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Welcome Reception
Time / Location: 18:00-20:00, Drury Rooftop

Monday, 27 August 2018

MONDAY AM

Plenary Session
Time / Location: 08:30-09:45, Palace Ballroom
Welcome: General Chair, Dr. Avneet Sood, LANL
Keynote (Radiological Engineering): Mark W. Shaver, NuScale

09:45-10:00 Break

Tutorial: Statistical Analysis for Validation Tests
Time / Location: 10:00-12:00, Rivera A
Chair: Maria Grazia Pia (INFN)

Technical Session: Radiation Shielding
Time / Location: 10:00-12:00, Palace A
Co-chair: Thomas Miller (ORNL)
Co-chair: Josh Spencer (LANL)

Special Session: Capabilities, Developments and Challenges in Charged Particle Transport
Time / Location: 10:00-12:00, Palace B
Co-chair: David Dixon (LANL)
Co-chair: Brian Franke (SNL)

10:00	25357	Energy Deposition Validation Results for the Evaluated Electron Data Library in FACEMC; Luke Kersting (Univ of Wisconsin - Madison), Alex P. Robinson (Univ of Wisconsin - Madison), Eli Christian Moll (Univ of Wisconsin - Madison), Douglass L. Henderson (Univ of Wisconsin - Madison)...43
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10:20	25454	Specializations in the SCEPTRE Code for Charged-Particle Transport; Clif R. Drumm (SNL), Wesley Fan (SNL), Shawn D. Pautz (SNL)...54
10:30	25457*	MCNP® modernization: impacts on charged particle transport in future MCNP releases; David A. Dixon (LANL)...N/A
10:40	25574*	DIANE multiparticle transport code; Sebastien Lemaire (CEA)...N/A
10:50	25576	Electron Transport Algorithms in the Integrated TIGER Series (ITS) Codes; Brian C. Franke (SNL), Ronald P. Kensek (SNL)...62
11:00	25672*	Reduced-Order-Physics Models for Computationally Efficient Monte Carlo Electron Transport; Anil K. Prinja (Univ of New Mexico), David A. Dixon (LANL)...N/A
11:10	25676*	Comparisons of bremsstrahlung production from thick targets in Monte Carlo codes; Darren McGlinchey (LANL), David A. Dixon (LANL)...N/A
11:20	26805*	Status of Single-Event Electron Transport in MCNP6; H. Grady Hughes (LANL)...N/A

12:00-13:00 Lunch, O'Keeffe Room

MONDAY PM - I

Special Session: SINBAD: Past, Present, and Future
Time / Location: 13:00-14:45, Rivera A
Co-chair: Tim Valentine (ORNL)
Co-chair: David Dixon (LANL)

13:00	25705*	History of the Shielding Integral Benchmark Archive and Database (SINBAD), Timothy E. Valentine (ORNL), Ivan Alexander Kodeli (Jozef

Stefan Institute), Pedro Ortego (SEA)...N/A

13:15 25448 Introduction to SINBAD – Tutorial; Ivan Alexander Kodeli (Jozef Stefan Institute)...73

14:15 25428 Validation of Nuclear Data based on the ASPIS Experiments from the SINBAD Database; Alberto Milocco (Università Milano-Bicocca, Italy), Bojan Zefran (Jozef Stefan Institute), Ivan Alexander Kodeli (Jozef Stefan Institute)...81

14:30 24622 The Future of SINBAD: Learning from the Best Practices of ICSBEP; John Darrell Bess (Idaho National Laboratory), Tatiana Ivanova (OECD Nuclear Energy Agency)...92

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Co-chair: CJ Solomon (LANL)

13:00 25144 Global Variance Reduction Method Applied to HBR-2 Benchmark; Zheng Zheng (Shanghai Nuclear Engineering Research and Design Institute Co. Ltd.)...100

13:25 25353 Effects of Statistical Uncertainty in Activation Calculations based on Monte Carlo Radiation Transport; Jason D. Haverkamp (Knolls Atomic Power Laboratory)...110

13:50 25446 Evaluating importance maps for TRIPOLI-4® using deterministic or online methods; Davide Mancusi (CEA Saclay), Michel Nowak (CEA-Saclay, France), Éric Dumonteil (IRSN, France), Henri Louvin (CEA-Saclay, France), Emiliano Masiello (CEA-Saclay, France), Daniele Sciannandrone (CEA-Saclay, France)...120

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13:25 25557 Implementation of Krylov Acceleration Method for 3D SN Transport Code AETIUS with Unstructured Tetrahedral Mesh; Jong Woon Kim (Korea Atomic Energy Research Institute), Jin Young Cho (Korea Atomic Energy Research Institute)...145

13:50 26804 STUDY ON NEUTRONICS CALCULATION METHOD OF SCWR WITH ANNULAR FUEL ASSEMBLY; Chuanqi Zhao (Nuclear and Radiation Safety Center, Ministry of Environment Protection, China)...152

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Co-chair: Maria Grazia Pia (INFN)
Co-chair: Thomas Miller (ORNL)

15:15 25403 Comparison of MAVRIC/Monaco and TRIPOLI-4® Simulations of the LLNL Pulsed Spheres Benchmark Experiments; Thomas M. Miller (ORNL), Davide Mancusi (CEA Saclay), Eve Le Menedeu (CEA Saclay), Andrea Zoia (CEA Saclay)...157

15:40 25409 Analysis of hafnium configuration of FLUOLE-2 program; Stephane BOURGANEL (CEA Saclay), Nicolas THIOLLAY (CEA), Pietro MOSCA (CEA)...169

