

PROGRAM

*Sixth International Conference on Fission and Properties of Neutron-Rich Nuclei
Sanibel Island, Florida
November 6-12, 2016*

SUNDAY, NOVEMBER 6, 2016:

2:00 REGISTRATION
6:30 RECEPTION

MONDAY, NOVEMBER 7, 2016:

7:00 BREAKFAST

OPENING SESSION; CHAIR: J. H. Hamilton

8:20 (10) J. H. Hamilton: Opening Remarks
8:30 (25+5) W. Nazarewicz, Overview of nuclear theory
9:00 (25+5) Ys. Oganessian, Overview of the heaviest elements
9:30 (25+5) A. Aprahamian, Nuclei in the cosmos: nuclear
astrophysics experiments in the USA
10:00 (25+5) A. Gade, Recent accomplishments in nuclear
structure research with rare isotopes and future challenges
10:30 (25+5) R. Haight, Overview of nuclear fission – present
experiments
11:00 BREAK

CHAIR – D. Dean

NUCLEAR STRUCTURE

11:25 (20+5) G. Bertsch, Fluctuation phenomena in fission cross sections and angular
distributions
11:50 (20+5) J. Dobaczewski, Nuclear energy density functionals generated by higher-
order finite-range pseudopotentials
12:15 (20+5) P. Ring, Covariant density functional theory and beyond for deformed
nuclei
12:40 (20+5) S. Frauendorf, Low energy magnetic radiation of warm nuclei
1:05 (20+5) T. Uesaka, Studies of neutron-rich nuclei at RIBF – from tetra-neutron to
fission

1:30 LUNCH

CHAIR – L. Riedinger

3:30 (20+5) D. Dean, Nuclei, quantum entanglement, and qubits
3:55 (20+5) H. Hergert, Understanding the structure of medium-mass nuclei from first
principles
4:20 (20+5) B. Cheal, Laser spectroscopic studies of fission products
4:45 (20+5) S. Zhu, Overview on what we have learned from GRETINA
5:10 (20+5) A. Navin, Nuclear Structure at high isospin and spin: The next step

5:35 END

6:30 – 7:30 POSTER SESSION – Happy Hour (Spouses and Guests Invited)

TUESDAY, NOVEMBER 8, 2016:

7:00 BREAKFAST

CHAIR – A. V. Ramayya

EXPERIMENTS AND THEORY OF SUPERHEAVY ELEMENTS

8:00 (20+5) H. Kudo, Discovery of element 113 and perspectives
8:25 (20+5) V. Utyonkov, Discovery of elements 113-118
8:50 (20+5) S. Hofmann, Fission barriers of super-heavy nuclei and search for element 120
9:15 (20+5) C. Düllmann, On the search for elements beyond $Z=118$ -- an outlook based on lessons from the heaviest known elements
9:40 (20+5) S. Dmitriev, Superheavy element factory
10:05 (20+5) J. Gates, Recent Results and Future Prospects

10:30 BREAK

CHAIR – W. Loveland

10:50 (20+5) M. Itkis, Impact of Quasi Fission on SHE Production
11:15 (15+3) S. Umar, Dynamics of quasifission in TDHF
11:33 (15+3) D. Ackermann, Superheavy nuclei (SHN) – stability beyond the liquid drop
11:51 (15+3) J. Roberto, Actinide targets for the synthesis of superheavy nuclei: current priorities and future opportunities
12:09 (15+3) M. Stoyer, Fission properties and random probability analysis of super heavy nuclei
12:27 (15+3) D. Poenaru, Theory of spontaneous fission of superheavy nuclei using cranking inertia and the two-center shell model

12:45 END

1:00 EXCURSION

WEDNESDAY, NOVEMBER 9, 2016:

7:00 BREAKFAST

CHAIR – W. C. Ma

RADIOACTIVE ION BEAMS AND NEW FACILITIES

8:30 (20+5) P. Fallon, Future studies of neutron-rich nuclei with GRETA
8:55 (20+5) A. Jokinen, Commissioning and spectroscopic studies
 of fission products with IGISOL-4
9:20 (20+5) K. Gelbke, FRIB/NSCL laboratory update
9:45 (20+5) G. Savard, Recent highlights and future prospects with CARIBU
10:10 (20+5) J. Aysto, Plans of spectrometer experiments at Super-FRS of FAIR

10:35 BREAK

CHAIR – J. Winger

11:00 (20+5) M. Borge, Results from ISOLDE and the HIE-ISOLDE Project
11:25 (20+5) G. deAngelis, The SPES radioactive ion beam project. Status and
 perspectives
11:50 (20+5) J. Dilling, Advanced rare isotope laboratory at TRIUMF
12:15 (20+5) J. Yang, New facilities in Lanzhou

