



**Pacific Northwest National Laboratory
P.O. Box 999
Richland, WA 99352**

SUBJECT: Report on Foreign Travel to Sendai, Japan
DATE: 1/15/2024
TO: Dr. Angela Chambers, Nuclear Criticality Safety Program Manager, National Nuclear Security Administration / NA-ESH-21
FROM: Travis J. Zipperer

MEETING TITLE: The 12th International Conference on Nuclear Criticality Safety (ICNC)

MEETING LOCATION: Sendai International Center, Sendai, Japan

MEETING DATES: October 1-6, 2023

ATTENDEES ON BEHALF OF NCSP: Travis J. Zipperer

MEETING PURPOSE:

The 12th International Conference on Nuclear Criticality Safety (ICNC) will be held in Sendai, Japan on 1-6 October 2023. Twenty years after the last conference in Japan, which was held in Tokai-mura as the 7th ICNC, Japanese criticality safety community will host the ICNC again. Organized in co-operation with the NEA, the ICNC takes place every 4 years and brings together researchers, engineers, nuclear power plant operators, students and regulators working in the field of criticality safety.

MEETING BENEFITS TO THE NCSP:

Participation provides:

- 1) State of the art information for criticality safety.
- 2) Opportunity to inform the international community on the Sum-of-Fractions Method.

PURPOSE OF TRAVEL

To attend and present at the 12th International Conference on Nuclear Criticality Safety (ICNC2023) conference at the Sendai International Center on the Sum-of-Fractions work performed under the Nuclear Criticality Safety Program.

Persons Contacted at Sendai, Japan

ORNL: Doug Bowen, BJ Marshall, Travis Greene, Walid A Metwally, Alex Lang, Alex Shaw, Shane Hart, Chris Chapman

Office for Nuclear Regulation (ONR) UK: Gregory O'Connor, Eoin Flannery

OECD NEA: Andrew Holcomb



Presentations, Chair Responsibilities, Etc.:

Presentation: Evaluation of the Sum-of-Fractions Methodology for Water and Polyethylene Moderated Systems (See Page 6 of ICNC2023Program Provided)

Distribution:

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Time Schedule

Sunday, October 1, 14:00–16:30: Workshop, Room 2

Sunday, October 1, 15:00–19:00: Registration, Exhibition Hall 1 (Welcome Cocktail for 17:00–19:00)

Monday, October 2	Tuesday, October 3	Wednesday, October 4	Thursday, October 5
	8:00–8:30, Coffee Exhibition Hall 1		
8:30–11:00, Plenary Session Exhibition Hall 2	8:30–10:35, Session 4 Room 1: Track 1, Codes and Other Calculation Methods Room 2: Track 8, Criticality Accidents and Incidents Room 3: Track 6, Operational Practices and Safety Cases Room 4: Track 5, Standards, Assessment Methodology, Regulations	8:30–10:35, Session 7 Room 1: Track 1, Codes and Other Calculation Methods Room 2: Track 7, Storage, Transport, and Disposal Issues Room 3: Track 9, Professional Development Issues and Training Room 4: Track 4, Measurements, Experiments, and Benchmarks	8:30–10:35, Session 11 Room 1: Track 3, Uncertainty and Sensitivity Analysis Room 2: Track 7, Storage, Transport, and Disposal Issues Room 3: Special Session 2, Machine Learning, Deep Learning
11:00–11:30, Coffee Exhibition Hall 1		10:35–11:05, Coffee Exhibition Hall 1	
11:30–12:45, Session 1 Room 1: Track 2, Nuclear Data Room 2: Track 8, Criticality Accidents and Incidents Room 3: Track 6, Operational Practices and Safety Cases Room 4: Special Session 1, Fukushima Dai-Ichi Nuclear Power Plant	11:05–12:45, Session 5 Room 1: Track 1, Codes and Other Calculation Methods Room 2: Track 7, Storage, Transport, and Disposal Issues Room 3: Track 4, Measurements, Experiments, and Benchmarks Room 4: Track 5, Standards, Assessment Methodology, Regulations	11:05–12:45, Session 8 Room 1: Track 1, Codes and Other Calculation Methods Room 2: Track 7, Storage, Transport, and Disposal Issues Room 3: Track 9, Professional Development Issues and Training Room 4: Track 4, Measurements, Experiments, and Benchmarks	11:05–12:45, Closing Session Exhibition Hall 2
	12:45–14:00, Lunch Exhibition Hall 1		
14:00–15:40, Session 2 Room 1: Track 2, Nuclear Data Room 2: Track 8, Criticality Accidents and Incidents Room 3: Track 6, Operational Practices and Safety Cases Room 4: Special Session 1, Fukushima Dai-Ichi Nuclear Power Plant	14:00–16:05, Session 6 Room 1: Track 2, Nuclear Data Room 2: Track 7, Storage, Transport, and Disposal Issues Room 3: Track 6, Operational Practices and Safety Cases Room 4: Track 4, Measurements, Experiments, and Benchmarks	14:00–15:40, Session 9 Room 1: Track 3, Uncertainty and Sensitivity Analysis Room 2: Track 7, Storage, Transport, and Disposal Issues Room 3: Track 10, Future Challenges Room 4: Track 4, Measurements, Experiments, and Benchmarks	
15:40–16:10, Coffee Exhibition Hall 1	16:05–16:10, Coffee Exhibition Hall 1	15:40–16:10, Coffee Exhibition Hall 1	
16:10–17:50, Session 3 Room 1: Track 1, Codes and Other Calculation Methods Room 2: Track 8, Criticality Accidents and Incidents Room 3: Track 6, Operational Practices and Safety Cases Room 4: Special Session 1, Fukushima Dai-Ichi Nuclear Power Plant	16:10–17:50, Poster Session Exhibition Hall 1	16:10–17:50, Session 10 Room 1: Track 3, Uncertainty and Sensitivity Analysis Room 2: Track 7, Storage, Transport, and Disposal Issues Room 3: Track 10, Future Challenges Room 4: Track 4, Measurements, Experiments, and Benchmarks	

Tuesday, October 3, 18:30–21:00: Banquet, Hotel Metropolitan Sendai (Cocktail for 18:30–19:00)

