

Information and Statistics for Nuclear Experiment and Theory workshop (ISNET-9)

Report of Contributions

Contribution ID: 1

Type: **not specified**

Welcome

Presenter: JOLIFF, Brad (WashU)

Contribution ID: 2

Type: **not specified**

Statistical tools and ML for accelerator design

Contribution ID: 3

Type: **not specified**

AI/ML+data science tools for detector design at the Electron Ion Collider (virtual)

Friday, May 26, 2023 9:00 AM (30 minutes)

Presenter: FANELLI, Cristiano (William & Mary)

Session Classification: ISNET

Contribution ID: 4

Type: **not specified**

Excavating insights from sparse data with statistics and machine learning

Friday, May 26, 2023 9:30 AM (30 minutes)

Presenter: GODBEY, Kyle

Session Classification: ISNET

Contribution ID: 5

Type: **not specified**

Gaussian processes for autonomous data acquisition at large-scale synchrotron and neutron facilities

Friday, May 26, 2023 10:00 AM (30 minutes)

Presenter: NOACK, Marcus (Lawrence Berkeley National Laboratory)

Session Classification: ISNET

Contribution ID: 6

Type: **not specified**

Deep learning techniques in ground-based imaging gamma-ray observatories (virtual)

Friday, May 26, 2023 11:00 AM (30 minutes)

Presenter: NIETO, Daniel (Madrid University)

Session Classification: ISNET

Contribution ID: 7

Type: **not specified**

TDB

Session Classification: ISNET

Contribution ID: 8

Type: **not specified**

Recent tools and developments in Bayesian statistics

Tuesday, May 23, 2023 9:00 AM (30 minutes)

Presenter: YAO, Yuling (Flatiron Institute)

Session Classification: ISNET

Contribution ID: 9

Type: **not specified**

A statistical exploration of CEMP star classification with s-process models

Tuesday, May 23, 2023 9:30 AM (30 minutes)

Presenter: YAGÜE LÓPEZ, Andrés (Los Alamos National Lab)

Session Classification: ISNET

Contribution ID: 10

Type: **not specified**

Global fits and Bayesian inference in "Beyond the Standard Model" physics (virtual)

Tuesday, May 23, 2023 10:00 AM (30 minutes)

Presenter: KVELLESTAD, Anders (University of Oslo)

Session Classification: ISNET

Contribution ID: 11

Type: **not specified**

History matching for nuclear ab initio calculations

Tuesday, May 23, 2023 12:00 PM (30 minutes)

Presenter: FORSSÉN, Christian (Durham University)

Session Classification: ISNET

Contribution ID: 12

Type: **not specified**

Accounting for material and experimental variability using a random effects Bayesian inferential framework

Tuesday, May 23, 2023 3:30 PM (30 minutes)

Presenter: RICCIARDI, Denielle (Sandia National Laboratories)

Session Classification: ISNET

Contribution ID: 13

Type: **not specified**

Bayesian probability updates using sampling/importance resampling: applications in nuclear theory

Tuesday, May 23, 2023 1:30 PM (30 minutes)

Presenter: JIANG, Weiguang (Chalmers University)

Session Classification: ISNET

Contribution ID: 14

Type: **not specified**

Applications of novel chiral interactions to quantum Monte Carlo methods and astrophysical data analysis

Tuesday, May 23, 2023 11:00 AM (30 minutes)

Presenter: SOMASUNDARAM, Rahul (Syracuse University)

Session Classification: ISNET

Contribution ID: 15

Type: **not specified**

John Clark: Physicist at the computational frontier (virtual)

Wednesday, May 24, 2023 9:00 AM (45 minutes)

Presenter: BOHR, Henrik

Session Classification: ISNET

Contribution ID: 16

Type: **not specified**

Machine learning for nuclear physics

Wednesday, May 24, 2023 9:45 AM (45 minutes)

Presenter: NAZAREWICZ, Witek (MSU/FRIB)

Session Classification: ISNET

Contribution ID: 17

Type: **not specified**

Nuclear masses learned from a probabilistic neural network

Wednesday, May 24, 2023 1:15 PM (30 minutes)

Presenter: LOVELL, Amy (Los Alamos National Lab)

Session Classification: ISNET

Contribution ID: **18**

Type: **not specified**

Machine learning for the many-body problem

Wednesday, May 24, 2023 1:45 PM (30 minutes)

Presenter: LOVATO, Alessandro (Argonne National laboratory)

Session Classification: ISNET

Contribution ID: 19

Type: **not specified**

Mapping out the thermodynamic stability of a QCD EOS with a critical point using active learning

Wednesday, May 24, 2023 2:15 PM (30 minutes)

Presenter: MROCZEK, Debora (University of Illinois)