12:40 LUNCH

WEDNESDAY, NOVEMBER 9, 2016

CHAIR – K. Carter

NUCLEAR STRUCTURE (Parallel Session A)

- 2:30 (20+3) T. Aumann, Measurements of the dipole polarizability of neutron-rich unstable nuclei
- 2:53 (20+3) B. Bucher, Nature of collective dipole and octupole transitions in neutron-rich barium isotopes barium beams
- 3:13 (20+3) C. Zachary, Octupole deformation in ^{144}Ba and ^{148}Ce
- 3:36 (20+3) Y. Huang, Doublet octupole bands in neutron-rich $^{140,141}\text{Xe}$
- 4:02 BREAK

CHAIR – S. Liddick

MASS MEASUREMENTS

- 4:20 (20+3) K. Blaum, Recent advances in high-precision nuclear mass measurements at ISOLTRAP at ISOLDE/CERN
- 4:43 (20+3) J. Dilling, Precision mass measurements of exotic nuclei using highly-charged ions
- 5:06 (20+3) M. Block, Mass measurements of the heaviest elements
- 5:29 (20+3) W. Kutschera, Searching for superheavy elements in terrestrial matter with accelerator mass spectrometry
- 5:52 ENDS

WEDNESDAY, NOVEMBER 9, 2016

SESSION CHAIR – J. Cole

NUCLEAR STRUCTURE (Parallel Session B)

- 2:30 (20+5) Y. Watanabe, Production of N=126 nuclei and beyond using deep inelastic transfer reactions
2:55 (20+5) D. Torres, Using alpha transfer to populate radioactive beam species, present and future possible uses to study neutron-rich nuclei
3:20 (20+5) J. Rasmussen, Odd features of some odd-odd prolate spheroidal nuclei
3:45 (15+2) B. Musangu, Chiral vibrations and collective bands in ^{104}Mo

4:02 BREAK

CHAIR W. Brantley

- 4:20 (15+2) S. Pain, Transfer reactions with ^{134}Xe
4:37 (15+2) E. Wang, Pseudo spin doublet bands and Gallagher Moszkowski doublet bands in ^{100}Y
4:54 (15+2) Y. Luo, Triaxiality in neutron-rich nuclei with $A \sim 100-126$, Z beyond and below Ru ($Z=44$)
5:11 (15+2) M. Smith, Probing the low-energy structure of $A=109$ Ru – Pd
5:25 (15+2) K. Hammerton, Results on the influence of neutron-richness on quasifission in intermediate mass reactions
5:42 ENDS

THURSDAY, NOVEMBER 10, 2016:

7:00 BREAKFAST

CHAIR – J. Rasmussen

NUCLEAR STRUCTURE

8:15 (20+5) S. Paulauskas, Beta-delayed neutron studies of fission fragments using VANDLE

8:40 (20+5) A. Fijalkowska, Impact of MTAS results on reactor anti-neutrino spectra

9:05 (20+5) B. A. Brown, Microscopic CI plus EDF models for E0 gamma decay matrix elements

9:30 (20+5) J. Maruhn, Exotic cluster structures in the mean-field theory

9:55 (20+5) J. Draayer, Simple patterns in nuclear physics

10:20 BREAK

CHAIR – R. Vogt

FISSION

10:40 (20+5) F. Tovesson, Fission product studies with the SPIDER instrument at LANSCE

11:05 (20+5) B. Manning, High Precision Neutron-Induced Fission Cross Sections Using a Time Projection Chamber

11:30 (20+5) J. Taieb, Studies on fission with Aladin

11:55 (20+5) J. Randrup, Fission dynamics with microscopic level densities

12:20 (20+5) W. Younes, A microscopic theory of fission

12:45 LUNCH

THURSDAY, NOVEMBER 10, 2016:

(Parallel Session A)

CHAIR – M. Stoyer

FISSION

- 2:10 (20+5) H. Penttila, Novel technique for fission yield measurements applying ion traps
- 2:35 (20+5) W. Loveland, Total kinetic energy release in the fast neutron induced fission of ^{232}Th and ^{235}U
- 3:00 (20+5) S. Chiba, Dynamical approach to low-energy nuclear fission in terms of Langevin equation
- 3:25 (15+2) M. Verrière, Microscopic description of the low energy fission process: a new method
- 3:42 (15+2) D. Duke, TKE measurements
- 4:00 BREAK

