

1st Annual 2021 MCNP® User Symposium

FINAL r4

Virtual, USA Mountain Standard Time

[Click Here to Access Conference](#) (Conference Registration Required for Access)

The [help desk](#) will be manned and supported within the virtual environment daily, during the below times:

- 7:00 am – 8:00 am (USA, MDT)
- 11:30 am – 12:20 pm (USA, MDT)
- 4:00 pm – 5:00 pm (USA, MDT)

If you are unable to log into the virtual environment (verification email is not received on your mobile device or email) please email Sarah Haag at sarahh@lanl.gov for assistance during the above time frames.

www.lanl.gov/mcnp2021

Purpose: Event Name
Technical Host: Local Organizing Committee, LANL, mcnp2021@lanl.gov
LANL POC: Sarah Haag, LANL, sarahh@lanl.gov

Dress: Business Casual
Revised: 7/2/2021 9:21 AM

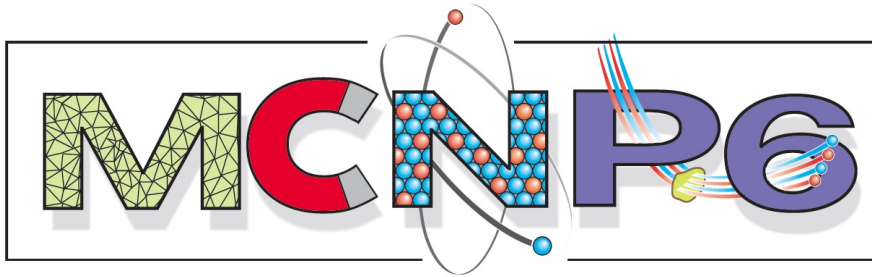


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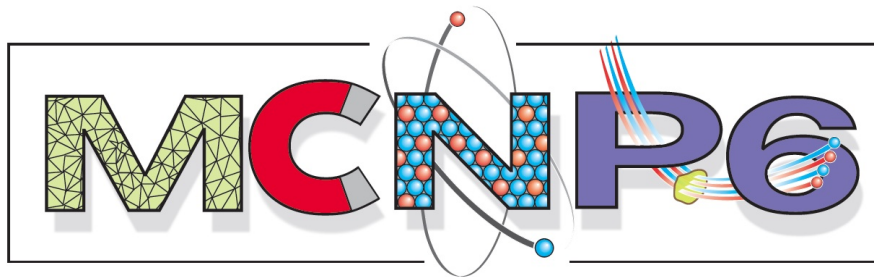
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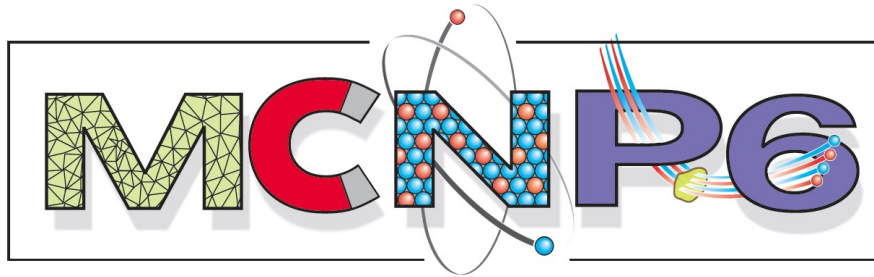
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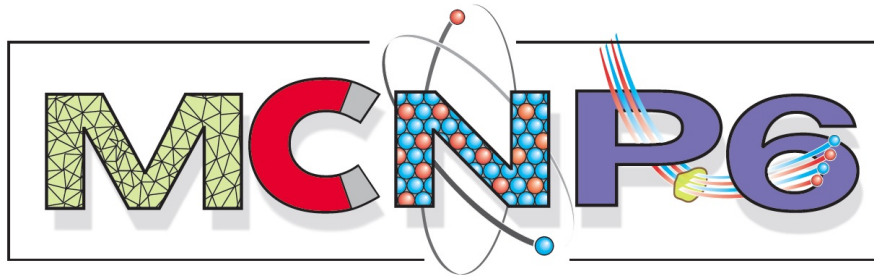
Monday, July 12, 2021		
AM	<u>Opening Session</u>	
7:30 – 8:00	Session Open Technical Support	Stephen Wilson <i>Session Chair / Los Alamos National Laboratory</i> Jerawan Armstrong <i>Sesion Co-Chair / Los Alamos National Laboratory</i> Protocol Staff <i>Technical Support / Los Alamos National Laboratory</i>
8:00 – 8:20	Welcome, Information, Symposium Organization, etc.	Bob Little <i>Los Alamos National Laboratory</i>
8:20 – 8:35	Upcoming MCNP6.3[®] Release Overview: New Features and Improvements Link to virtual booth Link to Abstract	Michael Rising <i>Los Alamos National Laboratory</i>
	Welcome Video From Los Alamos National Laboratory Director, Thom Mason	
Fusion		