Session Classification: ISNET

Contribution ID: **20**

Type: **not specified**

TDB

Session Classification: ISNET

Contribution ID: 21

Type: **not specified**

TDB

Session Classification: ISNET

Contribution ID: 22

Type: **not specified**

TDB

Session Classification: ISNET

Contribution ID: 23

Type: **not specified**

Short Talk: Deep learning pairing correlations from neural-network quantum states

Wednesday, May 24, 2023 4:15 PM (15 minutes)

Presenter: KIM, Jane

Session Classification: ISNET

Contribution ID: 24

Type: **not specified**

Short Talk

Presenter: CHEN, Yehu

Session Classification: ISNET

Contribution ID: 25

Type: **not specified**

Machine learning for Deeply Virtual Compton Scattering (virtual)

Wednesday, May 24, 2023 3:45 PM (30 minutes)

Presenter: ALMAEEN, Manal

Session Classification: ISNET

Contribution ID: 26

Type: **not specified**

Overview of emulators for nuclear physics

Thursday, May 25, 2023 9:00 AM (30 minutes)

Presenter: FURNSTAHL, Dick

Session Classification: ISNET

Contribution ID: 27

Type: **not specified**

Quantification for a covariant energy density functional emulated by the reduced basis method

Thursday, May 25, 2023 11:30 AM (30 minutes)

Presenter: GIULIANI, Pablo (Michigan State University)

Session Classification: ISNET

Contribution ID: 28

Type: **not specified**

Gaussian process regression constrained by boundary value problems

Thursday, May 25, 2023 10:00 AM (30 minutes)

Presenter: GULIAN, Mamikon (Sandia National Laboratories)

Session Classification: ISNET

Contribution ID: 29

Type: **not specified**

Multi-output gaussian processes for inverse uncertainty quantification in neutron noise analysis (virtual)

Thursday, May 25, 2023 11:00 AM (30 minutes)

Presenter: LARTAUD, Paul

Session Classification: ISNET

Contribution ID: 30

Type: **not specified**

Sequential Bayesian experimental design for calibration of expensive physics models

Tuesday, May 23, 2023 11:30 AM (30 minutes)

Presenter: SÜRER, Ozge

Session Classification: ISNET

Contribution ID: 31

Type: **not specified**

Eigenvector continuation emulators for the ab initio symmetry-adapted framework

Thursday, May 25, 2023 1:30 PM (30 minutes)

Presenter: BECKER, Kevin

Session Classification: ISNET

Contribution ID: 32

Type: **not specified**

Bootstrap for multivariate time series and gravitational wave detection

Thursday, May 25, 2023 2:00 PM (30 minutes)

Presenter: LAHIRI, Soumen (Washington University)

Session Classification: ISNET

Contribution ID: 33

Type: **not specified**

Data integration using constrained Gaussian process models with applications to nuclear physics

Thursday, May 25, 2023 2:30 PM (30 minutes)

Presenter: ZHOU, Shuang (Arizona State University)

Session Classification: ISNET

Contribution ID: 34

Type: **not specified**

Known Boundary Emulation (virtual)

Thursday, May 25, 2023 9:30 AM (30 minutes)

Presenter: VERNON, Ian

Session Classification: ISNET

Contribution ID: 35

Type: **not specified**

Short Talk: Potential energy surface emulation and impact on fission trajectories

Thursday, May 25, 2023 3:30 PM (15 minutes)

Presenter: LAY, Daniel

Session Classification: ISNET

Contribution ID: 36

Type: **not specified**

Short Talk: Ex fissio ad astra: extending optical models to the fission fragment region

Thursday, May 25, 2023 3:45 PM (15 minutes)

Presenter: BEYER, Kyle

Session Classification: ISNET

Contribution ID: 37

Type: **not specified**

Short Talk: Reduced Basis Methods and Scattering

Thursday, May 25, 2023 4:00 PM (15 minutes)

Presenter: ODELL, Daniel

Session Classification: ISNET

Contribution ID: 38

Type: **not specified**

Bayesian model calibration for nuclear decays with the Skyrme finite-amplitude method

Tuesday, May 23, 2023 2:30 PM (30 minutes)

Presenter: LI, Tong (LLNL)

Session Classification: ISNET

Contribution ID: 39

Type: **not specified**

Short talk: Bayesian calibration of viscous anisotropic hydrodynamic simulations of heavy-ion collisions

Tuesday, May 23, 2023 4:00 PM (15 minutes)

Presenter: LIYANAGE, Dananjaya

Session Classification: ISNET

Contribution ID: 40

Type: **not specified**

Short Talk: How Uncertain Am I? Theoretical errors in Bayesian model calibration for EFTs

Tuesday, May 23, 2023 4:15 PM (15 minutes)

Presenter: BUB, Jason

Session Classification: ISNET

Contribution ID: 41

Type: **not specified**

TDB

Session Classification: ISNET

Contribution ID: 42

Type: **not specified**

Hamiltonian Monte Carlo computation in spatial statistics

Tuesday, May 23, 2023 2:00 PM (30 minutes)