Friday, October 6: Technical Tours

<p>Room 1 Track 2 NUCLEAR DATA</p> <p>Chairs: Shoichiro Okita (JAEA), Michael L. Zerkle (Naval Nuclear Lab.)</p>	<p>Room 2 Track 8 CRITICALITY ACCIDENTS AND INCIDENTS</p> <p>Chairs: Yuichi Yamane (JAEA) Matthieu Duluc (Framatome)</p>	<p>Room 3 Track 6 OPERATIONAL PRACTICES AND SAFETY CASES</p> <p>Chairs: Georgios Kyriazidis (CEA), Andrew Charles Buchan (AWE)</p>	<p>Room 4 Special Session 1 FUKUSHIMA DAI-ICHI NUCLEAR POWER PLANT</p> <p>Chairs: Jesson Hutchinson (LANL), Yasushi Nauchi (CRIEPI)</p>
<p>Thermal Neutron Scattering Law of UBe₁₃ and PuBe₁₃ <i>J.L. Wormald, M.L. Zerkle</i></p>	<p>Completion of the CEA Guide for Criticality Accident Studies <i>Michael Laget, Francis Barbry</i></p>	<p>APM Reprocessing Facility – Dismantling of Hot Cells Dedicated to Uranium and Plutonium Purification – Criticality Safety Case <i>Laurent Cholvy, Frédéric Antegnard, Koalyann Nuon et al.</i></p>	<p>Impact on Criticality of Using Pure Water with Corium coming from Nuclear Reactor Core Melting <i>Aurélie Bardelay, Wilfried Monange</i></p>
<p>Molecular Dynamics Analysis of Reactor Graphite for Preparing Thermal Neutron Scattering Law <i>Shoichiro Okita, Minoru Goto</i></p>	<p>More Critiques of Historical Criticality Accidents through the Lens of Behavioral Economics <i>Brittany Williamson</i></p>	<p>Strategic Characterisation to Support the Development of Criticality Safety Assessments for Decommissioning <i>B. J. Greenhalgh, T. Page</i></p>	<p>Criticality Assessment Assuming Spent Fuel Failure at Fukushima Daiichi Nuclear Power Plant Unit 1 <i>Takahiro Koide, Takashi Yoshii, Keita Fukawa</i></p>
<p>Impact of Light Water Covariance on Integral Benchmarks <i>Chris W. Chapman, Doro Wiarda, B.J. Marshall</i></p>	<p>The Nuclear Criticality Accident in Japan, Revisited <i>Hiroshi Okuno, Kenya Suyama</i></p>	<p>Phenix – The Neutronography Reactor and Its Auxiliary Circuits – Criticality Safety Issues <i>Laurent Cholvy, Quentin Simon, Nadine Bonny et al.</i></p>	<p>Features of Fukushima Daiichi Nuclear Power Plant Accident and Information on Fuel Debris Obtained from PCV Internal <i>Kenji Owada, Masakuni Kumeda, Takeshi Honda et al.</i></p>

Room 1 Track 2 NUCLEAR DATA Chairs: Dimitri Alexandre Rochman (PSI) Tomoaki Watanabe (JAEA)	Room 2 Track 8 CRITICALITY ACCIDENTS AND INCIDENTS Chairs: Hiroshi Okuno (JAEA) Michael Laget (CEA)	Room 3 Track 6 OPERATIONAL PRACTICES AND SAFETY CASES Chairs: Andrew B. Smiley (LANL) Amy Elizabeth van der Vyver (Sellafield)	Room 4 Special Session 1 FUKUSHIMA DAI-ICHI NUCLEAR POWER PLANT Chairs: Aurélie Bardelay (IRSN) Yasushi Nauchi (CRIEPI)
Automated, Reproducible Data Processing, Verification, and Validation at the NEA <i>Andrew Holcomb, Daniela Foligno, Michael Fleming</i>	A New Analysis of the Windscale Criticality Accident Using Monte-Carlo Code MONK <i>Emma Sayce, Neil Harris, Nathan Sayle</i>	JHR Fuel Storage Pool Criticality Safety Analysis <i>Eric Fillastre, Georges Kyriazidis, Manuel Bergman et al.</i>	Criticality Control Method for Fuel Debris Retrieval in Fukushima Daiichi NPP <i>Yasuhiro Harada, Makoto Nakano, Yamato Hayashi et al.</i>
The TENDL Nuclear Data Library: For Criticality Calculations and More <i>D. Rochman, A.J. Koning, S.C. van der Marck</i>	Multiphysics Analysis of Reactivity Changes due to Solution Flow in the Past Criticality Accident at Windscale Works in 1970 <i>Kodai Fukuda, Yuichi Yamane</i>	Providing a Criticality Warning System Omission Case for a Legacy Reactor Facility at AWE <i>Essam Mohammed, Mark A Roydhouse</i>	Development of Criticality Approach Monitoring Method Using Neutron Detectors for Fuel Debris Retrieval in Fukushima Dai-ichi NPP <i>Yamato Hayashi, Makoto Nakano, Yuichi Morimoto</i>
Comparison of Neutronic Characteristics of BWR Burnup Fuel between JENDL-4.0 and JENDL-5 <i>Tomoaki Watanabe, Kenichi Tada, Tomohiro Endo et al.</i>	Preliminary analysis of GODIVA supercritical transient behaviors by using the Multi-region Integral Kinetic code including delayed neutron effect <i>Hiroki Takezawa, Toru Obara</i>	Criticality Safety Analysis of the RECUMO Project <i>Gert Van den Eynde, Mireille Gysemans, Marijke Geerts et al.</i>	Investigation of Sub-criticality Monitoring System Based on Feynman-alpha Method for Large-Scale Fuel Debris <i>Satoshi Wada, Makoto Shimizu, Yamato Hayashi et al.</i>
Comparison of Calculated Bare Critical Masses between Two Versions of the Japanese Evaluated Nuclear Data Library, JENDL-5 and JENDL-4.0 <i>Akito Oizumi</i>	Sensitivity Analysis of the Parameters in Consequence Analysis of Postulated Fuel Debris Criticality Accident in Fukushima Dai-ichi NPP <i>Yuichi Yamane, Kenya Suyama</i>	EPEE: A Tool to Compare the Moderating Efficiency of a Material to the One of Water <i>Aurélien Dorval, David Noyelles, Michaël Prigniau et al.</i>	Detector Shielding-Moderator Design Effect to Eigenvalue Estimation Results Based on Feynman-a Method <i>Rei Kimura, Yamato Hayashi, Makoto Shimizu</i>