16:05 25420 First Assessment of the New Atomic Data Used in ENDF/B-VIII; Maria Grazia Pia (INFN), Tullio Basaglia (CERN), Matteo Bonanomi (Univ of Milano Bicocca), Federico Cattorini (Univ of Milano Bicocca), Chansoo Choi (Hanyang Univ), Min Cheol Han (INFN Genova), Gabriela Hoff (UERJ), Chan-Hyeong Kim (Hanyang Univ), Sung Hun Kim (Hanyang Univ), Matteo Marcoli (Univ of Milano Bicocca), Paolo Saracco (INFN Genova)...175

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Co-chair: CJ Solomon (LANL)

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15:40 25539 A Monte Carlo Importance-splitting Analytic Benchmark; Joel A. Kulesza (Univ of Michigan & LANL), Clell J. Solomon (LANL), Brian C. Kiedrowski (Univ of Michigan)...192

16:05 25584 An Analysis of Various Solution Strategies and Perturbations on Inputs of the Reactor Shielding Problem; Herschel Smith (Duke Energy), Eva Davidson (ORNL), Andrew Godfrey (ORNL), Tara M. Pandya (ORNL)...200

16:30 25621 Estimating Consistent Biased Source Probabilities over Arbitrary Bins; Scott W. Mosher (ORNL), Aaron M. Bevill (International Atomic Energy Agency)...207

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Time / Location: 15:15-17:00, Palace B
Chair: David Dixon (LANL)

15:15 25335* Radiation Transport and Shielding Challenges at NASA Marshall Space

		Flight Center; Jarvis A. Caffrey (NASA Marshall Space Flight Center)...N/A
15:22	25345*	Analytical calculations of the geometrical efficiency of a circular disk detector using an isotropic radiating linear source; Mahmoud Ibrahim Abbas (Alexandria Univ)...N/A
15:29	25396	Rossi and Feynman-Alpha Formulas Including Prompt Neutron Decay and Detector Die Away Time Constants; Philippe Humbert (CEA - FRANCE)...215
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15:43	25437*	Verification of SuperMC with HCPB mock-up experiment; Bin Li (Institute of Nuclear Energy Safety Technology, CAS), Bin Wu (Institute of Nuclear Energy Safety Technology, CAS), Jun Zou (Institute of Nuclear Energy Safety Technology, CAS), Guangyao Sun (Institute of Nuclear Energy Safety Technology, CAS), Lijuan Hao (Institute of Nuclear Energy Safety Technology, CAS), FDS Team (Institute of Nuclear Energy Safety Technology, CAS)...N/A
15:50	25440*	Application of Global Weight Window Generator Based on Particle Density Uniformity in Radiation Shielding; Peng He (Institute of Nuclear Energy Safety Technology, CAS), Guangyao Sun (Key Laboratory of Neutronics and Radiation Safety, Institute of Nuclear Energy Safety Technology, CAS), Lijuan Hao (Key Laboratory of Neutronics and Radiation Safety, Institute of Nuclear Energy Safety Technology, CAS)...N/A
15:57	25540	Performance Assessment of Alternative Nested DXTRAN Treatments; Joel A. Kulesza (Univ of Michigan & LANL), Michael Lorne Fensin (LANL), Roger L. Martz (LANL)...220
16:04	25554*	Pencil Beam Algorithm Based on Monte Carlo Dose Kernel of Self-Consistent Profile Model; Hui Wang (Institute of Nuclear Energy Safety Technology, CAS), Huaqing Zheng (Institute of Nuclear Energy Safety Technology, CAS), Mengyun Cheng (Institute of Nuclear Energy Safety Technology, CAS), Jing Song (Institute of Nuclear Energy Safety Technology, CAS), Yican Wu (Institute of Nuclear Energy Safety Technology, CAS)...N/A
16:11	25568*	MCNP6 Source Primer: Release 1.0; Karissa Currie (LANL), Michael E. Rising (LANL)...N/A
16:18	25686*	Process and Tool Innovation for CAD Integration with OLTARIS; Nicholas T. Myers (Verus Research), Jane Coffrin (Verus Research), John Osowski (Verus Research), Robert C. Singleterry (NASA)...N/A
16:25	25704*	Performance Test Suite For MCNP; Jeffrey Bull (LANL)...N/A

Special Poster Session: Codes and Software RPSD Members Should Know About
Time / Location: 18:00-20:00, Palace Ballroom
Co-chair: Mike Rising (LANL)
Co-chair: David Dixon (LANL)

