making (I) Co-Chairs: 1. Nadezhda Gotcheva (nadezhda.gotcheva@vtt.fi) 2. Ha Bui (habui2@illinois.edu) | Future-oriented AI risk management | Nadezhda Gotcheva and Nina Wessberg | 8:00 | |
| | Nuclear Systems Safety Analysis by Artificial Intelligence, Meta-Modeling and Adaptive Simulation | Francesco Di Maio, Nicola Pedroni, Enrico Zio | 8:30 | |
| | Context of Natural and Artificial Intelligence Misjudgment in Nuclear Technology | Gueorgui Petkov | 9:00 | |
| | Testing Generative Pre-trained Transformer for Knowledge Abstraction and Reasoning for Nuclear Reactor Design and Safety Applications | Paridhi Athe, Nam Dinh | 9:30 | |
| | Break | | | |
| | A New Approach to Identify and Characterize Low-Power Shutdown Initiating Events Using Machine Learning Techniques | Zhegang Ma, Fei Xu, Sai Zhang | 10:30 | |
| | AI support of Risk assessment and Management: Imperfect Information and Decision under Uncertainty | Elisabeth Pate-Cornell | 11:00 | |
| | Interpretable Machine Learning Approach for Reliability Analysis | Kalpesh More, Yogesh Mathpati, Tapas Tripura, Rajdip Nayek, Syed Alam, Souvik Chakraborty | 11:30 | |
| Session 2: AI and ML for safety measures optimization Co-Chairs: 1. Jason Hou (jason.hou@ncsu.edu) 2. Istiaque Ahmed (miahmed2@illinois.edu) | Development of Plant Reload Optimization Platform Capabilities for Core Design and Fuel Performance Analysis | Yong-Joon Choi, Mohammad Abdo, Congjian Wang, Jarrett Valeri, Cesare Frepoli, Khang Nguyen, Jason Hou | 15:00 | |
| | On Demand Explainable AI driven Optimization of Critical Nuclear Safety Parameters using “No Code” AI tool | Khairul Chowdhury, Syed Alam | 15:30 | |
| PANEL SESSION 1 Moderator: Zahra Mohaghegh (zahra13@illinois.edu) | OPENING REMARKS: IAPSAM AND PRA OVER THE YEARS | Panelists: George Apostolakis, Todd Paulos, Enrico Zio, Luca Podofillini, Curtis Smith, Enrique Lopez, David Johnson. | 16:00 | |
| Session 3: AI and ML to support risk analysis and risk-informed decision-making (II) Co-Chairs: 1. Tatsuya Sakurahara (sakurah2@illinois.edu) 2. Spencer Fargusson (smf5@illinois.edu) | Survey on the Use of Artificial Intelligence in Nuclear Power Plants | Hyun Seok Noh, Jung Soo Kim, Woo Sik Jung | 17:30 | |
| | Application of Artificial Intelligence for Estimating Severe Accidents in Nuclear Power Plants Using Offsite Information | Hyun Seok Noh, Gee Man Lee, Jung Soo Kim, Woo Sik Jung | 18:00 | |
| | Adaptive Sampling for Accurate Surrogate Modeling of Level 3 PRA Code WinMACCS | Ryogo Kurokawa | 18:30 | |
| | Success Criteria Analysis using Deep Neural Network and Monte Carlo Dropout for Dynamic Probabilistic Safety Assessment | Yunyeong Heo, Junyong Bae, Wooseok Jo, Seung Jun Lee | 19:00 | |
| | A New Zero-suppressed Ternary Decision Diagram Algorithm | Woo Sik Jung | 19:30 | |