Workshop for Applied Nuclear Data Activities (WANDA 2021)

Report of Contributions

Contribution ID: **6**　　　　　　　　　　　　　　　　　　Type: **not specified**

Opening Plenary Speakers

Monday, 25 January 2021 11:00 (5h 15m)

Presenters:　DOUGAN, Arden; ROMANO, Catherine (IB3 Global Solutions); RAMOS, Christopher; MACKNEY, Daniel; HENDERSON, Dave; PETERSEN, David; HORNBACK, Donald; BOWDEN, Doug; BALKIN, Ethan (DOE); KUNG, Harriet; KOLOS, Kay (Lawrence Livermore National Laboratory); JANKOWSKI, Keith; PALOMARES, Kelsa; ASHENFELTER, Timothy; HALLMAN, Timothy; CALDWELL, Tod; SOBES, Vladimir (University of Tennessee)

Session Classification:　Opening Plenary

Contribution ID: **7**   Type: **not specified**

WANDA 2020 Session Reports Speakers

Monday, 25 January 2021 16:30 (1h 30m)

Presenters: PIERSON, Bruce (PNNL, Battelle); NEUDECKER, Denise (Los Alamos National Laboratory); VERMEULEN, Etienne (Los Alamos National Laboratory); SEVERIN, Greg (Michigan State University); BERNSTEIN, Lee; Prof. BERNSTEIN, Lee (University of California - Berkeley/LBNL); DEVLIN, Matthew (LANL); SOBES, Vladimir (University of Tennessee)

Session Classification: WANDA 2020 Session Reports

Contribution ID: **9**   Type: **not specified**

Introduction

Wednesday, 27 January 2021 11:00 (5 minutes)

Presenters: VOYLES, Andrew;   O'BRIEN, Ellen;   HOGLE, Susan

Session Classification: Session One

Contribution ID: **10**

Type: **not specified**

Priorities for DOE IP with respect to nuclear data and predictive codes

Wednesday, 27 January 2021 11:05 (15 minutes)

Presenter: BALKIN, Ethan (DOE)

Session Classification: Session One

Contribution ID: **11** Type: **not specified**

TALYS: The Predictive Power of TALYS

Wednesday, 27 January 2021 11:20 (15 minutes)

Presenter: KONING, Arjan (IAEA)

Session Classification: Session One

Contribution ID: **12** Type: **not specified**

EMPIRE –Michal Herman

Wednesday, 27 January 2021 11:35 (10 minutes)

Presenter: HERMAN, Michal

Session Classification: Session One

Contribution ID: **13**   Type: **not specified**

ALICE: Physics Improvements for ALICE21

Wednesday, 27 January 2021 11:45 (10 minutes)

Presenter: BLANN, Marshall

Session Classification: Session One

Contribution ID: **14**   Type: **not specified**

CoH3 The Coupled-Channels and Hauser-Feshbach Code

Wednesday, 27 January 2021 11:55 (10 minutes)

Presenter: KAWANO, Toshihiko

Session Classification: Session One

Workshop for Ap ... / Report of Contributions   CoH3 The Coupled-Channels and ...

May 11, 2024   Page 8

Contribution ID: **15**   Type: **not specified**

Predicting Isotopes with FLUKA

Wednesday, 27 January 2021 12:40 (10 minutes)

Presenter: FERRARI, Alfredo

Session Classification: Session One

Contribution ID: **16**   Type: **not specified**

Recent and Future Improvements to MCNP6 for Isotope Production Applications

Wednesday, 27 January 2021 12:55 (20 minutes)

Presenter: RISING, Michael (LANL)

Session Classification: Session One

Contribution ID: **17**   Type: **not specified**

Isotope production calculations using FISPIN – Bethany Slingsby

Wednesday, 27 January 2021 13:15 (15 minutes)

Presenter: SLINGSBY, Bethany

Session Classification: Session One

Contribution ID: 18   Type: **not specified**

SCALE/MCNP Coupling for depletion –Charles Daily

Wednesday, 27 January 2021 13:30 (10 minutes)

Presenter: DAILY, Charles

Session Classification: Session One

Workshop for Ap ... / Report of Contributions   SCALE/MCNP Coupling for deplet ...