<p>Room 1 Track 1 CODES AND OTHER CALCULATION METHODS Chairs: Michael Rising (LANL) Yasunobu Nagaya (JAEA)</p>	<p>Room 2 Track 8 CRITICALITY ACCIDENTS AND INCIDENTS Chairs: Emma Louise Sayce (UKNNL) Kodai Fukuda (JAEA)</p>	<p>Room 3 Track 6 OPERATIONAL PRACTICES AND SAFETY CASES Chairs: Tom Page (Cerberus Nuclear) Laurent Cholvy (CEA)</p>	<p>Room 4 Special Session 1 FUKUSHIMA DAI-ICHI NUCLEAR POWER PLANT Chairs: Catherine Percher (LLNL) Yasushi Nauchi (CRIEPI)</p>
<p>Novel Methods in MONK for Criticality Modelling in Highly Disordered Random Heterogeneous Media <i>Jessica Fildes, Richard Hiles, Brian Jones et al.</i></p>	<p>Generalized CAAS Probe Positioning Methodology for a Variety of Fissile Material Processes <i>Adrien Gallozzi Ulmann, Prosper Liu, Sasha Philips et al.</i></p>	<p>Review of the Facility Criticality Safety Manager Role at AWE <i>Andrew Buchan, Christopher Hodgkinson, Paul Holloway et al.</i></p>	<p>Development of the Fuel Debris Criticality Characteristics Measurement System <i>Jun Nishiyama, Seiya Manabe, Hideki Harano et al.</i></p>
<p>Random Media Criticality Analysis Methods in Monte Carlo Solver Solomon <i>Taro Ueki</i></p>	<p>Criticality Accident Alarm System Modeling for the Uranium Processing Facility <i>M. Buttrey, S. Goluoglu, K. Reynolds</i></p>	<p>Dealing with the Past and Present – Criticality Safety Considerations Associated with Residues Clean-up at the NNL Preston Laboratory <i>Deborah Hill, Lauren Flint, Martin Watson et al.</i></p>	<p>Estimation of ²³⁵U Enrichment by Neutron Induced Gamma Ray Spectroscopy <i>Yasushi Nauchi, Shunsuke Sato, Motomu Suzuki et al.</i></p>
<p>Overview of NEA/WPNCS Activities on Criticality Problems in Random Media <i>Andrea Zoia, Jessica Fildes, Brian Jones et al.</i></p>	<p>Using MCNP to Predict Effects of a Postulated Criticality Accident on Personal Dosimetry <i>Mark N Neeley, Krista I Kaiser, Matthew M. Conrady</i></p>	<p>Criticality Control Flow Diagram: Your NCS Assessment in One Diagram <i>Grégory Caplin, Raphaël Reynaud, Gilles Neron de Surgy</i></p>	<p>Critical Assemblies in JAEA and the Role of the New STACY <i>Hiroki Sono, Kazuhiko Izawa, Tsutomu Yoritsune et al.</i></p>
<p>Method for Criticality Calculations and Estimation of the Fissile Mass Based on the Theory of Multiplicity Counting <i>Imre Pázsit, Victor Dykin, Senada Avdič</i></p>	<p>Criticality Safety Evaluation of High Radioactive Liquid Waste during the Evaporation to Dryness Process at Tokai Reprocessing Plant <i>Takatomo Miura, Atsunari Kudo, Daisuke Koyama et al.</i></p>	<p>Criticality Safety Officer Program at Technical Area 55 in Los Alamos National Laboratory <i>Leah Berman, David Kimball, James Bunsen</i></p>	<p>Debris-Simulated Core Analysis under Fuel Procurement Constraints in New STACY Experiments <i>Shouhei Araki, Satoshi Gunji, Yu Arakaki et al.</i></p>

<p>Room 1 Track 1 CODES AND OTHER CALCULATION METHODS Chairs: Simon Richards (Jacobs) Kenichi Yoshioka (Toshiba ESS)</p>	<p>Room 2 Track 8 CRITICALITY ACCIDENTS AND INCIDENTS Chair: Mark N. Neeley (PNNL) Hiroki Takezawa (Nagaoka Univ. of Tech.)</p>	<p>Room 3 Track 6 OPERATIONAL PRACTICES AND SAFETY CASES Chairs: Essam Mohammed (AWE) Gert Van den Eynde (SCK CEN)</p>	<p>Room 4 Track 5 STANDARDS, ASSESSMENT METHODOLOGY, REGULATIONS Chairs: Alexander Lang (ORNL) David Noyelles (CEA)</p>
<p>Verification and Validation of the New MCNP6.3 Criticality Features <i>Michael E. Rising, Alexander R. Clark, Jennifer L. Alwin</i></p>	<p>IRSN Progress on Emergency Preparedness and Response in Case of Criticality Accident <i>Julien Rannou, Gaël Loubert</i></p>	<p>Challenges in the Development of the Metal Purification Process at Y-12 <i>Benjamin Martin, Tom Young, Chris Haught</i></p>	<p>A Competent Authority's View on Licensing and Foreign Certificate Validation of Transport Packages for Fissile Material <i>Dirk Schulze Grachtrup, Benjamin Ruprecht</i></p>
<p>Confirmation of ICSBEP Benchmarking (LCT and LST) Using MVP3 Code <i>Shigeaki Aoki</i></p>	<p>An Analysis of Criticality Safety "Near Misses" <i>Fabien Duret, Matthieu Duluc, Johann Herth</i></p>	<p>Development of Low Enriched Uranium Plus (LEU+) Enrichment Capability and the Associated Impacts on Criticality Safety <i>Mark Savage, Charlotta Sanders</i></p>	<p>Regulating Criticality Safety in the UK: Experience from Office for Nuclear Regulation Cross-sites Inspection Series <i>Eoin Flannery, Clive Ingram, Adam Nichols</i></p>
<p>Automating the Production of Criticality Handbook Curves <i>Sareena Hussain, Stuart Watson, Monis Janjua et al.</i></p>	<p>Neutron Leakage, H/D, and Geometric Buckling Changes in Containers with Small H/D Ratios <i>Ashley R. Raster, Robert D. Busch, John A. Miller</i></p>	<p>Development of a Modular Storage of Non Irradiated Mixed Oxide Fuel <i>C. Jacques Gasnot, S. Duquenne, G. Caplin</i></p>	<p>Strategies for Establishing Adequate Subcritical Margin for Cases Involving Insufficient Benchmark Data at Enrichment and Fuel Fabrication Facilities (HALEU Applications) <i>Jeremy W. Munson</i></p>
<p>Radiation Safety Information Computational Center: An Information Analysis Center for Nuclear Criticality Safety <i>Timothy E. Valentine</i></p>	<p>Nuclear Criticality Safety Lessons Learned from the Rocky Flats Plant Fires <i>Patrick Huston, Kaelin Glover</i></p>	<p>Neutron Moderating Materials Other than Water: How, Why and When the Problems Arose and the Solutions Proposed by the CEA <i>Georgios Kyriazidis, Aurelien Dorval</i></p>	<p>Assessment of a Sophisticated PWR Burn-up Credit Application for a Transport Cask Design <i>Benjamin Ruprecht, Dirk Schulze Grachtrup</i></p>
		<p>A Device Designed to Detect Hydrogen in Moderation Controlled Workshops <i>Olivier Ravat</i></p>	<p>Development of a SKB Burn-up Credit Methodology for BWR <i>Fredrik Johansson, Jesper Kierkegaard, John Loberg et al.</i></p>