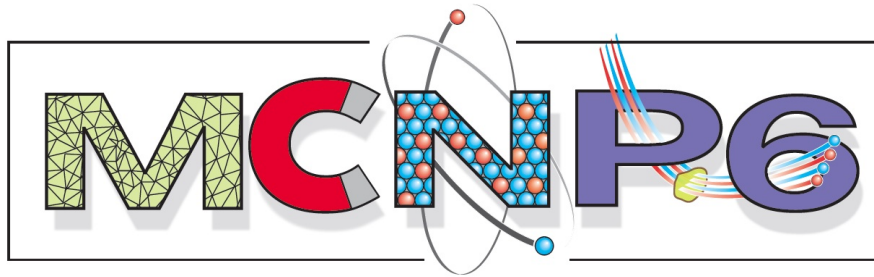


Monday, July 12, 2021		
8:35 – 9:05	MCNP Calculations for ITER Link to virtual booth Link to Abstract	M.J. Loughlin ITER, France
9:05 – 9:15	Break	
9:15 – 9:35	Use of MCNP for ITER neutronics problems with large and complex geometries Link to virtual booth Link to Abstract	Aljaž Kolšek Universidad Nacional de Educación a Distancia, Spain
9:35 – 9:55	Using DAG-MCNP for a CAD based approach to fusion neutronics Link to the Virtual booth Link to Abstract	Tim D. Bohm University of Wisconsin, Madison
9:55 – 10:15	Modeling Neutron Transport for MagLIF experiments at the Z Facility using Attila and MCNP Link to the Virtual booth Link to Abstract	M.A. Mangan Sandia National Laboratories
10:15 – 10:25	Break	
10:25 – 10:55	Use of MCNP for Residual dose rate calculations in fusion facilities Link to the Virtual booth Link to Abstract	Patrick Sauvan Universidad Nacional de Educación a Distancia, Spain
10:55 – 11:10	MCNP Fusion Modeling of Electron-Screened Ions Link to the Virtual booth Link to Abstract	Theresa Benyo NASA Glenn Research Center

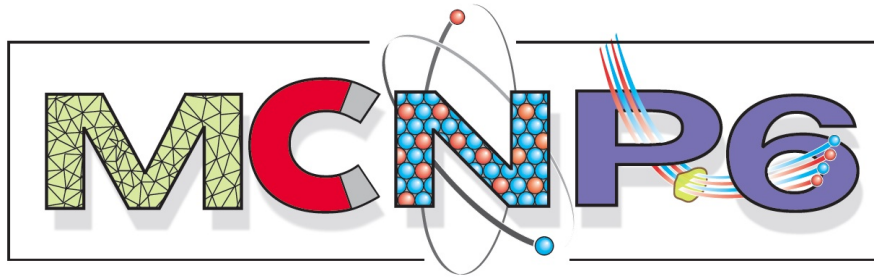




Monday, July 12, 2021		
11:10 – 12:20	Virtual Networking / Technical Assistance	Protocol Staff
12:05 – 12:30	Session is open	Bobbie Riedel <i>Session Chair / Los Alamos National Laboratory</i> Tim Burke <i>Session Co-Chair / Los Alamos National Laboratory</i>
PM	Reactors and Criticality	
12:30 – 1:00	High Fidelity MCNP Modeling of the Versatile Test Reactor Link to the Virtual booth Link to Abstract	Jack Galloway <i>Los Alamos National Laboratory</i>
1:00 – 1:30	Physics Improvements for Criticality Calculations with MCNP6.3 Link to the Virtual booth Link to Abstract	Forrest B. Brown <i>University of New Mexico</i>
1:30 – 1:40	Break	
1:40 – 2:10	MCNP and ABAQUS based Reactor Multiphysics (MARM) Link to the Virtual booth Link to Abstract	Vedant K. Mehta <i>Los Alamos National Laboratory</i>