May 11, 2024   Page 12

Contribution ID: **19**　　　　　　　　　　　　　　　　　　Type: **not specified**

Nuclear Data Needs for LISE++

Wednesday, 27 January 2021 13:40 (15 minutes)

Presenter:　TARASOV, Oleg

Session Classification:　Session One

Contribution ID: **20**　　　　　　　　　　　　　　　　Type: **not specified**

Overview of Benchmarks and their Uses for Nuclear Data

Wednesday, 27 January 2021 14:45 (15 minutes)

Introductory Video to Expanded Benchmarks and Validation for Nuclear Data:

https://www.dropbox.com/s/9p0as8m03e43z0y/WANDA2021-Expanding%20Benchmarks%20Session%20Overview.mp4?dl=

Presenters:　PERCHER, Catherine;　HUTCHINSON, Jesson;　ZERKLE, Michael

Session Classification:　Session Two

Contribution ID: **21**   Type: **not specified**

Past, Present, and Future Benchmark Efforts for Nuclear Data Validation

Wednesday, 27 January 2021 15:00 (25 minutes)

• Skip Kahler (Kahler Nuclear Data Services, LLC)
• Ian Hill (OECD/NEA)
• 5 Minute Discussion

Presenters: HILL, Ian; KAHLER, Skip

Session Classification: Session Two

Contribution ID: **22**   Type: **not specified**

Experimental Measurements that Could Become Benchmarks

Wednesday, 27 January 2021 15:25 (30 minutes)

- Sara Pozzi (UM)
- Jesse Holmes (NNL)
- Yaron Danon (RPI)
- Amanda Lewis (NNL)
- John Mattingly (NCSU)
- 10 Minute Discussion

Presenters: LEWIS, Amanda; PERCHER, Catherine (LLNL); HOLMES, Jesse; MATTINGLY, John; RO-DRIQUEZ, John; POZZI, Sara; DANON, Yaron (RPI)

Session Classification: Session Two

Contribution ID: **23**

Type: **not specified**

The Centrality of Validation: Validation as a Three-Body Problem

Wednesday, 27 January 2021 15:55 (15 minutes)

Presenter: MCKAMY, Jerry

Session Classification: Session Two

Contribution ID: **24**   Type: **not specified**

Application Areas- Nuclear Data, Validation Methods, and Integral Needs

Wednesday, 27 January 2021 16:15 (1 hour)

Application Areas- Nuclear Data, Validation Methods, and Integral Needs
• Thomas Miller (ORNL)
• Brad Rearden (X-Energy)
• Nuclear Data for Defense Nuclear Nonproliferation Applications, David Matters (NA-22)
• Pablo Romojaro (SCKCEN)
• 10 Minute Discussion

Presenters: REARDEN, Brad; MATTERS, David; ROMOJARO, Pablo; MILLER, Thomas

Session Classification: Session Two

Contribution ID: **25**   Type: **not specified**

Data Evaluation and Sensitivity and Uncertainty Methods Development

Wednesday, 27 January 2021 17:15 (15 minutes)

Presenters: NEUDECKER, Denise (Los Alamos National Laboratory);   RISING, Michael (LANL)

Session Classification: Session Two

Workshop for Ap ... / Report of Contributions   Data Evaluation and Sensitivity an ...