18:00	25213*	MCNP Version 6.2: New Features and Tools for RPSD Applications; Michael E. Rising (LANL), Jeffrey S. Bull (LANL), Clell J. Solomon (LANL), Forrest B. Brown (LANL), Gregg W. McKinney (LANL), David A. Dixon (LANL), Roger Martz (LANL), H. Grady Hughes (LANL), Larry J. Cox (LANL), Tony Zukaitis (Los Alamos National Lab), Jerawan C. Armstrong (LANL), R. Arthur Forster (LANL), Laura Casswell (LANL), Christopher Werner (LANL), Avneet Sood (LANL)...N/A
18:00	25343*	DRiFT - A Detector Response Function Toolkit for MCNP Output; Madison T. Andrews (LANL)...N/A
18:00	25429*	The TRIPOLI-4® Monte Carlo code: advances for radiation shielding and nuclear instrumentation; Andrea Zoia (CEA Saclay), Francois-Xavier Hugot (CEA), Davide Mancusi (CEA), Odile Petit (CEA)...N/A
18:00	25431*	FISPACT-II: multi-faceted Bateman solver; Jean-Christophe C. Sublet (United Kingdom Atomic Energy Authority), Michael Fleming (United Kingdom Atomic Energy Authority), Mark Gilbert (United Kingdom Atomic Energy Authority), Thomas Stainer (United Kingdom Atomic Energy Authority)...N/A
18:00	25443*	Advanced Capabilities of Neutronics Simulation Program SuperMC for Radiation Protection; Liqin Hu (CAS, Institute of Nuclear Energy Safety), Jing Song (Key Laboratory of Neutron Physics), Lijuan Hao (CAS, Institute of Nuclear Energy Safety), Pengcheng Long (Institute of Nuclear Energy Safety Technology, CAS), Bin Wu (Institute of Nuclear Energy Safety Technology, CAS), Shengpeng Yu (Institute of Nuclear Energy Safety Technology, CAS), Guangyao Sun (CAS, Institute of Nuclear Energy Safety), Jun Zou (Institute of Nuclear Energy Safety Technology, CAS), Quan Gan (Institute of Nuclear Energy Safety Technology, CAS), Peng He (Institute of Nuclear Energy Safety Technology, CAS), Lei Wang (Institute of Nuclear Energy Safety Technology, CAS), Bin Li (Institute of Nuclear Energy Safety Technology, CAS), Yican Wu (Institute of Nuclear Energy Safety Technology, CAS)...N/A
18:00	25451*	Integrated TIGER Series (ITS) Electron-Photon Monte Carlo Codes; Brian C. Franke (SNL), Ronald P. Kensek (SNL), Thomas W. Laub (SNL), Martin J. Crawford (SNL), Kerry L. Bossler (SNL), Aaron J. Olson (SNL), William J. Bohnhoff (SNL), Greg D. Valdez (SNL)...N/A
18:00	25455*	The SCEPTRE Deterministic Radiation Transport Code; Shawn D. Pautz (SNL), Clif R. Drumm (SNL), Wesley Fan (SNL), William Bohnhoff (SNL), Don E. Bruss (SNL)...N/A
18:00	25460	Status of the Framework for Adjoint Continuous Energy Monte Carlo Code; Luke Kersting (Univ of Wisconsin - Madison), Alex P. Robinson (Univ of Wisconsin Madison), Eli Christian Moll (Univ of Wisconsin Madison), Douglass L. Henderson (Univ of Wisconsin Madison), Philip Britt (Univ of Wisconsin - Madison)...226

18:00	25502*	Features of Particle and Heavy Ion Transport code System (PHITS), Takuya Furuta (Japan Atomic Energy Agency), Tatsuhiko Sato (Japan Atomic Energy Agency), Yosuke Iwamoto (Japan Atomic Energy Agency), Shintaro Hashimoto (Japan Atomic Energy Agency), Tatsuhiko Ogawa (Japan Atomic Energy Agency), Shin-ichiro Abe (Japan Atomic Energy Agency), Takeshi Kai (Japan Atomic Energy Agency), Pi-En Tsai (Japan Atomic Energy Agency), Norihiro Matsuda (Japan Atomic Energy Agency), Hiroshi Iwase (KEK), Nobuhiro Shigyo (Kyushu Univ), Lembit Sihver (Technische Universitat Wien), Koji Niita (RIST)...N/A
18:00	25585*	Monte Carlo Application ToolKit (MCATK), Travis J. Trahan (LANL), Terry R. Adams (LANL), David A. Dixon (LANL), Austin P. McCartney (LANL), Steven Nolen (LANL), Jeremy E. Sweezy (LANL), Chris J. Werner (LANL)...N/A
18:00	25595*	RAPID Code System; Alireza Haghighat (Virginia Tech), William J. Walters (Penn State), Nathan Roskoff (Virginia Tech), Valerio Mascolino (Virginia Tech), Meng-Jen Wang (Virginia Tech)...N/A
18:00	25608*	LLNL Nuclear Data Verification & Validation Package; Marie-Anne Descalle (LLNL), Pavlos Vranas (LLNL), Bret R. Beck (LLNL), Scott S. McKinley (LLNL), Teresa S. Bailey (LLNL)...N/A
18:00	25610*	The ADVANCE quality assurance system for the ENDF/B library; David A. Brown (Brookhaven National Laboratory)...N/A
18:00	25613*	NJOY Status in 2018; Jeremy L. Conlin (LANL), Austin P. McCartney (LANL), Wim Haeck (LANL), Amelia Jo Trainer (MIT/LANL), Nicholas Sly (LANL)...N/A
18:00	25618*	FUDGE and GNDS: LLNL's Nuclear Data Infrastructure; Caleb M. Mattoon (LLNL), Bret R. Beck (LLNL)...N/A
18:00	25620*	ADVANTG: Automated Variance Reduction for MCNP; Scott W. Mosher (ORNL), Seth R. Johnson (ORNL), Aaron M. Bevill (International Atomic Energy Agency)...N/A
18:00	25674*	The Intrinsic Source Constructor Library; Clell J. Solomon (LANL)...N/A

Tuesday, 28 August 2018

TUESDAY AM

Plenary Session
Time / Location: 08:30-09:45, Palace Ballroom
Keynote (Health Physics): Dr. Nolan E. Hertel, Georgia Institute of Technology

09:45-10:00 Break

Tutorial: MCNP applications of interest to HPs, Rad Engineers and Medical Physicists
Time / Location: 10:00-12:00, Rivera A
Co-chair: Dave Seagraves (LANL)
Co-chair: Thomas Mclean (LANL)

Special Session: ENDF/B-VIII: The makings of a modern data library, I
Time / Location: 10:00-12:00, Palace A
Co-chair: Wim Haeck (LANL)
Co-chair: Jeremy Conlin (LANL)