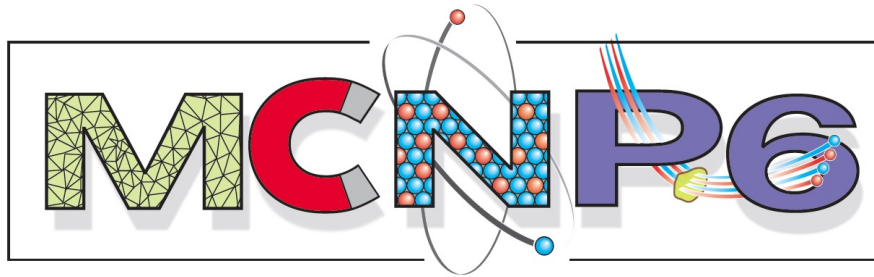


Monday, July 12, 2021		
2:10 – 2:30	<p><i>Application of the MCNP6.2 decay source modeling features towards evaluating the time evolution of prompt and decay power in a nuclear reactor</i></p> <p>Link to the Virtual booth Link to Abstract</p>	<p>Joshua T. Jones The Ohio State University</p>
2:30 – 2:50	<p><i>Utilizing Unstructured Mesh Geometry in Criticality Calculations and Criticality Accident Alarm System Analysis</i></p> <p>Link to the Virtual booth Link to Abstract</p>	<p>J.L. Alwin Los Alamos National Laboratory</p>
2:50 – 3:00	Break	
3:00 – 3:25	<p><i>Improved FMESH Capabilities in the MCNP 6.3 Code: Performance improvements, New File Formats, and Visualization</i></p> <p>Link to the Virtual booth Link to Abstract</p>	<p>Colin Josey Los Alamos National Laboratory</p>
3:25 – 3:40	<p><i>Modeling and Simulation of 3-MW TRIGA Mark-II Research Reactor Using Monte Carlo Code MCNPX - WITHDRAWN</i></p> <p>Link to the Virtual booth Link to Abstract</p>	<p>A.S. Mollah Military Institute of Science and Technology, Bangladesh</p>
3:40 – 5:40	Virtual Networking / Technical Assistance	Protocol Staff



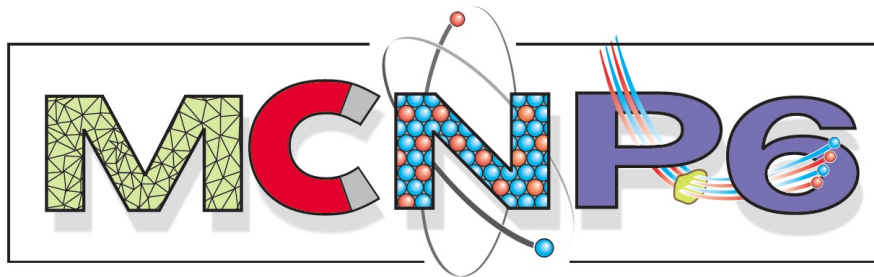
Tuesday, July 13, 2021		
AM		
7:30 – 8:00	Session Open / Technical Assistance	<p>Michael Rising <i>Session Chair / Los Alamos National Laboratory</i></p> <p>Terry Adams <i>Session Co-Chair / Los Alamos National Laboratory</i></p> <p>Protocol Staff <i>Technical Support / Los Alamos National Laboratory</i></p>
Unstructured Mesh & CAD		
8:00 – 8:25	<p>MCNP Unstructured Mesh Overview, Improvements, and Verification and Validation (V&V) Testing</p> <p>Link to virtual booth Link to abstract</p>	<p>Jerawan Armstrong <i>Los Alamos National Laboratory</i></p>
8:25 – 8:55	<p>Using CUBIT to construct unstructured mesh geometries for MCNP simulations</p> <p>Link to virtual booth Link to abstract</p>	<p>Thomas Schlitt <i>Air Force Institute of Technology</i></p>
8:55 – 9:05	Break	



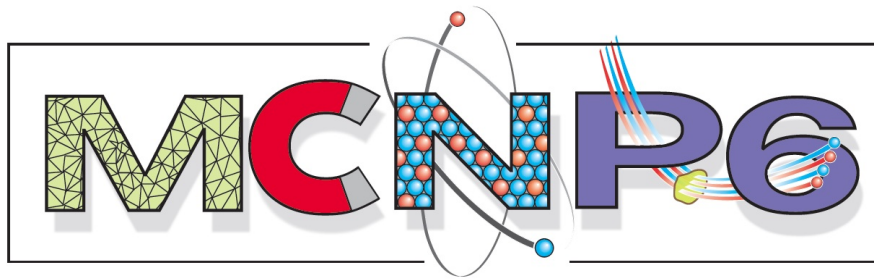


Tuesday, July 13, 2021		
9:05 – 9:25	MCNP Unstructured Mesh Elemental Quality Assessment Link to virtual booth Link to abstract	Joel Kulesza <i>Los Alamos National Laboratory</i>
9:25 – 9:55	Lessons Learned using the MCNP® 6.2 Unstructured Mesh Capability Link to virtual booth Link to abstract	Gregory Failla <i>Silver Fir Software, Inc.</i>
9:55 – 10:05	Investigation of Electron Energy Deposition Edit Accuracy for Mesh Geometries Link to virtual booth Link to abstract	Jake Eichenlaub <i>Lockheed Martin Space</i>
10:05 – 10:15	Break	
10:15 – 10:40	Verification and validation of unstructured meshes in MCNP with Athena-I experiment Link to virtual booth Link to abstract	Micah Jeroutek <i>Air Force Institute of Technology</i>
10:40 – 11:00	Device Modeling for Detection Simulations Link to abstract	Marion Vance <i>Los Alamos National Laboratory</i>
11:00 – 11:10	Device Modeling for Synthetic Radiography Link to virtual booth Link to abstract	
11:00 – 12:10	Virtual Networking / Technical Assistance	Protocol Staff
PM		