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Contribution ID: **26**   Type: **not specified**

Higher-fidelity simulations with HPC

Friday, 29 January 2021 11:10 (48 minutes)

- Predictive theory for light-ion reactions, Kostas Kravvaris (LLNL)

- HPC for fission modeling in support of nuclear data, Ionel Stetcu (LANL)

- Propagation of nuclear model uncertainties in science applications, Trevor Sprouse (LANL)

- Perspectives from the ExaSMR Project: Nuclear Data Needs and Opportunities, Paul Romano (ANL)

Presenters: STETCU, Ionel; KRAVVARIS, Kostas; ROMANO, Paul; SPROUSE, Trevor

Session Classification: Session Three

Contribution ID: **28**   Type: **not specified**

AI/ML as Enabling Technologies

Friday, 29 January 2021 11:58 (48 minutes)

- Containerization and microservices for nuclear data, Georg Schnabel (IAEA)

- Selected topics from physics aware ML, Mateusz Ploskon (LBNL)

- Natural Language Processing for Nuclear Science Scholarship, Walid Younes (LBNL Consultant)

- Surrogate Modeling for Fission Cross Sections and Criticality - Studies using Artificial Neural Networks (ANNs), Christian Brazell (TAMU)

Presenters: BRAZELL, Christian;   SCHNABEL, Georg;   PLOSKON, Mateusz;   YOUNES, Walid

Session Classification: Session Three

Contribution ID: **29**   Type: **not specified**

Quantum Computing

Friday, 29 January 2021 12:46 (15 minutes)

Presenter: WENDT, Kyle

Session Classification: Session Three

Contribution ID: **30**   Type: **not specified**

Call to order/brief introduction by co-chairs

Friday, 29 January 2021 14:45 (5 minutes)

Introductory Video for Intro to Nuclear Data for Space Application:

https://drive.google.com/file/d/196PFmNjb8k-noQCKcTvRHiOQG8Ow221y/view

Presenters: HEILBRONN, Lawrence; BURKEY, Mary; PEPLOWSKI, Patrick

Session Classification: Session Four

Contribution ID: **31**

Type: **not specified**

Opening Thoughts and Priorities

Friday, 29 January 2021 14:50 (20 minutes)

Session Classification: Session Four

Contribution ID: **32**   Type: **not specified**

Experimental cross sections needed for space radiation protection

Friday, 29 January 2021 15:10 (12 minutes)

Presenter: LUONI, Francesca

Session Classification: Session Four

Contribution ID: **33**   Type: **not specified**

Neutron Energy Effects on Asteroid Deflection

Friday, 29 January 2021 15:22 (12 minutes)

Presenter: HORAN, Lansing

Session Classification: Session Four

Contribution ID: **34**   Type: **not specified**

Nuclear Data Needs for the Space-based Nuclear Detonation Detection Community

Friday, 29 January 2021 15:34 (12 minutes)

Presenter: GERTZ, David

Session Classification: Session Four

Contribution ID: **35**   Type: **not specified**

Planetary Nuclear Spectroscopy

Friday, 29 January 2021 16:25 (12 minutes)

Presenter: PRETTYMAN, Thomas

Session Classification: Session Four

Contribution ID: **36**   Type: **not specified**

Inelastic Spectroscopy for Subsurface Exploration

Friday, 29 January 2021 16:37 (12 minutes)

Presenter: MAUBORGNE, Marie-Laure

Session Classification: Session Four

Contribution ID: **37**   Type: **not specified**

Nuclear Data Needs for Advanced Thermionic Energy Conversion in Space

Friday, 29 January 2021 16:49 (12 minutes)

Presenter: LO, Austin

Session Classification: Session Four

Contribution ID: **38** Type: **not specified**

Space Reactors

Friday, 29 January 2021 17:01 (12 minutes)

Presenter: REARDEN, Bradley

Session Classification: Session Four

Contribution ID: **39**
Type: **not specified**

Concluding Thoughts

Friday, 29 January 2021 17:40 (20 minutes)

Session Classification: Session Four

Contribution ID: **40**   Type: **not specified**

Session Chairs

Monday, 1 February 2021 11:00 (5 minutes)