10:00	25580	ENDF/B-VIII.0; David A. Brown (Brookhaven National Laboratory)...236
10:25	25581	Chi-Nu Measurement of the Prompt Fission Neutron Spectrum of ^{235}U and ^{239}Pu; Keegan John Kelly (LANL), Jaime A. Gomez (LANL), John M. O'Donnell (LANL), Matt Devlin (LANL), Robert C. Haight (LANL), Terry N. Taddeucci (LANL), Shea M. Mosby (LANL), Hye Young Lee (LANL), Denise Neudecker (LANL), Morgan C. White (LANL), Ching-Yen Wu (LLNL), Roger Henderson (LLNL), Jack Henderson (LLNL), Matthew Q. Buckner (LLNL), Patrick Talou (LANL), Nikolas Fotiades (LANL), Michael E. Rising (LANL), Clell J. Solomon (LANL)...244
10:50	25656*	Experimental Nuclear Data for improvement of evaluated data files; Yaron Danon (Rensselaer Polytechnic Institute (RPI)), Ezekiel Blain (Rensselaer Polytechnic Institute (RPI)), Devin Barry (Naval Nuclear Laboratory, Schenectady), Robert C. Block (Naval Nuclear Laboratory, Schenectady), Adam Daskalakis (Naval Nuclear Laboratory, Schenectady), Brian Epping (Naval Nuclear Laboratory, Schenectady), Gerg Leinweber (Naval Nuclear Laboratory, Schenectady), Brian McDermott (Naval Nuclear Laboratory, Schenectady), Michael J. Rapp (Naval Nuclear Laboratory, Schenectady)...N/A
11:15	25720*	Evaluation of the prompt fission gamma properties for neutron induced fission of U_{235}, U_{238} and Pu_{239}; Ionel Stetcu (LANL)...N/A

Technical Session: Facilities
Time / Location: 10:00-12:00, Palace B
Co-chair: Irina Popova (ORNL)
Co-chair: Joel Risner (ORNL)

10:00	25344	Activation at injection area of J-PARC 3GeV Rapid Cycling Synchrotron and its Countermeasure; Kazami Yamamoto (J-PARC Center), Emi Yamakawa (Engineering Department, Univ of Lancaster, Lancaster LA1 4YW, United Kingdom), Tomohiro Takayanagi (Accelerator Division, J-PARC Center, Japan Atomic Energy Agency), Nobuharu Miki (Nippon Advanced Technology Co., Ltd.), Junichiro Kamiya (Accelerator Division, J-PARC Center, Japan Atomic Energy Agency), Pranab Kumar Saha (Accelerator Division, J-PARC Center, Japan Atomic Energy Agency), Masahiro Yoshimoto (Accelerator Division, J-PARC Center,

		Japan Atomic Energy Agency), Toru Yanagibashi (Nippon Advanced Technology Co., Ltd.), Takamitsu Nakanoya (Accelerator Division, J-PARC Center, Japan Atomic Energy Agency), Osamu Takeda (Nippon Advanced Technology Co., Ltd.), Koki Horino (Nippon Advanced Technology Co., Ltd.)...253
10:25	25411	Measurement and Monte Carlo simulation of 3D neutrons distribution in a radiotherapy bunker; Clara J. García (ISIRYM. Universitat Politècnica de València.), Sergio Morató (ISIRYM. Universitat Politècnica de València.), Belén J. Juste (ISIRYM. Universitat Politècnica de València.), Rafael Miró (ISIRYM. Universitat Politècnica de València.), Gumersindo J. Verdú (ISIRYM. Universitat Politècnica de València.)...262
10:50	25426	Assessment of Neutron Radiation Damage and Shielding for operational good practice of the video systems at JET; Alberto Milocco (Univ of Milano-Bicocca, Italy), Sean Conroy (Uppsala Univ, Sweden), Sergey Popovichev (Culham Science Centre, UK), Gennady Sergienko (Forschungszentrum Jülich GmbH, Institut für Energie-und Klimaforschung - Plasmaphysik, 52425 Jülich, Germany), Simon Cramp (Culham Science Centre, UK), Alexander Huber (Forschungszentrum Jülich GmbH, Institut für Energie-und Klimaforschung - Plasmaphysik, 52425 Jülich, Germany)...269
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11:40	25604	Activation analysis of the concrete in the Fleurus cyclotron facility; Nicolas Marie Slosse (Tractebel Engie), Alberto Ottonello (Tractebel Engie)...287

12:00-13:00 Lunch, O'Keeffe Room

TUESDAY PM - I

Special Session: Low-Dose Radiation
Time / Location: 13:00-14:45, Rivera A
Co-chair: Thomas Miller (ORNL)
Co-chair: Alan Waltar

13:00	25530*	The ANS/HPS Joint Topical Conference on Low-Level Radiation Protection Standards; Alan Waltar (ANS/HPS Joint Topical Conference on Low-Level Radiation Protection Standards)...N/A
13:30	25560*	Low-dose radiation regulation - a grand challenge; R. Gregory Downing (NIST)...N/A
14:00	25472*	Low Level Radiation: Why we care; Paul G. Lorenzini (Retired)...N/A

Special Session: ENDF/B-VIII: The makings of a modern data library, II
Time / Location: 13:00-14:45, Palace A
Co-chair: Wim Haeck (LANL)
Co-chair: Jeremy Conlin (LANL)