<p>Room 1 Track 1 CODES AND OTHER CALCULATION METHODS Chairs: Yi-Kang Lee (CEA) Kenya Suyama (JAEA)</p>	<p>Room 2 Track 7 STORAGE, TRANSPORT, AND DISPOSAL ISSUES Chairs: Michel Call (USNRC) Tim Hicks (Galson Sciences)</p>	<p>Room 3 Track 4 MEASUREMENTS, EXPERIMENTS, AND BENCHMARKS Chairs: Catherine Percher (LLNL) Cheol Ho Pyeon (Kyoto Univ.)</p>	<p>Room 4 Track 5 STANDARDS, ASSESSMENT METHODOLOGY, REGULATIONS Chairs: Dirk Schulze Grachtrup (BASE) Eoin Flannery (ONR)</p>
<p>Recent Developments to MONK® and Visual Workshop for Criticality Safety Applications <i>Simon Richards, Adam Bird, Andrew Cox et al.</i></p>	<p>International Approaches to Post-Closure Criticality Safety : French Agency Strategy <i>A. Feuerle</i></p>	<p>Status of the International Criticality Safety Benchmark Evaluation Project <i>C. Percher, J.D. Bess, W.J. Marshall et al.</i></p>	<p>Basis of 10CFR71.15(b) for Consideration into SSR-6 Para. 417 <i>Alexander Lang, Andrew B. Barto, Douglas G. Bowen</i></p>
<p>New Bateman Equation Solvers in MENDEL version 3.1 <i>S. Lahaye, A. Anne, R. Baron et al.</i></p>	<p>Comparison of Burn-up Credit Methodologies for Post-Closure Criticality Safety Assessments Using a Simplified Reference Modelling Configuration <i>Jasdeep Bansal, Callum Eldridge, Ahmed Shama et al.</i></p>	<p>The Case for and Against a Gadolinium Bias in SCALE: Round 2 <i>W. J. Marshall, A. M. Shaw, T. M. Greene et al.</i></p>	<p>International Standards for Nuclear Criticality Safety <i>Ben Webborn, Douglas G. Bowen, Grégory Caplin</i></p>
<p>Improvements of the SCALE Testing Framework <i>Shane W. D. Hart, Seth R. Johnson, Robert A. Lefebvre et al.</i></p>	<p>UK Perspective on Post-Closure Criticality Safety Assessments in the Final Disposal of Higher Activity Waste <i>Liam Payne, Stuart Watson, Robert Mason et al.</i></p>	<p>Preliminary Model Development in Support of a New Criticality Safety Benchmark for HEU Metal Annuli and Cylinders with Reflectors of Three- to Nineteen-Inch Thickness <i>Kathryn Worrell, Gabriel Lentchner, John Mihalczko et al.</i></p>	<p>New CEA Handbooks for Criticality Safety Assessment Demonstrations <i>David Noyelles, Aurélien Dorval, Michaël Prigniau</i></p>
<p>The CRISTAL Criticality Package: from 2.0 towards 2.1 Version <i>Arnaud Entringer, Aurélie Bardelay, Sébastien Lahaye et al.</i></p>	<p>Swiss Perspective on Post-Closure Criticality Safety Assessments in the Final Disposal of High-Level Waste <i>Madalina Wittel, Susanne Pudollek</i></p>	<p>A High-Fidelity Benchmark of the AGN-201M Reactor at the University of New Mexico <i>Rowdy Davis, Christopher M. Perfetti, Larry L. Wetzel et al.</i></p>	<p>Evaluation of the Sum-of-Fractions Methodology for Water and Polyethylene Moderated Systems <i>Travis J. Zipperer, Andrew W. Prichard, Travis M. Greene et al.</i></p>

<p>Room 1 Track 2 NUCLEAR DATA</p> <p>Chairs: Coralie Carmouze (CEA) Kenichi Tada (JAEA)</p>	<p>Room 2 Track 7 STORAGE, TRANSPORT, AND DISPOSAL ISSUES</p> <p>Chairs: Adrien Feuerle (ANDRA) Madalina Wittel (Nagra)</p>	<p>Room 3 Track 6 OPERATIONAL PRACTICES AND SAFETY CASES</p> <p>Chairs: Aurélien Dorval (CEA) Deborah Ann Hill (UKNNL)</p>	<p>Room 4 Track 4 MEASUREMENTS, EXPERIMENTS, AND BENCHMARKS</p> <p>Chairs: Jesson Hutchinson (LANL) Shouhei Araki (JAEA)</p>
<p>FP Concentrations Evaluation With FPY Data Considering Fission Rate Spectrum <i>Kohei Matsuo, Takanori Kitada, Satoshi Takeda et al.</i></p>	<p>A Criticality Analysis for Disposal Canister Considering Fuel Burnup and Iron Corrosion Effect <i>Shin Sung Oh, Kyu Jung Choi, Ser Gi Hong</i></p>	<p>Altering the Requirement to Assay Waste Drums containing Plutonium Contaminated Material at Sellafield Ltd. <i>Amy van der Vyver, Michael Hobson</i></p>	<p>Optimization Algorithm for Criticality Experiment Design Using Whisper <i>Cole Kostelac, Ayodeji Alajo, Nicholas Thompson</i></p>
<p>Consistent Nuclear Data Evaluations for Criticality Safety <i>I. Stetcu, T. Kawano, A. E. Lovell et al.</i></p>	<p>The United States Perspective on Post-Closure Criticality Safety Assessments in the Final Disposal of High-Level Waste <i>Laura Price, Kaushik Banerjee</i></p>	<p>Burnup Credit Criticality Safety Case for AGR Spent Fuel Storage <i>James Ryan, Albrecht Kyrieleis, Jennifer Bateman et al.</i></p>	<p>Criticality Experiments to Reduce Compensating Errors in Plutonium Nuclear Data <i>J. Hutchinson, J. Alwin, B. Bell et al.</i></p>
<p>Nuclear Data for Neutron Criticality Applications at GELINA <i>P. Schillebeeckx, C. Camouze, S. Kopecky et al.</i></p>	<p>Refinement of the Loading Curve Determination Methodology and Modeling for Swiss PWR Spent Fuel Final Disposal Canisters <i>M. Frankl, A. Vasiliev, D. Rochman et al.</i></p>	<p>Criticality Safety of Orano La Hague Dissolver Rinsing Operations <i>Y. Blin, C. Quenault, R. Vassieux et al.</i></p>	<p>The EUCLID Experiment and Nuclear Data Library Comparisons <i>Nicholas W. Thompson, Jesson Hutchinson, Jennifer Alwin et al.</i></p>
<p>Inter- Codes and Nuclear Data Comparison under Collaboration Works between IRSN and JAEA <i>Satoshi Gunji, Shouhei Araki, Tomoaki Watanabe et al.</i></p>	<p>Criticality Safety for UK Spent Fuel Disposal in the Post-Closure Phase of a Geological Disposal Facility <i>Robert Mason, Albrecht Kyrieleis, Lynn Grindrod et al.</i></p>	<p>Lessons Learned From Ventilation and Glovebox Flooding Via Overfilling of the Wet Vacuum System in a Plutonium Facility <i>Andrew Smiley, Amanda Bowles Tomaszewski, Michael Corum</i></p>	<p>Reactivity Coefficient Measurements to Aid in Reducing Compensating Errors in Plutonium Nuclear Data <i>T. Cutler, J. Alwin, M. Grosskopf et al.</i></p>
<p>Dependence of the Average Total Kinetic Energy of Fission Fragments on Incident Neutron Energy Studied by a 4D Langevin Model <i>Kazuya Shimada, Chikako Ishizuka, Satoshi Chiba</i></p>	<p>Criticality Safety for UK Spent Fuel Disposal in the Pre-Closure Phase of a Geological Disposal Facility <i>Liam Payne, Andrew Price, Steven Lonsdale et al.</i></p>		