Presenters: ELSAWI, Mohamed; THOMPSON, Nicholas; WIESELQUIST, William

Session Classification: Session Five

Contribution ID: **41**　　　　　　　　　　　　　　　　　　Type: **not specified**

Advanced Reactors

Monday, 1 February 2021 11:05 (1h 50m)

- Summary of Nuclear Data Needs for X-Energy Reactor Designs, Brad Rearden (X-Energy)
- Nuclear Data on Kairos Power's Fluoride-salt cooled High-Temperature Reactor, KP-FHR, Nader Satvat (Kairos Power)
- Molten Chloride Reactor Experiment Nuclear Data Uncertainty analysis and Needs, Tommy Cisneros (TerraPower, LLC)
- Nuclear Data for Advanced Fuel Cycles, Allan Simpson (UK NNL).
- Fast Neutron Source at UTK for Cross Section Measurements in Support of Advanced Reactor Development, Wes Hines and Vladimir Sobes (UTK)

Presenters:　SIMPSON, Allan;　REARDEN, Brad;　SATVAT, Nader;　CISNEROS, Tommy;　SOBES, Vladimir (University of Tennessee);　HINES, Wes

Session Classification:　Session Five

Contribution ID: **42**

Type: **not specified**

Nuclear Security & Safeguards

Monday, 1 February 2021 12:55 (1h 20m)

- Nuclear Data for Non-Destructive Assay and Advanced Reactor Applications, Mike Dion (ORNL)
- Measuring the antineutrino spectrum below 1.8 MeV, Shikha Prasad (TAMU)

Presenters: DION, Mike; PRASAD, Shikha; SOBES, Vladimir (University of Tennessee); HINES, Wes

Session Classification: Session Five

Contribution ID: **43**

Type: **not specified**

Welcome and overview

Monday, 1 February 2021 14:45 (5 minutes)

Presenters: MCCUTCHAN, Elizabeth; RESSLER, Jennifer Jo; BERNSTEIN, Lee; BERNSTEIN, Lee (University of California - Berkeley/LBNL); DANON, Yaron

Session Classification: Session Six

Contribution ID: 44   Type: **not specified**

Outreach and Graduate Recruiting Efforts at FRIB

Monday, 1 February 2021 14:50 (18 minutes)

Presenter: SPYROU, Artemis

Session Classification: Session Six

Contribution ID: 45   Type: **not specified**

Educating the Next Generation of Nuclear Experts: the Nuclear Science and Security Consortium 10-Year Experience

Monday, 1 February 2021 15:08 (18 minutes)

Presenter: VUJIC, Jasmina

Session Classification: Session Six

Contribution ID: **46**   Type: **not specified**

Undergraduate research and recruitment through MoNA and the CEU program

Monday, 1 February 2021 15:26 (18 minutes)

Presenter: ROGERS, Warren

Session Classification: Session Six

Contribution ID: 47   Type: **not specified**

Connecting Students to Nuclear Data Projects at the National Laboratories

Monday, 1 February 2021 15:44 (18 minutes)

Presenter: CHODASH, Perry

Session Classification: Session Six

Contribution ID: 48   Type: **not specified**

The Texas A&M Cyclotron Institute and CENTAUR as generators of nuclear talent

Monday, 1 February 2021 16:02 (18 minutes)

Presenter: YENNELLO, Sherry

Session Classification: Session Six

Contribution ID: 49   Type: **not specified**

Automation in the Nuclear Data Pipeline

Monday, 1 February 2021 16:45 (18 minutes)

Presenter: BROWN, Dave

Session Classification: Session Six

Contribution ID: **50**

Type: **not specified**

Example on how to (intelligently) augment the nuclear-data pipeline with machine learning

Monday, 1 February 2021 17:03 (18 minutes)

Presenter: NEUDECKER, Denise (Los Alamos National Laboratory)

Session Classification: Session Six

Contribution ID: **51**   Type: **not specified**

Nuclear Data Evaluation Automation and Training and NCSU

Monday, 1 February 2021 17:21 (18 minutes)