CHAIR – C. Bingham

- 4:20 (15+2) T. Wada, Angular distribution of scission neutrons with time-dependent Schrodinger equation
- 4:37 (15+2) A. Tonchev (Stoyer), Fission product yield measurements using quasi-monoenergetic neutrons
- 4:54 (15+2) J. Gomez, Measuring PFNS at the Chi-Nu Experiment
- 5:11 (15+2) J. Koglin, Measurement of angular momentum-dependent fission probabilities of ^{240}Pu
- 5:28 (15+2) W. Peters, Toward measuring all prompt fission products in coincidence
- 5:45 ENDS

THURSDAY, NOVEMBER 10, 2016:

(Parallel Session B)

CHAIR – R. Ronningen

NUCLEAR STRUCTURE AND BETA DELAYED NEUTRONS

- 2:10 (20+5) R. Kezerashvili, The saga of the trineutron and tetraneutron
2:35 (20+5) K. Jones, New directions with transfer reactions
3:00 (20+5) F. S. Zhang, Production of heavy neutron rich nuclei in multi-nucleon transfer reactions
3:25 (15+2) S. Taylor, Beta-delayed neutron measurements near ^{132}Sn with CARIBU
3:42 (15+2) B. C. Rasco, Decays of the three top contributors to reactor high-energy spectrum, ^{92}Rb , $^{96\text{gs}}\text{Y}$, and ^{142}Cs , studied with total absorption spectroscopy

4:00 BREAK

CHAIR – E. Zganjar

- 4:00 (20+5) F. Xu, Resonance states in neutron-rich nuclei
4:45 (15+2) S. Marley, Studying beta-delayed neutron emission via recoil-ion spectroscopy
5:02 (15+2) K. Siegl, Beta-delayed neutron Studies using trapped ions from CARIBU
5:19 (15+2) D. Walter, Single neutron structure of neutron-rich N=50 nuclei
5:36 END

FRIDAY, NOVEMBER 11, 2016:

7:00 BREAKFAST

NUCLEAR ASTROPHYSICS / APPLICATIONS

CHAIR – A. Aprahamian

8:15 (20+5) S. Liddick, Nuclear astrophysics with radioactive beams

8:40 (20+5) C. Wheldon, Nuclear clusters in astrophysics

9:05 (20+5) M. Junker, Nuclear astrophysics underground

9:30 (20+5) R. Reifarth, Nuclear astrophysics at storage rings

9:55 BREAK

CHAIR – K. Jones

10:15 (17+3) S. Almaraz-Calderson, Nuclear astrophysics studies with an isomeric $^{26}\text{Al}^m$ beam

10:35 (17+3) I. Wiedenhover, Isomeric character of the lowest 4^+ state in ^{44}S

10:55 (17+3) A. Unzhakova, Cluster degrees of freedom in fission of actinides

11:15 (17+3) B. Back, Experimental measures of fission time scales

11:35 (17+3) N. Stone, How well do we know nuclear electric quadrupole moments?

11:55 END

6:30 RECEPTION

7:15 BANQUET

SATURDAY, NOVEMBER 12, 2016:

7:00 BREAKFAST

CHAIR – R. Haight

FISSION

8:00 (20+3) P. Talou, Advanced fission neutron and gamma correlations
8:23 (20+3) F. Hamsch, Prompt neutron emission correlations with fission fragment properties
8:46 (20+3) R. Vogt, Recent results with FREYA
9:09 (20+3) G. Rusev, Measurements of correlated fission data with Dance and Neuance
9:32 (20+3) M. Diakaki, Fission activities at n_ToF facility
9:55 (20+3) P. Moller, Calculations of fission-fragment yields versus Z and N, in a full “2d” extension of the Brownian shape-motion model
10:18 (20+3) J. Mueller, Measurements and simulations of prompt neutron polarization asymmetries in photofission

10:40 BREAK

CHAIR – P. Talou

FISSION

11:00 (17+3) E. Blain, Prompt fission neutron spectrum measurements of ^{252}Cf using multiple gamma tagging
11:20 (17+3) A. Bulgac, Nuclear fission: from more phenomenology and adjusted parameters to more fundamental theory and increased predictive power
11:40 (17+3) S. G. Zhou, Fission barriers from a multidimensionally constrained relativistic mean field model
12:00 (17+3) D. Regnier, Progress on the description of low energy fission dynamics within the TDGCM+GOA microscopic approach
12:20 (17+3) K. Nishio, Study of fission using multi-nucleon transfer reactions
12:40 (17+3) A. Andreyev, Low energy fission and beta-delayed fission with radioactive beams
1:00 CLOSING REMARKS, P. TALOU AND J. HAMILTON