Track 1: CODES AND OTHER CALCULATION METHODS

P-01	The Construction of a Quantitative Comparison of Upper Subcritical Methods for Novel Neutronic Systems	<i>Bobbi Riedel, Christopher Perfetti</i>
P-02	Nuclear Criticality Safety Analogue "Tool" for Approximating Subcritical Equipment and Process Designs and Operations Limits	<i>Calvin M. Hopper, Megan Pritchard, Cecil V. Parks</i>
P-03	GRS Handbook on Criticality – Digital Version <i>HBcrit</i>	<i>Fabian Sommer</i>
P-04	A Burnup Calculation System Coupled with MCNP and SCALE/ORIGEN	<i>Kenichi Yoshioka, Satoshi Wada, Shunichiro Omika</i>
P-05	Temperature Reactivity Feedback Coefficient for the MYRRHA Critical Core – Design Revision 1.8	<i>L. Fiorito, A. Peñalosa, M. Zanetti et al.</i>
P-06	Stochastic Neutronics Simulations Using Deterministic Transport With N-Forked Fission Branching Approximations	<i>Philippe Humbert</i>
P-07	Cyclone – New Features for Criticality Safety Analyses	<i>Stewart Hay, Carl Hughes, Peter Taylor</i>
P-08	Solution to Random-Media Criticality Benchmarks with a Monte Carlo Solver Solomon	<i>Yasunobu Nagaya</i>

Track 2: NUCLEAR DATA

P-09	Linearization of Thermal Neutron Scattering Cross Section to Optimize the Number of Energy Grid Points	<i>Kenichi Tada</i>
P-10	The First Core Criticality Analysis of the RSG GAS Multipurpose Research Reactor using the Newly Released JENDL-5 Nuclear Data Library	<i>Peng Hong Liem, Donny Hartanto</i>
P-11	Nuclear Data Sensitivity Analysis of Post-Irradiation Examination Data with Fuel Depletion Calculation Module CBZ/Burner	<i>Yuya Inagaki, Go Chiba, Keita Yoshikawa et al.</i>

Track 3: UNCERTAINTY AND SENSITIVITY ANALYSIS

P-12	Adjustment of Uncertain Modeling Parameters through Analyses of Post-Irradiation Examination Data	<i>Keita Yoshikawa, Go Chiba, Yuya Inagaki et al.</i>
P-13	On the PSI Routine Criticality Safety Evaluation Methodology and its Validation Approach	<i>A. Vasiliev, H. Lee, M. Frankl et al.</i>
P-14	A Method to Estimate Burnup Using Enrichment(IE), Cooling Time(CT) and TNSI(Total Neutron Source Intensity) in Spent Fuels : Apply to MCNP Neutron Detection	<i>Kwangheon Park, So hee Cha</i>
P-15	Data Assimilation Using Prompt Neutron Decay Constant α for Water to Reduce Uncertainties due to Thermal Neutron Scattering Law	<i>Yoshinari Harada, Hibiki Yamaguchi, Tomohiro Endo et al.</i>

Track 4: MEASUREMENTS, EXPERIMENTS, AND BENCHMARKS

P-16	AFRRI TRIGA Reactor Neutron and Gamma Dose Characterization Preliminary Results	<i>Aaron Sun Tamashiro, Philip Angus, David Heinrichs et al.</i>
P-17	Analysis of the MUSiC ^3He Multiplicity Data	<i>Alex McSpaden, Jesson Hutchinson, George McKenzie et al.</i>
P-18	Canceled	
P-19	Benchmark Analyses on Control Rod Worths of TRIGA Reactor Modeled in the ICSBEP Handbook Using Continuous-Energy Monte Carlo Code MVP Version 3	<i>Hiroshi Yanagisawa, Miki Umeda, Yuiko Motome et al.</i>
P-20	An Alternative to Solution Experiments for Nuclear Data Validation & Training: Reflection and Interaction of Juxtaposed Uranium (RAIJU) Experiment Design	<i>Kelsey Amundson, Nicholas Thompson</i>
P-21	Pu Oxalate Slurries – A Potential Bounding Condition for Aqueous Chloride Processes	<i>Kimberly B. Muscarella, Kelly E. Aldrich, Dung M. Vu et al.</i>
P-22	Design of TEX-MOX Critical Experiments Varying Neutron Spectrum	<i>M. Brovchenko, J. Bez, M. Dauray et al.</i>
P-23	Nano Second Pulsed Die-Away Experiments for Nuclear Data Validation	<i>Valeria Raffuzzi, Daniel Siefman, Lee Bernstein</i>
P-24	Design of a $\text{UO}_2\text{-BeO}$ Critical Experiment at Sandia	<i>William M. Cook, Elijah C. Lutz, David E. Ames et al.</i>

Track 5: STANDARDS, ASSESSMENT METHODOLOGY, REGULATIONS

P-25	Updates of the French Criticality Safety Analysis Guide And Event Database (LOGIC)	<i>Fabien Duret, Matthieu Duluc, Aurélie Bardelay</i>
P-26	LICORNE: A Useful Software for Criticality Safety Reference Values	<i>Wilfried Monange, Aurélie Bardelay</i>

Track 6: OPERATIONAL PRACTICES AND SAFETY CASES

P-27 Criticality Assessment of Borosilicate Raschig Rings Poisoned Tanks Dismantling *Laurent Zambelli, Patrick Pin, Michaël Gal et al.*

Track 7: STORAGE, TRANSPORT, AND DISPOSAL ISSUES

P-28 Investigation of the Specific k_{eff} Behaviour in Simplified Corrosion Scenarios for a Potential PWR Final Disposal Canister Design *M. Frankl, A. Vasiliev, L. Berry et al.*

P-29 Evaluation of the Fukushima Daini 2F2 8x8-4 Samples *Pedro Ortego*

P-30 The Benefits of a Multiple Water Barrier Design Transport Package *Michelle Nuttall, Charlotte Davis*

P-31 Effects of Low Temperature on Transport Criticality Safety *Charlotte Davis, Michelle Nuttall*

P-32 Criticality Sensitivity Analysis for the Standard Waste Transport Container 255 (SWTC-255) *Charlotte Davis, Michelle Nuttall, Michael Hobson et al.*

Track 8: CRITICALITY ACCIDENTS AND INCIDENTS

P-33 Comparison of Computational and Experimental Results for Criticality Accident Alarm Placement *Alan J. Yamanaka, Soon S. Kim, Shauntay Coleman*

P-34 The CAAS-3S Criticality Accident Alarm System Dose-Rate Feature *Sasha Philips, Adrien Gallozzi Ulmann, Prosper Liu et al.*