13:00	25453	The decay data sub-library in ENDF/B-VIII.0; Alejandro A. Sonzogni (Brookhaven National Laboratory), Elizabeth McCutchan (National Nuclear Data Center, Brookhaven National Laboratory), Timothy Johnson (National Nuclear Data Center, Brookhaven National Laboratory)...297
13:25	25559*	Overview of ENDF/B-VIII.0 Covariances Compared to ENDF/B-VII.1; Denise Neudecker (LANL)...N/A
13:50	25617*	ENDF/B-VIII.0 Translation to GNDS and its Processing for Monte Carlo and Multi-group Transport Codes; Bret R. Beck (LLNL), Caleb M. Mattoon (LLNL), Mare-Anne Descalle (LLNL), Eric D. Jurgenson (LLNL)...N/A
14:15	25493	Updating NJOY's HEATR module for ENDF/B-VIII.0; Wim Haeck (LANL)...300

Workshop: SuperMC, I
Time / Location: 13:00-14:45, Palace B
Chair: Shengpeng Yu (Institute of Nuclear Energy Safety Technology, China)

Workshop: MCNP® Open Lab
Time / Location: 14:15-15:15, Boardroom
Chair: David Dixon (LANL)

14:45-15:15 Break

TUESDAY PM - II

Special Session: RPSD Relevant ANS Standards: What are they and why should I care?
Time / Location: 15:15-17:00, Rivera A
Co-chair: Shaheen Dewji (ORNL)
Co-chair: Robert Hayes (NCSU)
Co-chair: Charlotta Sanders (Sanders Engineering)

15:15	26824*	What are standards and what are their benefits? Shaheen Dewji (ORNL)...N/A
15:30	26824*	Overview of ANS-6 subcommittee standards; Charlotta E. Sanders (Sanders Engineering)...N/A
15:50	26824*	Recent updates of ANSI/ANS-6.1.1, neutron and gamma-ray fluence-to-dose factors; Nolan E. Hertel (Georgia Institute of Technology)...N/A

16:10 26824* Draft ICRU report on operational dose quantities; Nolan E. Hertel (Georgia Institute of Technology)...N/A
16:40 26824* Recent progress of ANSI/ANS-6.4.3, gamma-ray attenuation coefficients and buildup factors for engineering materials; Charlotta E. Sanders (Sanders Engineering)...N/A

Special Session: ENDF/B-VIII: The makings of a modern data library, III
Time / Location: 15:15-17:00, Palace A
Co-chair: Wim Haeck (LANL)
Co-chair: Jeremy Conlin (LANL)

15:15 25606 Testing of ENDF/B-VIII.0 in the GNDS Format with LLNL Transport Codes; Marie-Anne Descalle (LLNL), Bret R. Beck (LLNL), Caleb M. Mattoon (LLNL), Eric D. Jurgenson (LLNL), Scott S. McKinley (LLNL), Teresa S. Bailey (LLNL), Bujar Tagani (LLNL)...311
15:40 25612* Benchmark Testing of ENDF/B-VIII.0 with MCNP; Jeremy L. Conlin (LANL), A. C. Kahler (LANL)...N/A
16:05 25340 TENDL-2017: the making of multi-faceted technological nuclear data library; Jean-Christophe C. Sublet (United Kingdom Atomic Energy Authority), Dimitri Rochman (Paul Scherrer Institut, Switzerland), Arjan Koning (International Atomic Energy Agency, Austria)...316

Workshop: SuperMC, II
Time / Location: 15:15-17:00, Palace B
Chair: Shengpeng Yu (Institute of Nuclear Energy Safety Technology, China)

Mentorship Event:
Time / Location: 19:00-22:00, Meow Wolf, 1352 Rufina Circle, Santa Fe, NM, 87507
Chair: David Dixon (LANL)

Wednesday, 29 August 2018

WEDNESDAY AM

Plenary Session
Time / Location: 08:30-09:45, Palace Ballroom
Keynote (Space Physics): Dr. Joseph I. Minow, NASA

09:45-10:00 Break

Special Session: Particle Transport on Emerging Architectures
Time / Location: 10:00-12:00, Rivera A
Co-chair: Jeremy Sweezy (LANL)
Co-chair: George Xu (RPI)
Co-chair: Tim Burke (LANL)

10:00	25352	Performance Study of Atomic Tally Methods For GPU-Accelerated Monte Carlo Dose Calculation; Tianyu Liu (Rensselaer Polytechnic Institute (RPI)), Noah Wolfe (Rensselaer Polytechnic Institute), Hui Lin (Rensselaer Polytechnic Institute), Christopher D. Carothers (Rensselaer Polytechnic Institute), X. George Xu (Rensselaer Polytechnic Institute (RPI))...323
10:25	25436*	Real-time Monte Carlo Simulation: Concept and Feasibility; X. George Xu (Rensselaer Polytechnic Institute (RPI)), Tianyu Liu (Rensselaer Polytechnic Institute (RPI))...N/A
10:50	25688	Preliminary Performance Evaluation of P++ Single Event Proton Scattering Algorithms on GPUs; Kristofer J. Zieb (Rensselaer Polytechnic Institute (RPI)), X. George Xu (Rensselaer Polytechnic Institute (RPI))...332
11:15	25609	The State of Monte Carlo Neutron Transport on GPU Accelerators - A Review; Jeremy E. Sweezy (LANL), Clell J. Solomon (LANL), Timothy P. Burke (LANL), Steven P. Hamilton (ORNL), Thomas M. Evans (ORNL)...339

Special Session: Challenges and Opportunities in Space Radiation Environment Characterization, its Effects, and Methods for Mitigation (SEEM) I
Time / Location: 10:00-12:00, Palace A
Co-chair: Alexei Klimenko (LANL)
Co-chair: Lawrence Heilbronn (UT)