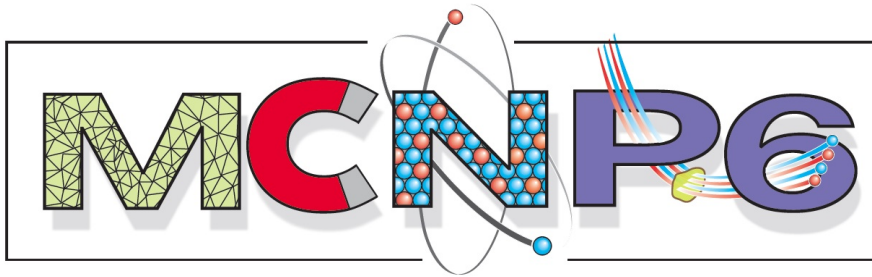




Tuesday, July 13, 2021		
Tools		
12:05 – 12:25	Session Open	Joel Kulesza <i>Session Chair / Los Alamos National Laboratory</i> Terry Adams <i>Session Co-Chair / Los Alamos National Laboratory</i>
12:25 – 12:30	Welcome Back and PM Technical Session Chair Introduction	
12:30 – 12:50	PTRAC improvements, parallelism, and post-processing Link to virtual booth Link to abstract	Simon Bolding <i>Los Alamos National Laboratory</i>
12:50 – 1:05	Using PTRAC for time of flight detector characterization Link to virtual booth Link to abstract	Teancum Quist <i>University of Utah</i>
1:05 – 1:20	Faust Python tools Link to virtual booth Link to abstract	Wim Haeck <i>Los Alamos National Laboratory</i>
1:20 – 1:35	ENDFtk: A Robust C++/Python API for Reading/Writing ENDF-formatted Data Link to virtual booth Link to abstract	Nathan Gibson <i>Los Alamos National Laboratory</i>
1:35 – 1:45	Break	

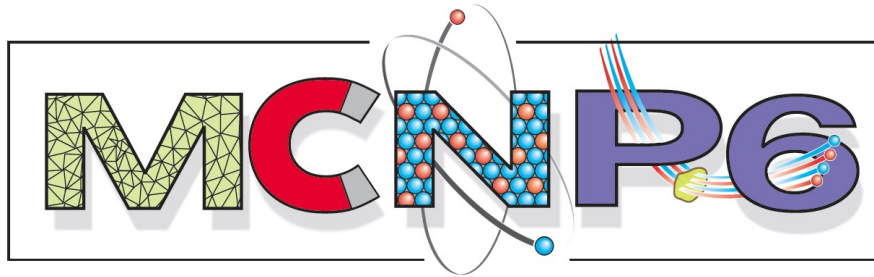


Tuesday, July 13, 2021		
1:45 – 2:00	<i>A Guide to Building the MCNP 6.3 Code from Source</i> Link to virtual booth Link to abstract	Colin Josey <i>Los Alamos National Laboratory</i>
2:00 – 2:15	<i>Creation and Use of Singularity MCNP Container for Portable System-independent Build</i> Link to virtual booth Link to abstract	Darren Holland <i>Air Force Institute of Technology</i>
2:15 – 2:25	<i>Compiling MCNP6.2 for ARM clusters</i> Link to virtual booth Link to abstract	Avery Grieve <i>Los Alamos National Laboratory</i>
2:25 – 2:35	<i>Enhanced Notepad++ text editing tools for MCNP input decks</i> Link to virtual booth Link to abstract	Micah Jeroutek <i>Air Force Institute of Technology</i>
2:35 – 2:45	Break	
2:45 – 3:00	<i>Development of a web application to visualize MCNP input</i> Link to virtual booth Link to abstract	Seiki Ohnishi <i>National Maritime Research Institute, Japan</i>
3:00 – 3:15	<i>An Operational MCNP GUI</i> Link to virtual booth Link to abstract	Radek Pudelko <i>North Carolina State University</i>



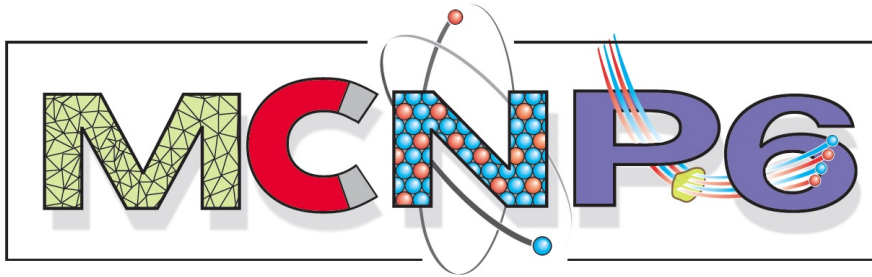
Tuesday, July 13, 2021		
3:15 – 3:25	Python Tool for Writing MCNP UM Input Files Link to virtual booth Link to abstract	Jerawan Armstrong <i>Los Alamos National Laboratory</i>
3:25 – 3:40	Improved Verification and Validation Testing and Tools Link to virtual booth Link to abstract	Michael Rising <i>Los Alamos National Laboratory</i>
3:40 – 3:45	Day 2 Closing Remarks	
3:45 – 5:45	Virtual Networking / Technical Support	Protocol Staff