Presenter: HAWARI, Ayman

Session Classification: Session Six

Contribution ID: **52**
Type: **not specified**

Automaton Discussion

Monday, 1 February 2021 17:39 (10 minutes)

Session Classification: Session Six

Contribution ID: **53**   Type: **not specified**

Final Discussion and Wrap-up

Monday, 1 February 2021 17:49 (11 minutes)

Presenters: MCCUTCHAN, Elizabeth; RESSLER, Jennifer Jo; BERNSTEIN, Lee; DANON, Yaron (RPI)

Session Classification: Session Six

Contribution ID: **54**

Type: **not specified**

Novel Approach for Improving Antineutrino Spectra Predictions for Nonproliferation Applications

Wednesday, 3 February 2021 11:00 (10 minutes)

Presenter: KONDEV, Filip (ANL)

Session Classification: Funded Project Reports

Contribution ID: **55**   Type: **not specified**

Improving the Nuclear Data on Fission Product Decays at CARIBU

Wednesday, 3 February 2021 11:10 (10 minutes)

Presenter: KOLOS, Kay (Lawrence Livermore National Laboratory)

Session Classification: Funded Project Reports

Contribution ID: 56   Type: **not specified**

238U(p,xn) and 235U(d,xn) 235-237Np Nuclear Reaction Cross Sections Relevant to the Production of 236gNp

Wednesday, 3 February 2021 11:20 (10 minutes)

Presenter: VOYLES, Andrew

Session Classification: Funded Project Reports

Contribution ID: **57** Type: **not specified**

State-of-the-art Gamma-ray Spectroscopy to Enhance the ENSDF database

Wednesday, 3 February 2021 11:30 (10 minutes)

Presenter: MCCUTCHAN, Libby (BNL/NNDC)

Session Classification: Funded Project Reports

Contribution ID: **58**

Type: **not specified**

Beta-strength function, reactor decay heat, and anti-neutrino properties from total absorption spectroscopy of fission fragments

Wednesday, 3 February 2021 11:40 (10 minutes)

Presenter: RYKACZEWSKI, Krzysztof

Session Classification: Funded Project Reports

Contribution ID: **59**   Type: **not specified**

Improving the 238U(n,n') cross section using neutron-gamma coincidences

Wednesday, 3 February 2021 11:50 (10 minutes)

Presenters: BERNSTEIN, Lee; BERNSTEIN, Lee (University of California - Berkeley/LBNL)

Session Classification: Funded Project Reports

Contribution ID: **60**   Type: **not specified**

Integral Measurements of Independent and Cumulative Fission Product Yields Supporting Nuclear Forensics and Other Applications

Wednesday, 3 February 2021 12:00 (10 minutes)

Presenter: BREDEWEG, Todd (LANL)

Session Classification: Funded Project Reports

Contribution ID: **61**   Type: **not specified**

Evaluation of Energy Dependent Fission Product Yields

Wednesday, 3 February 2021 12:10 (10 minutes)

Presenter: KAWANO, Toshihiko (LANL)

Session Classification: Funded Project Reports

Contribution ID: **62** Type: **not specified**

Measurement of Independent Fission Product Yields

Wednesday, 3 February 2021 12:20 (10 minutes)

Presenter: DUKE, Dana (LANL)

Session Classification: Funded Project Reports

Contribution ID: **63**   Type: **not specified**

Independent Fission Product Yields from 0.5 to 20 MeV

Wednesday, 3 February 2021 12:30 (10 minutes)

Presenter: WINKELBAUER, Jack

Session Classification: Funded Project Reports

Contribution ID: **64**   Type: **not specified**

Energy Dependent Fission Product Yields

Wednesday, 3 February 2021 12:40 (10 minutes)

Presenter: TONCHEV, Anton (LLNL)

Session Classification: Funded Project Reports

Contribution ID: **65**   Type: **not specified**

Modernization and Optimization of the Evaluated Nuclear Structure Data File

Wednesday, 3 February 2021 12:50 (10 minutes)