Track 9: PROFESSIONAL DEVELOPMENT ISSUES AND TRAINING

P-35 Interface of Criticality Safety with Other Transport Disciplines *Charlotte Davis, Michelle Nuttall*

P-36 Professional Development of NCS Staff: Benefits of Going beyond Technical and Regulations *John A. Miller, Robert D. Busch, Ashley R. Raster et al.*

P-37 Nuclear Criticality Safety through Training, Organizational and Human Factors Integration and Feedback, at Orano Recyclage Reprocessing Plant *Patrick PIN, Bérengère MARTIN, Rémi VASSIEUX*

P-38 Criticality Safety Evaluation Project Development for University of California Berkeley Nuclear Criticality Safety Pipeline Course *Shauntay Coleman, Alan Yamanaka, William Zywiec*

P-39 Problem-Based Learning Program of Reactor Physics Experiment to Measure Subcriticality for an Unknown System *Shunya Teratani, Yoshinari Harada, Kaito Mori et al.*

Special Session 1: FUKUSHIMA DAI-ICHI NUCLEAR POWER PLANT

P-40 Study on Criticality Safety Control of Fuel Debris for Validation of Methodology Applied to the Safety Regulation *Kenya Suyama, Taro Ueki, Satoshi Gunji et al.*

P-41 Progress of Modification Work of the Static Experiment Critical Facility (STACY) and Preparation for First Series of Critical Experiments under the New Regulatory Standards of Japan *Kazuhiko Izawa, Junichi Ishii, Masakazu Seki et al.*

P-42 Status on the Development of the Fabrication and Analysis Equipment of the Pseudo Fuel Debris *Fuyumi Kobayashi, Hiroyuki Fukaya, Kazuhiko Izawa et al.*

P-43 Planning of the Debris-Simulated Critical Experiments on the New STACY *Satoshi Gunji, Shouhei Araki, Yu Arakaki et al.*

P-44 Preliminary Analysis of Randomized Configuration Patterns in Modified STACY Core *Shigeki Shiba, Daiki Iwahashi, Tsuyoshi Okawa et al.*

P-45 Preliminary Analyses of Modified STACY Core Configuration Using Serpent With JENDL-5 *Maho Kawaguchi, Shigeki Shiba, Daiki Iwahashi et al.*

Special Session 2: Machine Learning, Deep Learning

P-46 Missing Rods Pattern Optimization in LWR Fuel Assembly Using a Genetic Algorithm Coupled with Heterogeneous TRIPOLI-4[®] Monte Carlo Calculations *J. Dupas, D. Noyelles, M. Prigniau*

<p>Room 1 Track 1 CODES AND OTHER CALCULATION METHODS Chairs: Shane W. D. Hart (ORNL) Shigeaki Aoki (MNF)</p>	<p>Room 2 Track 7 STORAGE, TRANSPORT, AND DISPOSAL ISSUES Chairs: J��r��my Bez (IRSN) Liam Payne (Nuclear Waste Services)</p>	<p>Room 3 Track 9 PROFESSIONAL DEVELOPMENT ISSUES AND TRAINING Chairs: Cheol Ho Pyeon (Kyoto Univ.) Dominic Winstanley (Sellafield)</p>	<p>Room 4 Track 4 MEASUREMENTS, EXPERIMENTS, AND BENCHMARKS Chairs: Steven C. van der Marck (NRG) Kenichi Tada (JAEA)</p>
<p>Application of an Empirical Density Law via Python for Aqueous Plutonium Chloride Systems in MCNP6 <i>Riley Bulso, Jennifer Alwin, Christopher Perfetti et al.</i></p>	<p>GMIT: A Tool to Support Post-Closure Criticality Safety Assessments <i>E. Adam Paxton, Jiejie Wu, Tim Hicks et al.</i></p>	<p>Collaboration of Nuclear Criticality Safety and Accident Dosimetry in Planning and Exercise Development <i>Matthew M. Conrady</i></p>	<p>High Multiplication Neutron Noise Measurements Using the Seven Percent Critical Experiment 7uPCX <i>Nicholas Whitman, Tanner Heatherly, Jesson Hutchinson et al.</i></p>
<p>Application of a Density Law via Python for Aqueous Plutonium Nitrate Systems in MCNP6 <i>Tara Robertson, Jennifer Alwin, Christopher Perfetti et al.</i></p>	<p>Revision of the Dounreay Low Level Waste Disposal Facilities Operational and Post-Closure Criticality Safety Assessment <i>Tamara Baldwin, Tim Hicks, Emily Swain-Phipps et al.</i></p>	<p>Development of Two Educational Calculation Codes Monte Carlo Calculation Code S-Monte and Diffusion Calculation Code S-Dif <i>Tetsuo Matsumura, Takanori Kameyama</i></p>	<p>Gamma-ray Measurements from Pulsed-Neutron Die-Away Experiments (PNDA) <i>Ruby Araj, Daniel Siefman, Lee Bernstein et al.</i></p>
<p>Criticality Calculations of Spent Fuel Storage Pool with Water Holes <i>S. Duquenne, Y. Blin, B. Checiak et al.</i></p>	<p>German Perspective on Post-Closure Criticality Safety Assessments in the Final Disposal of High-Level Waste <i>Christian Herold, Florian Voigts, Sabine Unger</i></p>	<p>Implementation of CARTA into Criticality Training Programmes <i>Katrina Christaki, Stewart Hay, Toby Tyas</i></p>	<p>Thermal Pulsed Neutron Die Away Experiments in Salt Water <i>Valeria Raffuzzi, Daniel Siefman, Lee Bernstein</i></p>
<p>Method and Code Development for the Nuclide Composition Evaluation of Commercial PWR Spent Fuel Assembly <i>Liangzhi Cao, Senhan Yang, Yunzhao Li</i></p>	<p>Initial Considerations on Potential Optimisation Options of Spent Fuel Disposal Canisters Taking into Account Post-Closure Criticality Safety <i>Madalina Wittel, Valentyn Bykov, Maksym Chernykh et al.</i></p>	<p>In Silico Versus in Situ the Challenging Landscape of Nuclear Criticality Safety Training <i>David K. Hayes</i></p>	<p>Inherently Safe Subcritical Assembly Lite <i>Samuel T. Varghese, William Zywiec</i></p>
	<p>Nagra's Approach to Post-Closure Criticality Safety Case Development within the High-Level Waste Repository Programme Roadmap <i>Madalina Wittel, Susanne Pudollek</i></p>	<p>Overview and Current Progress of the DOE/NNSA Nuclear Criticality Safety Program Training and Education Program <i>Douglas G. Bowen</i></p>	<p>Fast Spectrum Reactivity Worth Measurements in STEK <i>Steven van der Marck, Arjan Koning</i></p>