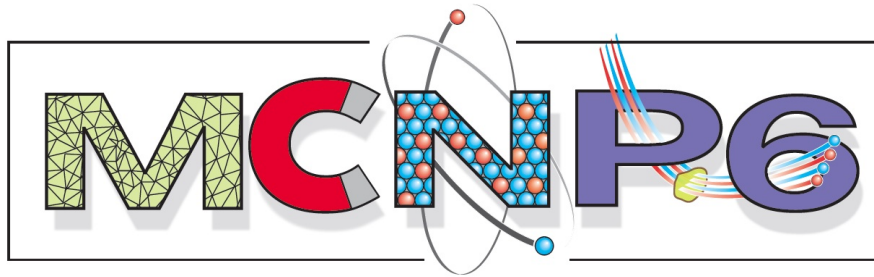
Wednesday, July 14, 2021		
AM		
7:30 – 8:00	Session Open / Technical Assistance	<p>Jeffery Bull <i>Session Chair / Los Alamos National Laboratory</i></p> <p>Jerawan Armstrong <i>Session Co-Chair / Los Alamos National Laboratory</i></p> <p>Protocol Staff <i>Technical Support / Los Alamos National Laboratory</i></p>
Accelerators & Experimental Design		
8:00 – 8:25	<p><i>Advancing the design of ORNL’s Second Target Station with the MCNP6 unstructured mesh geometry capability</i></p> <p>Link to virtual booth Link to abstract</p>	<p>Lukas Zavorka <i>Oak Ridge National Laboratory</i></p>
8:25 – 8:55	<p><i>A high energy activation and offline dose analysis workflow at Second Target</i></p> <p>Link to virtual booth Link to abstract</p>	<p>Kumar Mohindroo <i>Oak Ridge National Laboratory</i></p>
8:55 – 9:05	<p><i>MCNP Simulations for the Insertable Beam Stop in the Spoke section of the ESS proton accelerator</i></p> <p>Link to virtual booth Link to abstract</p>	<p>Elena Donegani <i>European Spallation Source, Sweden</i></p>





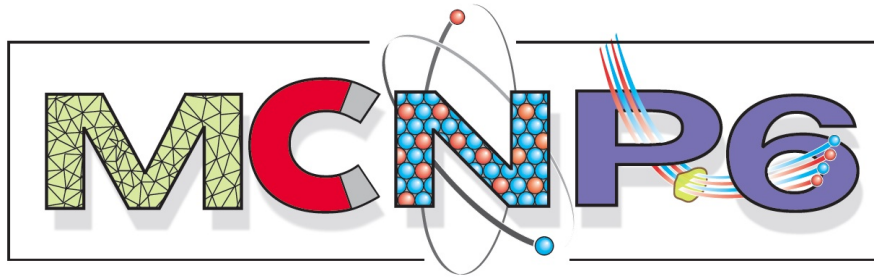
Wednesday, July 14, 2021		
9:05 – 9:15	Break	
9:15 – 9:30	Application of the MCNP6.1 code package for the design of a compact accelerator based neutron source Link to virtual booth Link to abstract	Jingjing Li Jülich Centre for Neutron Science, Germany
9:30 – 9:45	Optimization of the Second Target Station parametrized geometry model with MCNP6 and Dakota Link to virtual booth Link to abstract	Kristel Ghoois Oak Ridge National Laboratory
9:45 – 9:55	Mesh Radionuclide Tally Link to virtual booth Link to abstract	Nancy Granda Duarte University of Wisconsin, Madison
9:55 - 10:15	Code extensions in MCNP for neutron scattering instrument, background, and shielding studies Link to virtual booth Link to abstract	Kyle Grammer Oak Ridge National Laboratory
10:15 – 10:25	Break	
10:25 – 10:55	Using MCNP with Unstructured meshes to aid in the design of SGEMP experiments Link to virtual booth Link to abstract	Donald Blackfield Lawrence Livermore National Laboratory





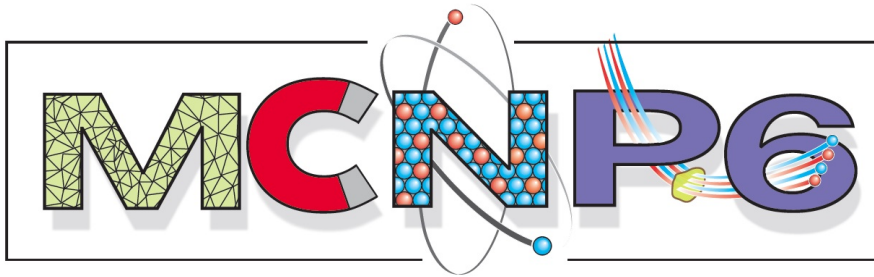
Wednesday, July 14, 2021		
10:55 – 11:15	MCNP Unstructured Mesh Visualization & Post-processing Techniques Link to virtual booth Link to abstract	Joel Kulesza <i>Los Alamos National Laboratory</i>
11:15 – 12:10	Virtual Networking / Technical Assistance	Protocol
PM		
12:10– 12:30	Session Open	Bob Little <i>Session Chair / Los Alamos National Laboratory</i> Colin Josey <i>Session Co-Chair / Los Alamos National Laboratory</i>
Data and Physics		
12:30 – 12:50	Holistic approach to optimizing LANSCE neutron beam lines for high-precision nuclear data measurements Link to virtual booth Link to abstract	Lukas Zavorka <i>Los Alamos National Laboratory</i>
12:50 – 1:20	Nuclear Data Activities Supporting MCNP Link to virtual booth Link to abstract	Jeremy Lloyd Conlin <i>Los Alamos National Laboratory</i>