10:00	25527	Electron Beams for Radiation Belt Remediation; Geoffrey D. Reeves (Los Alamos National Lab.)...346
10:25	25591*	Measurement of Thermal Neutron Environments in Aircraft; Steve Wender (LANL), Suzanne Florence Nowicki (LANL), A. J. Couture (LANL), N. Dallmann (LANL), K. McKeown (LANL), A. Warniment (LANL), N. Seitz (LANL), J. Lake (LANL), L. Dominik (Honeywell.com)...N/A
10:50	25614	Current Space Environment Measurements Made by LANL; Brian A. Larsen (LANL)...356

Special Session: A survey of LANSCE Activities
Time / Location: 10:00-12:00, Palace B
Co-chair: Michael Mocko (LANL)
Co-chair: Irina Popova (ORNL)

10:00	25332	Benchmarking of the MCNPX predictions of the neutron time-emission spectra at LANSCE; Lukas Zavorka (LANL), Michael Jeffrey Mocko (LANL), Paul Koehler (LANL), John Ullmann (LANL)...365

10:25 25334 Shielding design for the LANSCE/WNR neutron flight paths; Nikolaos Fotiades (LANL), Avigdor Gavron (LANL), Michael Jeffrey Mocko (LANL)...369

10:50 25456 Shielding maze design for Line C tunnel at LANSCE; Michael Jeffrey Mocko (LANL), Charles T. Kelsey (LANL)...373

11:15 25465* Radiation Effect Testing at the Los Alamos Neutron Science Center; Steve Wender (LANL), S. F. Nowicki (LANL), H. Quinn (LANL)...N/A

11:40 25709* The Radiological Controls Used for Vacuum Window Replacement at the Los Alamos Isotope Production Facility; Michael Duran (LANL)...N/A

12:00-13:00 Lunch, O'Keeffe Room

WEDNESDAY PM - I

Technical Session: Detection and Measurement I
Time / Location: 13:00-14:45, Rivera A
Co-chair: Avneet Sood (LANL)
Co-chair: Madison Andrews (LANL)

13:00 25362 Spectral-average cross section validation in LR-0 reactor spectrum of ^{55}Mn(n,2n), ^{90}Zr(n,2n) and ^{127}I(n,2n) reactions; Nicola Burianova (Research Center Rez), Michal Kostal (Research Center Rez), Martin Schulc (Research Centre Rez), Jan Simon (Research Centre Rez), Martin Marecek (Research Centre Rez), Jan Uhlir (Research Centre Rez)...377

13:25 25416 Study of radon concentration in wetland Mediterranean water using continuous monitoring; Aina Noverques Medina (Universitat Politècnica de València), Belén J. Juste (ISIRYM. Universitat Politècnica de València.), Maria Sancho Fernandez (Universitat Politècnica de València), Gumersindo Verdú Martìn (Universitat Politècnica de València)...387

13:50 25433 Dose Rates Verification for SNS Spent Structures; Irina I. Popova (ORNL), F. X. Gallmeier (ORNL), Steven Trotter (ORNL), Michael Dayton (ORNL)...396

14:15 25445 Feasibility Study for Detection of Fuel Assemblies State inside Sealed Dry Storage Casks using External Gamma Flux Measurements; Reuven Rachamin (Technische Universität Dresden), Uwe Hampel (Technische Universität Dresden)...404

Special Session: Challenges and Opportunities in Space Radiation Environment Characterization, its Effects, and Methods for Mitigation (SEEM) II
Time / Location: 13:00-14:45, Palace A
Co-chair: Alexei Klimenko (LANL)
Co-chair: Lawrence Heilbronn (UT)

13:00 25434 Secondary neutron yields from thick-target GCR accelerator experiments; Hunter Ratliff (Univ of Tennessee), Natalie A. McGirl (Univ of

		Tennessee), Luis A. Castellanos (Univ of Tennessee), Hui-Chen Wang (Univ of Tennessee), Ashwin P. Srikrishna (Univ of Tennessee), Lawrence H. Heilbronn (Univ of Tennessee)...412
13:25	25435	Light Charged Ion Measurements and Monte Carlo Calculations from Thick Targets Bombarded by Protons and Heavy ions; Hui-Chen Wang (Univ of Tennessee Knoxville), Luis A. Castellanos (Univ of Tennessee Knoxville), Natalie A. McGirl (Univ of Tennessee), Hunter N. Ratliff (Univ of Tennessee), Ashwin P. Srikrishna (Univ of Tennessee Knoxville), Lawrence H. Heilbronn (Univ of Tennessee, Knoxville)...423
13:50	25432*	Evaluation of Electronic Performance in the Europa Environment; Adam Watkins (LANL), Heather Quinn (LANL)...N/A
14:15	25458*	Reliable Total Ionizing Dose Estimates in High Fidelity Satellite Models; Eric Yuval Raby (LANL), Thomas D. Fairbanks (LANL), Yue Chen (LANL)...N/A

Workshop: Attila4MC for simplifying MCNP, including CAD integrated CADIS and FW-CADIS, I
Time / Location: 13:00-14:45, Palace B
Co-chair: Greg Failla (Varex Imaging)
Co-chair: Dan Oranski (Varex Imaging)
Co-chair: Jennifer Alwin (LANL)

Workshop: MCNP® Open Lab
Time / Location: 14:15-15:15, Boardroom
Co-chair: David Dixon (LANL)
Co-chair:

14:45-15:15 Break

WEDNESDAY PM - II

Technical Session: Detection and Measurement II
Time / Location: 15:15-17:00, Rivera A
Co-chair: Avneet Sood (LANL)
Co-chair: Madison Andrews (LANL)