Presenter: MCCUTCHAN, Libby (BNL/NNDC)

Session Classification: Funded Project Reports

Contribution ID: 66   Type: **not specified**

Fission product yield measurements using 252Cf spontaneous fission and neutron-induced fission on actinide targets at CARIBU

Wednesday, 3 February 2021 13:00 (10 minutes)

Presenter: SAVARD, Guy

Session Classification: Funded Project Reports

Contribution ID: **67**   Type: **not specified**

Neutron Scattering Cross Sections: (n,n'), (n,n'g), and (n,g) Measurements

Wednesday, 3 February 2021 13:10 (10 minutes)

Presenter: VANHOY, Jeffrey

Session Classification: Funded Project Reports

Contribution ID: **68**   Type: **not specified**

Scoping Study of the Impact of (alpha,n) Reactions and Yields of Nonproliferation Applications

Wednesday, 3 February 2021 13:20 (10 minutes)

Presenter: CATHY, Romano

Session Classification: Funded Project Reports

Contribution ID: **69**   Type: **not specified**

Assessment of Nuclear Data Needs for Neutron Active Interrogation

Wednesday, 3 February 2021 13:30 (10 minutes)

Presenter: MCCONCHIE, Seth (ORNL)

Session Classification: Funded Project Reports

Contribution ID: **70**   Type: **not specified**

WANDA 2021 Session Reports Speakers

Wednesday, 3 February 2021 14:45 (3h 15m)

Presenters: VOYLES, Andrew; LOER, Ben; GOLDBLUM, Bethany; PERCHER, Catherine (LLNL); BROWN, David (BNL/NNDC); MCCUTCHAN, Elizabeth; O'BRIEN, Ellen; RESSLER, Jennifer Jo; HUTCHIN-SON, Jesson; KOLOS, Kay (Lawrence Livermore National Laboratory); HEILBRONN, Lawrence; BERN-STEIN, Lee; BERNSTEIN, Lee (University of California - Berkeley/LBNL); BURKEY, Mary; MUMPOWER, Matthew; SMITH, Michael (ORNL); ZERKLE, Michael (Naval Nuclear Laboratory); ELSAWI, Mo-hamed; THOMPSON, Nicholas; SCHUNCK, Nicolas (LLNL); PEPLOWSKI, Patrick; HOGLE, Su-san; SOBES, Vladimir (University of Tennessee); WIESELQUIST, William (Oak Ridge National Lab-oratory); DANON, Yaron (RPI)

Session Classification: WANDA 2021 Session Reports

Contribution ID: **72**   Type: **not specified**

Discussion

Friday, 29 January 2021 13:01 (59 minutes)

Session Classification: Session Three

Contribution ID: **73**
Type: **not specified**

Discussion

Friday, 29 January 2021 15:46 (9 minutes)

Presenters: HEILBRONN, Lawrence; BURKEY, Mary; PEPLOWSKI, Patrick

Session Classification: Session Four

Contribution ID: **74**

Type: **not specified**

Discussion

Friday, 29 January 2021 17:13 (27 minutes)

Presenters: HEILBRONN, Lawrence; BURKEY, Mary; PEPLOWSKI, Patrick

Session Classification: Session Four

Contribution ID: **75** Type: **not specified**

Education Discussion

Monday, 1 February 2021 16:20 (10 minutes)

Session Classification: Session Six

Contribution ID: 76   Type: **not specified**

State of computational nuclear data and future prospects

Friday, 29 January 2021 11:00 (10 minutes)

Presenter: SCHUNCK, Nicolas (LLNL)

Session Classification: Session Three

Contribution ID: **77**   Type: **not specified**

Introductory Video to Predictive Codes for Isotope Production

Wednesday, 27 January 2021 10:30 (30 minutes)

https://www.youtube.com/watch?v=wptZ86o_Ao4&feature=youtu.be

Session Classification: Session One