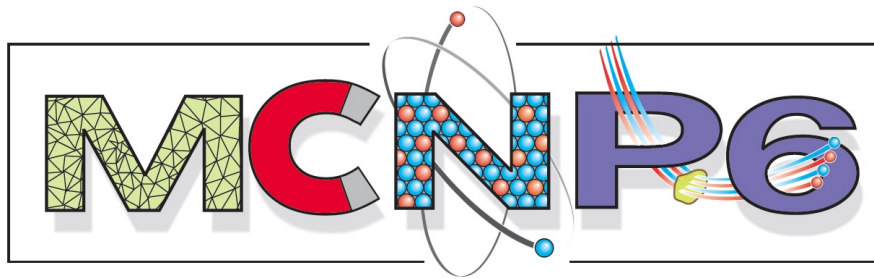
Wednesday, July 14, 2021		
1:05 – 1:20	Verification of the Re-Released ENDF/B VIII.0 Based Thermal Scattering Libraries Link to virtual booth Link to abstract	D. Kent Parsons <i>Los Alamos National Laboratory</i>
1:20 – 1:35	MCNP6 Thermonuclear and Prompt Fission Neutron Spectrum Results Link to virtual booth Link to abstract	Nicholas Quartermont <i>Air Force Institute of Technology</i>
1:35 – 1:45	Break	
1:45 – 2:05	An NJOY update for MCNP users Link to virtual booth Link to abstract	Wim Haeck <i>Los Alamos National Laboratory</i>
2:05 – 2:35	Applications of MCNP for Analysis of Prompt Fission Neutron Data Link to virtual booth Link to abstract	K.J. Kelly <i>Los Alamos National Laboratory</i>
2:35 – 2:45	Break	
2:45 – 3:00	Using MCNP and NJOY to Verify Charged Particle Data in CP2020 Link to virtual booth Link to abstract	Denise Neudecker <i>Los Alamos New Mexico</i>
3:00 – 3:20	Open-source Release of CGMF and Integration into MCNP6 Link to virtual booth Link to abstract	Michael Rising <i>Los Alamos National Laboratory</i>





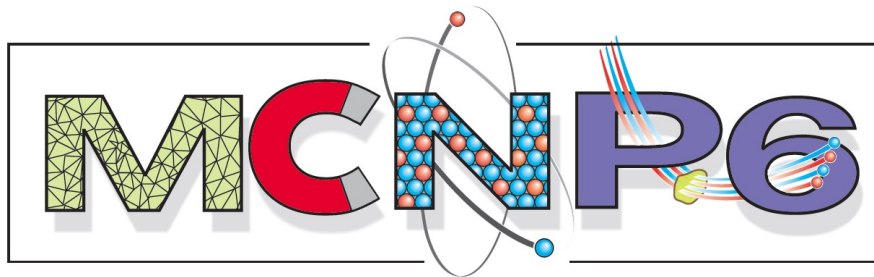
Wednesday, July 14, 2021		
3:20 – 3:25	Closing Remarks	
3:25 – 5:25	Virtual Networking / Technical Assistance	Protocol





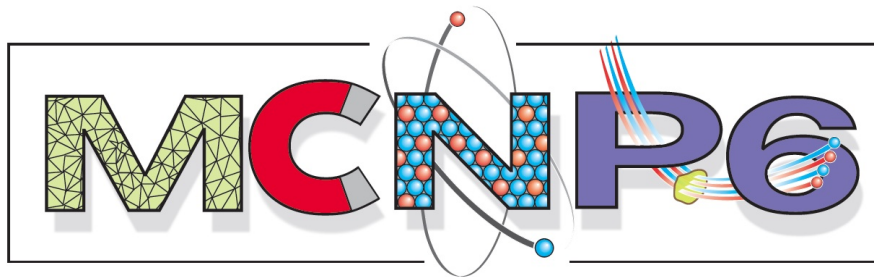
Thursday, July 15, 2021		
AM		
7:30 – 8:00	Session Open / Technical Assistance	<p>Jerawan Armstrong <i>Session Chair / Los Alamos National Laboratory</i></p> <p>Jeffery Bull <i>Session Co-Chair / Los Alamos National Laboratory</i></p> <p>Protocol Staff <i>Technical Support / Los Alamos National Laboratory</i></p>
Applications and Experimental Design		
8:00 – 8:15	<p>MCNP integration into the Common Modeling Framework Link to virtual booth Link to abstract</p>	<p>Casey Anderson <i>Los Alamos National Laboratory</i></p>
8:15 – 8:30	<p>A converter tool between IAEA and MCNP6 phase-space files format and use cases developed at the UPV Link to virtual booth Link to abstract</p>	<p>S. Oliver <i>Universitat Politècnica de València, Spain</i></p>
8:30 – 8:45	<p>Activation Calculations using MCNP Unstructured Mesh Geometries Link to virtual booth Link to abstract</p>	<p>James Tutt <i>Los Alamos National Laboratory</i></p>