Presenter: MONDAL, Debashis (WashU)

Session Classification: ISNET

Contribution ID: 43

Type: **not specified**

TDB

Session Classification: ISNET

Contribution ID: 44

Type: **not specified**

Hamiltonian Monte Carlo & eigenvector continuation for ab initio nuclear physics

Thursday, May 25, 2023 12:00 PM (30 minutes)

Presenter: EKSTRÖM, Andreas (Chalmers University of Technology)

Session Classification: ISNET

Contribution ID: 45

Type: **not specified**

Machine learning for heavy-ion accelerators (virtual)

Wednesday, May 24, 2023 11:45 AM (30 minutes)

Presenter: HAO, Yue (Michigan State University)

Session Classification: ISNET

Contribution ID: 46

Type: **not specified**

Predicting nuclear masses with product-unit networks (virtual)

Wednesday, May 24, 2023 3:15 PM (30 minutes)

Presenter: DELLEN, Babette

Session Classification: ISNET

Contribution ID: 47

Type: **not specified**

Surrogate models of nuclear density functional theory with gaussian processes and autoencoders

Wednesday, May 24, 2023 11:15 AM (30 minutes)

Presenter: VERRIERE, Marc

Session Classification: ISNET

Contribution ID: 48

Type: **not specified**

Bayesian parameter estimation of QGP viscosities in partial chemical equilibrium

Presenter: GORDEEV, Andrew

Session Classification: ISNET: Poster Session

Contribution ID: 49

Type: **not specified**

Accounting for Material and Experimental Variability Using a Random Effects Bayesian Inferential Framework

Presenter: RICCIARDI, Denielle

Session Classification: ISNET: Poster Session

Contribution ID: 50

Type: **not specified**

Gaussian processes for the nuclear equation of state

Presenter: GÖTTLING, Hannah

Session Classification: ISNET: Poster Session

Contribution ID: 51

Type: **not specified**

Nuclear Binding energy prediction using Deep Learning on AME2020 dataset

Presenter: BHANDARI, Ramesh

Session Classification: ISNET: Poster Session

Contribution ID: 52

Type: **not specified**

Variational Bayes Computer Models

Presenter: SON, Mookyong

Session Classification: ISNET: Poster Session

Contribution ID: 53

Type: **not specified**

Gaussian Process emulation using surmise

Monday, May 22, 2023 9:05 AM (1h 40m)

Presenters: CHAN, Moses (Northwestern); SURER, Özge (Miami University)

Session Classification: BAND Camp

Contribution ID: 54

Type: **not specified**

Welcome and Intro

Monday, May 22, 2023 9:00 AM (5 minutes)

Presenter: PIARULLI, Maria (Washington University)

Session Classification: BAND Camp

Contribution ID: 55

Type: **not specified**

Reduced Basis Methods for emulation and the ROSE software package

Monday, May 22, 2023 11:15 AM (1h 30m)

Primary authors: ODELL, Daniel (Ohio); GIULIANI, Pablo (MSU/FRIB)

Presenters: ODELL, Daniel (Ohio); GIULIANI, Pablo (MSU/FRIB)

Session Classification: BAND Camp

Contribution ID: 56

Type: **not specified**

Bayesian Model Mixing using Taweret

Monday, May 22, 2023 2:15 PM (1h 30m)

Presenters: SEMPOSKI, Alexandra (Ohio University); YANNOTTY, John (Ohio State); PRATOLA, Matt (Ohio State)

Session Classification: BAND Camp

Contribution ID: 57

Type: **not specified**

The Bayesian Mass Explorer, BMEX

Monday, May 22, 2023 4:15 PM (40 minutes)

Presenter: GODBEY, Kyle (MSU/FRIB)

Session Classification: BAND Camp

Contribution ID: 58

Type: **not specified**

Experimental Design and the BAND software framework

Monday, May 22, 2023 4:55 PM (35 minutes)

Presenters: FURNSTAHL, Dick (Ohio State); NAZAREWICZ, Witek (MSU/FRIB)

Session Classification: BAND Camp

Contribution ID: 59

Type: **not specified**

Machine Learning of Nuclear Properties: A Brief Tribute to Prof. John Walter Clark

Presenter: MAVROMMATIS, Eirene

Contribution ID: **60**

Type: **not specified**

Machine learning of nuclear properties: a brief tribute to Prof. John Walter Clark (recording)

Wednesday, May 24, 2023 11:00 AM (15 minutes)

Presenter: MAVROMMATIS, Eirene

Session Classification: ISNET

Contribution ID: **61**

Type: **not specified**

Prof. John W. Clark

Wednesday, May 24, 2023 8:55 AM (5 minutes)

Presenter: KRAWCZYNSKI, Henric

Session Classification: ISNET