15:15	25430	Watts Bar I Ex-Core Analyses Using VERA; Eva E. Davidson (ORNL), Tara M. Pandya (ORNL), Andrew Godfrey (ORNL), Mehdi Asgari (Asgari Consultancy)...431
15:40	25562	Experimental Quantification of the Background Neutron Flux in the Advanced Test Reactor Fuel Storage Canal; David W. Nigg (Idaho National Laboratory), Kyle S. Beling (Univ of New Mexico), David T. Miller (Idaho National Laboratory)...438

16:05 25592 Using Time of Flight Separation to Observe Photoneutron Production by X-rays Incident on Beryllium; Christopher R. Johnson (LANL), Michael Patrick McCumber (LANL)...445

16:30 25691 The Application of MCNP6.2 Unstructured Mesh Geometry Capabilities to the Study of Heavy Ion Single Event Effect on Microelectronic Devices and the Reactor Physics Analysis; Peter Joseph Kowal (Rensselaer Polytechnic Institute (RPI)), Joseph McPherson (Rensselaer Polytechnic Institute), Wei Ji (Rensselaer Polytechnic Institute)...455

Lightning Talks II

Time / Location: 15:15-17:00, Palace A
Co-chair: David Dixon (LANL)
Co-chair:

15:15 25337* MCNP6 Unstructured Mesh (UM) for Criticality Accident Alarm System (CAAS) Analysis; Jennifer L. Alwin (LANL)...N/A

15:22 25408 Criticality Calculations and Shielding Analysis of The Missouri S&T Research Reactor Using SCALE-6.2.2; Abdulaleem Abdulamjeed Bugis (Missouri Univ of Science and Technology), Xin Liu (Missouri Univ of science and technology)...465

15:29 25427 Application of Adaptive Multilevel Splitting on coupled neutron-photon TRIPOLI-4 Monte Carlo simulations; Henri Louvin (CEA Saclay), Odile Petit (CEA Saclay)...475

15:36 25597* Development of Radiation Shielding Review code RShieldMC; Jing ru Han (nuclear and radiation safety center), Hu Wenchao (nuclear radiation and safety center), Chen Haiying (nuclear radiation and safety center), Zuo Jiaxu (nuclear radiation and safety center), Liu Fudong (nuclear radiation and safety center), Li Junli (Tsinghua Univ)...N/A

15:43 25607* Potential Shielding Applications of Radiation Guiding Nano-Structured meta-material; Liviu Popa-Simil (LAVM LLC)...N/A

15:50 25615 Distinguishing Research Reactor Fuels Using Neutron Multiplicity; Odera Udochukwu Dim (Univ of Massachusetts - Lowell), Sukesh K. Aghara (Univ Of Massachusetts Lowell)...482

15:57 25652 RADIOACTIVITY AND NEUTRON DAMAGE CALCULATORS FOR RESEARCH AND TEST REACTOR NEUTRON-ACTIVATED MATERIALS; KaeCee Holden (Univ of Idaho), Kelley Marie Verner (Univ of Idaho), Brenden J. Heidrich (Idaho National Laboratory)...486

16:04 25664* Proposed Study of the Production of Activated Rare Earth Elements in Post-Detonation Nuclear Forensics; Tucker C. McClanahan (Univ of Tennessee Knoxville), John D. Auxier (Univ of Tennessee, Knoxville), Erik B. Iverson (ORNL), Howard Hall (Univ of Tennessee, Knoxville)...N/A

16:11 25675* MCNPTools: A Package for Facilitating Processing MCNP Outputs; Clell J. Solomon (LANL), Cameron R. Bates (LANL), Joel A. Kulesza (Univ of Michigan)...N/A

16:18 25687 An Interactive Version of the Nuclear Cross Section Data Handbook; H. Omar Wooten (LANL)...494

16:25 26953* 3D gamma source mapping and intervention analysis; Andrew Dockweiler (NPO), Mike Davis (NPO), Jeremy Hilsabeck (Transco Products)...N/A

Workshop: Attila4MC for simplifying MCNP, including CAD integrated CADIS and FW-CADIS, II
Time / Location: 15:15-17:00, Palace B
Co-chair: Greg Failla (Varex Imaging)
Co-chair: Dan Oranski (Varex Imaging)
Co-chair: Jennifer Alwin (LANL)

Banquet
Time / Location: 18:00-20:00, Drury Garden

Concurrent Poster Session:
Time / Location: 18:00-20:00, Palace Ballroom
Co-chair: Mike Rising (LANL)
Co-chair: David Dixon (LANL)

18:00	25423*	Calculation of pre-equilibrium effects in neutron-induced cross section on ^{63}Cu and ^{65}Cu; Leila Yettou (Univ of Sciences and Technology of Bab Ezzouar)...N/A
18:00	25442*	RMC design optimization for extended field of view; Silvia Barros (Sejong Univ), Geehyun Kim (Sejong Univ)...N/A
18:00	25444*	Optimization of neutron scattering instrument shielding using MCNP and a Genetic Algorithm; Steven Lilley (STFC)...N/A
18:00	25582*	New concept of environmental radiological protection system considered ICRP 138: For application of Optimisation and Monetary value to RAP under specific circumstances; Ho Jung Go (Korea Institute of Nuclear Safety(KINS)), Song-Jae Yoo (Korea Institute of Nuclear Safety), Hyeong-Ki Shin (Korea Institute of Nuclear Safety), Sang-Myeon Ahn (Korea Institute of Nuclear Safety)...N/A
18:00	25589	Customized Multigroup Cross Section Generation with NJOY for Discrete Ordinates Computed Tomography and Radiography Simulation; Steve Wagstaff (Missouri Univ of Science and Technology), Xin Liu (Missouri Univ of Science & Technology)...498
18:00	25679*	Determination of ^{226}Ra and ^{228}Ra in water via spectrum stripping method by LSC; Yong-Guang LIANG (Univ of Science and Technology of China), Zhi CHEN (Univ of Science and Technology of China), Guo-Bing YU (Anhui Radiation Environment Supervision Station), Yuan WANG (Univ of Science and Technology of China), Ming-Ming XIA (Univ of Science and Technology of China)...N/A
18:00	25681*	Comparison of Monte Carlo Simulated Thin-Film Silicon Detectors Response; Silvia Barros (Sejong Univ), Jaehyo Kim (Sejong Univ), Geehyun Kim (Sejong Univ)...N/A
18:00	25685*	Parametric MC Study of Waste Shielding Facilities using Prototype Excel Functions; Andrew D. Hodgdon (RadSim, LLC)...N/A
18:00	25689*	A Stochastic Weight Window Generator - A Work in Progress; Andrew D. Hodgdon (RadSim, LLC)...N/A
18:00	26806*	Development of a Stilbene Detector Array for Neutron Multiplicity Counting; Jerome M. Verbeke (LLNL)...N/A