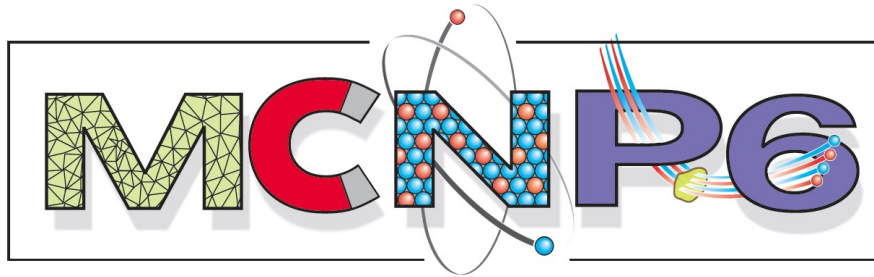


Thursday, July 15, 2021		
8:45 – 9:00	<p>Experiences with unstructured-mesh simulation geometries in nuclear well-logging applications</p> <p>Link to virtual booth Link to abstract</p>	<p>Andreas Vogt Baker Hughes INTEQ GmbH, Germany</p>
9:00 – 9:10	Break	
9:15 – 9:35	<p>MCNP Modelling of Radiation Effects of the Dragonfly Mission's MMRTG on Titan</p> <p>Link to virtual booth Link to abstract</p>	<p>Teyen Widdicombe University of Idaho</p>
9:35 – 9:50	<p>Using MCNP to Design Optimal Critical Experiments</p> <p>Link to virtual booth Link to abstract</p>	<p>Issac J. Michaud Los Alamos National Laboratory</p>
9:50 – 10:00	<p>Utilizing Custom Benchmarks in Whisper to Generate Correlation Coefficients for Microreactor Systems Generated by MCNP Sensitivity Tallies to Gauge Similarity</p> <p>Link to virtual booth Link to abstract</p>	<p>Alexis Maldonado Los Alamos National Laboratory</p>
10:00 – 10:10	Break	
10:10 – 10:30	<p>Discussion of Variance Reduction Strategies to Efficiently Obtain Photon Flux Estimates throughout a Large Mesh Tally in Air</p> <p>Link to virtual booth Link to abstract</p>	<p>Derek E. Armstrong Los Alamos National Laboratory</p>



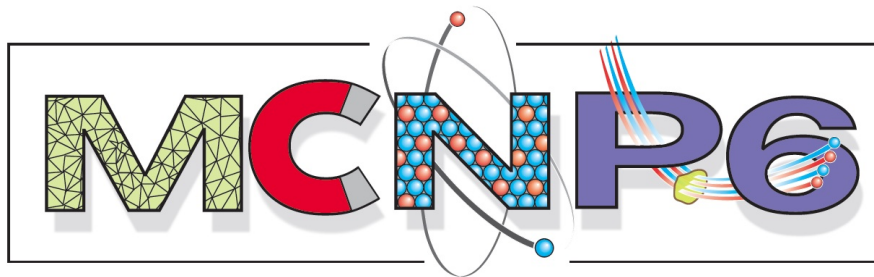


Thursday, July 15, 2021		
10:30 – 10:45	MCNP6.2 simulations of the NOVO range verification system for particle therapy Link to virtual booth Link to abstract	Ilker Meric <i>Western Norway University of Applied Science, Norway</i>
10:45 – 11:05	Simulations for Planetary Nuclear Spectroscopy Applications Link to virtual booth Link to abstract	Katherine E. Mesick <i>Los Alamos National Laboratory</i>
11:10 – 12:10	Nuclear Data Office Hour – open Q&A session Virtual Networking / Technical Assistance	LANL Nuclear Data Team Protocol Staff
PM		
12:10 – 12:30	Session Open	Jeremy Sweezy <i>Session Chair / Los Alamos National Laboratory</i> Tim Burke <i>Session Co-Chair / Los Alamos National Laboratory</i>
LANL Monte Carlo History & Looking Ahead Beyond MCNP6.3		
12:30 – 1:00	The History of Monte Carlo and MCNP at Los Alamos Link to virtual booth Link to abstract	Art Forster <i>Los Alamos National Laboratory</i>