<p>Room 1 Track 1 CODES AND OTHER CALCULATION METHODS</p> <p>Chairs: TBD Taro Ueki (JAEA)</p>	<p>Room 2 Track 7 STORAGE, TRANSPORT, AND DISPOSAL ISSUES</p> <p>Chairs: Tamara Baldwin (Galson Sciences) Pedro Ortego (SEA)</p>	<p>Room 3 Track 9 PROFESSIONAL DEVELOPMENT ISSUES AND TRAINING</p> <p>Chairs: Shauntay Coleman (LLNL) Hiroki Takezawa (Nagaoka Univ. of Tech)</p>	<p>Room 4 Track 4 MEASUREMENTS, EXPERIMENTS, AND BENCHMARKS —A Memory of Gary Harms— Chairs: Mariya Brovchenko (IRSN) Akito Oizumi (JAEA)</p>
<p>Adapting CLUTCH Methodology to Multigroup TSUNAMI-3D for Eigenvalue Sensitivity Calculations <i>K. B. Bekar, W. J. Marshall</i></p>	<p>Exotic Fuels Transport Challenge <i>Albrecht Kyrieleis, Andrew Thallon, Ahmed Aslam</i></p>	<p>A Guide for Criticality Safety Training and Awareness of Personnel Working in Nuclear Installations <i>Clement Lopez, Fleur Lespinasse, Laurent Cholvy et al.</i></p>	<p>Molybdenum Sleeve Experiments in the Sandia Critical Experiments Facility <i>Gary A. Harms, David E. Ames, Nicolas Leclaire et al.</i></p>
<p>Verification and Performance Impact of the New Parallel MCNP6.3 Particle Track Output Capability for Subcritical Multiplication Simulations <i>Michael E. Rising, Nicholas H. Whitman, Jesson D. Hutchinson</i></p>	<p>Criticality Risk Associated with the Bulk Deployment of Powder Extinguishants <i>Jennifer Bateman, Holly Pearson, Dan Johnson</i></p>	<p>Development of Nuclear Criticality Staff at Pacific Northwest National Laboratory <i>Krista I Kaiser, Mark N Neeley</i></p>	<p>Methods to Determine Burst Repeatability for Godiva IV <i>Joetta Goda, Robert Allen Weldon Jr, Travis Grove et al.</i></p>
<p>TRIPOLI-4[®] Neutron Multiplication Calculations for the Subcritical Experiments of the BeRP Ball Reflected by Tungsten <i>Yi-Kang Lee, François-Xavier Hugot</i></p>	<p>High Assay Low Enriched Uranium Transportation Packages Under 10 CFR Part 71 – U.S. NRC Research and Certification Activities <i>Andrew B. Barto, Michel Call</i></p>	<p>Ensuring the Sustainability of Criticality Safety Expertise <i>Dominic Winstanley</i></p>	<p>Quantifying Burst Repeatability for Godiva IV <i>Robert Allen Weldon Jr, Joetta Goda, Travis Grove et al.</i></p>
<p>Use of SCALE MAVRIC Radiation Transport Calculations for the Design of a Subcritical Assembly at Oak Ridge National Laboratory <i>M. N. Dupont, A. Lang, D. Bowen</i></p>	<p>Increased Flexibility for Reflectors Near Storage Arrays of Fissionable Items at Sandia <i>William M. Cook, Elijah C. Lutz, Ashley R. Raster et al.</i></p>	<p>A Look at a “Quid Pro Quo” NCS Assessment Culture <i>John A. Miller, David P. Heinrichs, Mark N. Neeley et al.</i></p>	<p>Experiment Design and Preparation for a Shielding Benchmark Utilizing Godiva-IV <i>Garrett McMath, Tyler Borgwardt, Riley Cumberland et al.</i></p>

<p>Room 1 Track 3 UNCERTAINTY AND SENSITIVITY ANALYSIS Chairs: Alexander Vasiliev (PSI) Shuheii Maruyama (JAEA)</p>	<p>Room 2 Track 7 STORAGE, TRANSPORT, AND DISPOSAL ISSUES Chairs: John Bess (JFoster & Associates) William M. Cook (SNL)</p>	<p>Room 3 Track 10 FUTURE CHALLENGES Chairs: Rei Kimura (Toshiba ESS) Dominic Winstanley (Sellafield)</p>	<p>Room 4 Track 4 MEASUREMENTS, EXPERIMENTS, AND BENCHMARKS Chairs: Rene G. Sanchez (LANL) Masahiro Fukushima (JAEA)</p>
<p>Nuclear Data Sensitivity Analysis of a Sodium Shielding Experiment Based on Generalized Perturbation Theory for Data Assimilation <i>Shuheii Maruyama, Tomohiro Endo, Akio Yamamoto</i></p>	<p>Assessment of Validation for Burnup Credit Calculations for LEU+ and High Burnup Fuel <i>M. N. Dupont, C. Celik, A. Lang et al.</i></p>	<p>Preliminary Study of Burnup Measurement and Relative Power Distribution in the HTTR Using Gamma-Ray Measurement <i>Irwan L. Simanullang, Shohei Kawaguchi, Nozomu Fujimoto et al.</i></p>	<p>MUSiC: Critical Experiment with Bare Highly Enriched Uranium Shells Benchmark <i>Rene Sanchez, George McKenzie, Alexander McSpaden</i></p>
<p>Sensitivity and Uncertainty-Based Techniques to Extend the Database of Experimental Validation Benchmarks: Practical Example of "IEU" Slabs <i>T. Albert, Q. Vuyet, C. Rechatin et al.</i></p>	<p>Criticality Safety Recommendations for the Treatment of Extended Enrichment and High Burnup Fuel for Storage and Transportation Systems <i>Alex Shaw, Nicholas Kucinski, Briana Hiscox</i></p>	<p>Effect of Nuclear Data Library on Criticality and Transmutation Characteristics in Fluoride Molten Salt Reactor <i>Koji Fujikura, Naoto Aizawa</i></p>	<p>Future of the MUSiC Experiment Data <i>George McKenzie, Flynn Darby, Jesson Hutchinson et al.</i></p>
<p>Efficient Uncertainty Quantification Using Deterministic Sampling Method with Simplex Ensemble and Scaling Method <i>Tomohiro Endo, Akio Yamamoto</i></p>	<p>The Importance of Transport Criticality Safety <i>Charlotte Davis, Michelle Nuttall</i></p>	<p>MCNP-6 Criticality Comparison of Additive Manufacturing Techniques for the Fabrication of Metallic Nuclear Fuels <i>Patrick J. Moo</i></p>	<p>Towards an Era of Low Temperature Integral Critical Experiments: Surrogate Testing of Low-Temperature TEX Configurations <i>Eric Aboud, Paul Yap-Chiongco, Jesse Norris et al.</i></p>
<p>Uncertainty Quantification of α and γ Emission Spectra <i>S. Lahaye, T.D. Huynh, A. Tsilanizara</i></p>	<p>Consideration of Agglomeration of Low Enriched Fissile Materials and the Detrimental Effect on Package Payloads/CSI <i>Michelle Nuttall, Charlotte Davis</i></p>		<p>Neutronic Characteristics of the Low-Temperature TEX Design and Proposed Configurations <i>Jesse Norris, Catherine Percher, Eric Aboud et al.</i></p>

