WORKSHOP PROGRAM

MONDAY

9:00-9:20 Dave Ireland (University of Glasgow, UK)
Introduction

9:20-9:40 DISCUSSION: SCOPE AND AIMS OF A WORKSHOP

9:40-10:20 Rick Casten (Yale University, USA)
Confrontation of experiment and theory: relevant observables, misleading observables, and theoretical uncertainties

10:20-11:00 Gianluca Colo (University of Milan and INFN)
Uncertainties in calculations beyond mean field: a perspective from particle-vibration coupling model point of view

11:00-11:30 COFFEE BREAK

11:30-12:10 Achim Schwenk (TU Darmstadt)
Open problems in uncertainty quantification in calculations of neutron-rich matter

12:10-12:50 Stefan Wild (Argonne National Laboratory, USA)
Derivative-free optimization for parameter estimation in computational nuclear physics

13:00-14:30 LUNCH

14:30-15:30 ECT* COLLOQUIUM

Jorge Piekarewicz (Florida State University, USA)
Information and statistics: a new paradigm in theoretical nuclear physics

15:30-16:10 Dick Furnstahl (Ohio State University, USA)
Uncertainty Quantification for Effective Field Theories

16:10-16:30 COFFEE BREAK

16:30-17:10 Sarah Wesolowski (Ohio State University, USA)
Bayesian parameter estimation for Effective Field Theories

17:10-17:30 CONCLUDING DISCUSSION

TUESDAY

9:00-9:40 Krzysztof Graczyk (University of Wroclaw, Poland)
Modeling nucleon form factors with methods of Bayesian neural networks

9:40-10:20 Julia Bliss (Technical University of Darmstadt, Germany)
Impact of (α,n) uncertainties on the nucleosynthesis in neutrino-driven winds

10:20-11:00 Jan Ryckebusch (Ghent University, Belgium)
Extracting the physics information from pseudoscalar-meson photonproduction: a case study of $p(\gamma,K^+)\Lambda$

11:00-11:30 COFFEE BREAK

11:30-12:10 Scott Pratt (Michigan State University, USA)
Bayesian analysis of heavy-ion models and data from RHIC and the LHC

12:10-12:50 David Regnier (CEA Bruyères, France)
Uncertainties in the microscopic theory of induced fission

13:00-14:30 LUNCH

14:30-15:10 Amy Lovell (Michigan State University, USA)
Uncertainty quantification in nuclear reactions: a starting point

15:10-16:00 DISCUSSION
WEDNESDAY
9:00-9:40 Paul-Gerhard Reinhard (University of Erlangen, Germany)
Error estimates in self-consistent mean-field models
9:40-10:20 Anatoli Afanasjev (Mississippi State University, USA)
Estimating theoretical uncertainties: from known nuclei to extremes of isospin and charge
10:20-11:00 Nicolas Schunck (Lawrence Livermore National Laboratory, USA)
Uncertainty quantification and propagation in nuclear density functional theory
11:00-11:30 COFFEE BREAK
11:30-12:10 Markus Kortelainen (University of Jyvaskyla and Helsinki Institute of Physics, Finland)
Optimization and error propagation of the UNEDF family EDFs
12:10-12:50 Alessandro Pastore (University of York, UK)
Nuclear structure with novel density functionals
13:00-14:30 LUNCH
14:30-15:10 Paul Stevenson (University of Surrey, UK)
Estimating systematic errors in time-dependent Hartree–Fock
15:10-15:50 Bartek Szpak (IFJ PAN Krakow and University of Warsaw, Poland)
Calibration of the N3LO nuclear density functionals
15:50-16:20 COFFEE BREAK
16:20-16:40 Tiia Haverinen (University of Jyväskylä, Finland)
Uncertainty propagation within the UNEDF models
16:40-17:30 DISCUSSION

THURSDAY
09:00-09:40 Rebecca Surman (University of Notre Dame, USA)
Nuclear masses and the r-process abundance pattern
09:40-10:20 Xavier Roca-Maza (University of Milan and INFN, Italy)
Covariance analysis for nuclear energy density functionals
10:20-11:00 Nils Paar (University of Zagreb, Croatia)
Toward relativistic energy density functional for astrophysical applications
11:00-11:30 COFFEE BREAK
11:30-12:10 Andreas Ekstrom (University of Tennessee, USA)
Optimization and uncertainty quantification of chiral forces: recent advances and future directions
12:10-12:50 Christian Forssen (Chalmers University of Technology, Sweden)
Uncertainty analysis and order-by-order optimization of chiral nuclear interactions
13:00-14:30 LUNCH
14:30-15:10 Rodrigo Navarro-Perez (Lawrence Livermore National Laboratory, USA)
Systematic uncertainty of phenomenological and effective NN interactions
15:10-15:50 Enrique Ruiz Arriola (University of Granada, Spain)
Validation of nuclear forces for ab initio calculations: The case of A=2,3,4 nuclei
15:50-16:20 COFFEE BREAK
16:20-17:00 DISCUSSION
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<thead>
<tr>
<th>Time</th>
<th>Speaker</th>
<th>Title</th>
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<tbody>
<tr>
<td>9:00-9:40</td>
<td>David Richards (Jefferson Laboratory, USA)</td>
<td>Improved methods on the study of hadronic physics from lattice QCD</td>
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<td>9:40-10:20</td>
<td>Yannen Jaganathen (Michigan State University, USA)</td>
<td>Optimized Gamow Shell Model interaction in the psd shell</td>
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<td>10:20-11:00</td>
<td>Witold Nazarewicz (Michigan State University, USA)</td>
<td>Summary+Open Discussion</td>
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<td>11:00-11:30</td>
<td><strong>FAREWELL COFFEE</strong></td>
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