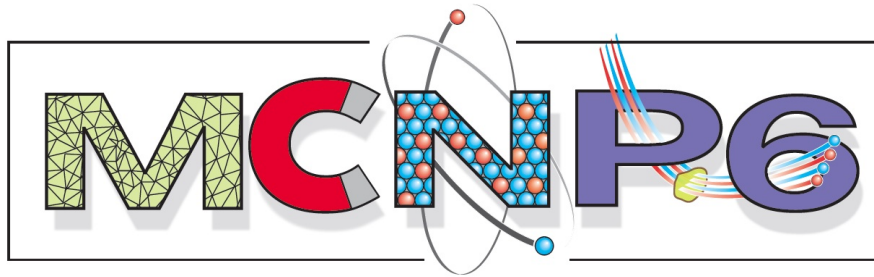
Thursday, July 15, 2021		
1:00 – 1:15	Development of MCNP Training Modules for International Safeguards Link to virtual booth Link to abstract	M.M. Watson <i>Los Alamos National Laboratory</i>
1:15 – 1:30	Prototype of a New Fixed-source Sensitivity Tally Capability Link to virtual booth Link to abstract	Michael Rising <i>Los Alamos National Laboratory</i>
1:30 – 1:40	Break	
1:40 – 2:05	Statistical Testing for Monte Carlo Simulations Link to virtual booth Link to abstract	Tony Zukaitis <i>Los Alamos National Laboratory</i>
2:05 – 2:25	Redesigning the MCNP Plotter Link to virtual booth Link to abstract	Sriram Swaminarayan <i>Los Alamos National Laboratory</i>
2:25 – 2:35	Break	
2:35 – 4:35	Q&A Session Click here to submit Questions for this session	Michael Rising <i>Los Alamos National Laboratory</i> Jeffery Bull <i>Los Alamos National Laboratory</i>





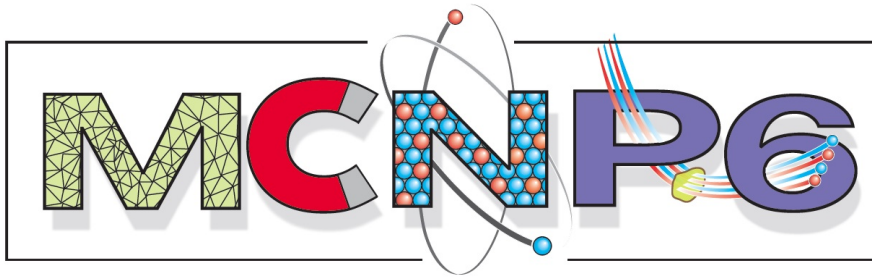
Friday July 16, 2021		
AM		
7:45 – 8:00	Session Open / Technical Support	Protocol Staff <i>Technical Support / Los Alamos National Laboratory</i>
Performance of MNCP parallelism on various platforms – Round Table		
8:00 – 9:00	Roundtable Link to virtual booth Link to abstract	Avery Grieve <i>Los Alamos National Laboratory</i> Jeffrey Bull <i>Los Alamos National Laboratory</i> JingJing Li <i>Jülich Centre for Neutron Science, Germany</i> Ciprian Cosar <i>University of Bucharest, Romania</i> Colin Josey <i>Los Alamos National Laboratory</i>
9:00 – 9:10	Break	





Friday July 16, 2021		
9:10 – 9:15	Session Open	Kermit Bunde <i>Session Chair / Department of Energy</i> Joel Kulesza <i>Session Co-Chair / Los Alamos National Laboratory</i>
Shielding		
9:15 – 9:25	<i>Evaluating Uncertainty in Shielding Worth of Metal Oxide Impregnated Conformal Coatings Using MCNP</i> Link to virtual booth Link to abstract	Radek Pudelko <i>North Carolina State University</i>
9:25 – 9:35	<i>MCNP Shielding Design for a University Neutron Science Laboratory</i> Link to virtual booth Link to abstract	Allyssa Bateman <i>Boise State University</i>
9:35 – 9:50	<i>Maximizing Weight Windows Efficiency for Maze Design Using Attila4MC and MCNP6.2</i> Link to virtual booth Link to abstract	Gregory Moffitt <i>Nusano</i>
9:50 – 10:10	<i>MCNP6.2 Benchmark of the FNS skyshine experiment using CSG Models</i> Link to virtual booth Link to abstract	Andrea Saltos <i>Commonwealth Fusion Systems</i>
10:10 – 10:20	<i>Break</i>	
10:20 – 10:40	<i>FNS Skyshine Benchmark Using ATTILA4MC and MCNP6</i> Link to virtual booth Link to abstract	Dominic Napolitano





Friday July 16, 2021		
		Commonwealth Fusion Systems
10:40 – 10:55	Comparison of MCNP, MicroShield, Varskin, and Field Measurements Link to virtual booth Link to abstract - WITHDRAWN	Todd A. Davidson Los Alamos National Laboratory
Closing		
10:55 – 11:00	Symposium Closing Remarks	Bob Little Los Alamos National Laboratory