<p>Room 1 Track 3 UNCERTAINTY AND SENSITIVITY ANALYSIS Chairs: Axel Hoefler (Framatome) Tangi Nicol (CEA)</p>	<p>Room 2 Track 7 STORAGE, TRANSPORT, AND DISPOSAL ISSUES Chairs: Charlotte Davis (NTS) Matthias Frankl (PSI)</p>	<p>Room 3 Track 10 FUTURE CHALLENGES Chairs: Naoto Aizawa (Tohoku Univ.) Irwan Liapto Simanullang (Kyusyu Univ.)</p>	<p>Room 4 Track 4 MEASUREMENTS, EXPERIMENTS, AND BENCHMARKS Chairs: Jesse D. Norris (LLNL) Kotaro Tonoike (JAEA)</p>
<p>Experimental Correlation Estimation and Their Role in Transposition Method <i>Tangi NICOL, Alexandre DEPLORTE, Julien PIETRI</i></p>	<p>Impact of Recent ENDF Nuclear Data on Burnup Credit Criticality Safety Analyses <i>W. A. Metwally, M. N. Dupont, W. J. Marshall et al.</i></p>	<p>IRSN Review of Experimental Needs for Nuclear Criticality Safety <i>Aurélie Bardelay, Jean-Baptiste Clavel, Wilfried Monange et al.</i></p>	<p>Experiments to Measure the Effect of Tantalum on Critical Systems <i>David E. Ames, Gary A. Harms, Elijah Lutz et al.</i></p>
<p>Validating Mixtures of ²³³U, ²³⁵U, and ²³⁹Pu for the Sum-Offractions Method <i>T. M. Greene, A. Lang, W. J. Marshall</i></p>	<p>The Modelling of LEU Heterogeneous Systems as Tetrahedral Arrays in MONK®, SCALE and MCNP® and the Impact of Heterogeneity on Runtime <i>Stuart Watson, Simon Richards, Monis Janjua</i></p>	<p>Towards a Direct Comparison of Practical CSE with BUC Approaches: Benchmark Proposal for a Pseudo-application Case with User-defined NCS Criteria <i>A. Vasiliev, M. Frankl, D. Rochman et al.</i></p>	<p>TEX-HEU & TEX-Hf: Critical Assemblies with Highly Enriched Uranium, Polyethylene, and Hafnium <i>Jesse Norris, Catherine Percher, David Heinrichs et al.</i></p>
<p>Impact of Correlations Between Experiments on the Evaluation of Bias due to Nuclear Data by Assimilation Methodologies <i>Frédéric Fernex, Nicolas Leclaire, Aurélie Bardelay et al.</i></p>	<p>Evaluation of the ARIANE Samples Irradiated in Gösgen Reactor <i>Pedro Ortego</i></p>	<p>Criticality Analyses of the PWR Core with Accident Tolerant Fuel <i>Agnieszka Boettcher, Zuzanna Marcinkowska</i></p>	<p>Verification and Validation of Monte Carlo Simulations Using Swiss PWR HZP Data <i>L. Berry, A. Vasiliev, M. Hursin et al.</i></p>
<p>Bias and Correlated Data, Comparison of Methods <i>A. Hoefler, M. Stuke, H. S. Abdel-Khalik et al.</i></p>	<p>Impact of Low Temperatures on Criticality Safety Assessments for Fissile Material Transportation <i>Jeremy Bez, Marcel Tardy, Aurélie Bardelay et al.</i></p>		<p>Plutonium Chloride Solution Characterization: Impacts on Density from Pu Oxidation States and Saturation Effects <i>Kelly E. Aldrich, Kimberly B. Muscarella, Justin N. Cross et al.</i></p>

Room 1 Track 3 UNCERTAINTY AND SENSITIVITY ANALYSIS Chairs: Jun-Shuang FAN (Hokkaido Univ.) Travis Greene (ORNL)	Room 2 Track 7 STORAGE, TRANSPORT, AND DISPOSAL ISSUES Chairs: W. A. Metwally (ORNL) Stuart Watson (3T Safety Consultant)	Room 3 Special Session 2 MACHINE LEARNING, DEEP LEARNING Chairs: Justin Clarity (PNNL) Arnau Albà Jacas (PSI)	Room 4
Deterministic-Monte Carlo Hybrid Methods for Eigenvalue Sensitivity Coefficient Calculations <i>T. M. Greene, K. Bekar, W. J. Marshall</i>	Micro-SMR LEU+ Once-through Fuel Cycle Spent Fuel Actinides Characteristics Verification <i>John Bess, Gray Chang, Mie Hiruta et al.</i>	Uncertainty Quantification on Spent Nuclear Fuel with LMC <i>Arnau Albà, Andreas Adelman, Dimitri Rochman</i>	
Overview of Spent Nuclear Fuel Inventory Results for the ARIANE GU3 Sample <i>C. Carmouze, R. Ichou, G. Ilas et al.</i>	Criticality of Poisoned Cells for Underwater Spent Fuel Storage <i>B. Checiak, G. Caplin, Y. Blin et al.</i>	Applicability of Machine Learning to Criticality <i>Charpentier-Süter Alexis, Gaudin Gérald, Arphant Nicolas et al.</i>	
A Study of Model Dependence in Burnup Credit Criticality Safety Analysis <i>Axel Hoefler, Stefan Glaubrecht</i>	Decay Heat Calculation for Efficient Storage of Spent Nuclear Fuel <i>Shunsuke Sato, Yasushi Nauchi</i>	Progress Toward the Development of an Artificial Neural Network for Rapid Post-Closure Reactivity Analysis <i>Justin Clarity, Harish Gadey, Peter Stefanovic et al.</i>	No presentations
Investigating Similarity Differences for Light-Water Moderated and Polyethylene-Moderated Systems <i>T. M. Greene, W. J. Marshall</i>	Decay Heat of Irradiated Nuclear Fuels – A Status Report from the NEA WPNCs <i>D. Rochman, A. Algora, Ø. Bremnes et al.</i>	Criticality Experiment Design for the Molten Chloride Reactor Experiment Facility <i>Michael Branco-Katcher, Daniel Siefman, Todd S. Palmer et al.</i>	
Lost and Found Opportunities Around the Chlorine Worth Study <i>W. J. Marshall</i>	Comparative Study of the Impact on the Nuclear Criticality Safety of the Boron and Burnup Credit in Pools of Spent Fuel Assemblies from PWR Nuclear Power Plants <i>Alberto Ottonello, Marie-Pierre Fontaine, Nicolas Slosse</i>	The Prediction of the Critical Parameters of Post-Processing Non-uniform Conditions based on Improved BP Neural-Network <i>Liang Song, Sun Ming-ze, Cheng Yu-ting et al.</i>	