Thursday, 30 August 2018

THURSDAY AM

Plenary Session
Time / Location: 08:30-09:45, Palace Ballroom
Keynote (Medical Physics): Dr. Stephen F. Kry, MD Anderson Cancer Center

09:45-10:00 Break

Technical Session: Medical Physics, Radiation Protection, Health Physics
Time / Location: 10:00-12:00, Rivera A
Co-chair: Shaheen Dewji (ORNL)
Co-chair: Lawrence Heilbronn (UT)

10:00	25425	Neutron production in the Beryllium filter of a LinAc using 6 MeV treatment beam; Alejandra J. Salvat (ISIRYM. Universitat Politècnica de València.), Sergio Morató (ISIRYM. Universitat Politècnica de València.), Belén J. Juste (ISIRYM. Universitat Politècnica de València.), Rafael Miro Miró (ISIRYM. Universitat Politècnica de València.), Gumersindo J. Verdú (ISIRYM. Universitat Politècnica de València.)...508
10:25	25449	Development of ARCHER Towards Clinical Use: Modeling and Simulation of Varian Linac for Radiation Therapy Dose Calculations; Hui Lin (Rensselaer Polytechnic Institute), David P. Adam (Univ of Wisconsin Madison), Tianyu Liu (Rensselaer Polytechnic Institute), Peter F. Caracappa (Rensselaer Polytechnic Institute (RPI)), Bryan P. Bednarz (Univ of Wisconsin Madison), X. George Xu (Rensselaer Polytechnic Institute (RPI))...513
10:50	25471	Dose estimation to a worker hand from depleted uranium handling; Robert T. Perry (Gaea Scientific), Alexander B. Laptev (LANL)...525
11:15	25573	Protection Factors for French dwellings; Jeremy Bez (IRSN), Thomassin Alain (IRSN)...529

Technical Session: Uncertainty Quantification and Sensitivity Analysis, I
Time / Location: 10:00-12:00, Palace A
Co-chair: Jeff Favorite (LANL)
Co-chair: Mike Rising (LANL)

10:00	24235	Sensitivity of a Response to the Composition of an (alpha,n) Neutron Source; Jeffrey A. Favorite (LANL), Sophie Weidenbenner (Purdue Univ)...536
10:25	25461	Importance of Treating Correlations in the Uncertainty Quantification of Radiation Damage Metrics; Patrick J. Griffin (SNL), Arjan Koning (International Atomic Energy Agency), Dimitri Rochman (Paul Sherrer Institut)...548

10:50 25588 Applying a Predictive Modeling Methodology to a Radiation Transport Inverse Problem; Garrett Dean (LANL), Ruixian Fang (Univ of South Carolina), Dan Gabriel Cacuci (Univ of South Carolina), Jeffrey A. Favorite (LANL)...558

11:15 25605 Monte Carlo Estimates of Sensitivities to Geometric Perturbations for Shielding Problems Using Kernel Density Estimators; Timothy P. Burke (LANL), Brian C. Kiedrowski (Univ of Michigan)...567

Roundtable Discussion: Developing a Hybrid Radiation Transport V&V Suite
Time / Location: 10:00-12:00, Palace B
Co-chair: Joel Kulesza (LANL)
Co-chair: Joel Risner (ORNL)

10:00 25538* Roundtable Discussion: Developing a Hybrid Radiation Transport V&V Suite; Joel A. Kulesza (Univ of Michigan & LANL), Joel M. Risner (ORNL)...N/A

12:00-13:00 Lunch, O'Keeffe Room

THURSDAY PM - I

Tutorial: Proton Therapy, I
Time / Location: 13:00-14:45, Rivera A
Chair: Niek Schreuder (Provision Solutions)

Technical Session: Uncertainty Quantification and Sensitivity Analysis, II
Time / Location: 13:00-14:45, Palace A
Co-chair: Jeff Favorite (LANL)
Co-chair: Mike Rising (LANL)

13:00 25452 Adjoint-enabled Multidimensional Optimization of Satellite Electron/Proton Shields; Shawn D. Pautz (SNL), Don E. Bruss (SNL), Brian M. Adams (SNL), Brian C. Franke (SNL), Ethan Blansett (SNL)...576

13:25 25556 Uncertainties in Secondary Angular Distributions and their Impact on Shielding, Criticality and Kinetics Analysis; Ivan Alexander Kodeli (Jozef Stefan Institute)...587

13:50 25623 Application of Polynomial Chaos Expansion in Inverse Transport Problems with Neutron Multiplication Measurements and Multiple Unknowns; Keith C. Bledsoe (ORNL), Matthew A. Jessee (ORNL), Justin R. Knowles (ORNL)...595