NuSYM2018 Program

Monday, September 10

09:00-09:15 Welcoming address

Session 1: Overview

(Chair: Byungsik Hong)

09:15-09:45 **Mannque Rho** (CEA Saclay), Uncanny workings of the nuclear tensor force from exotic nuclei to neutron stars

09:45-10:15 **Bill Lynch** (NSCL/MSU), Present and expected constraints on the Nuclear Symmetry Energy.

10:15-10:40 Break

Session 2: Microscopic approaches I

(Chair: Abdou Chbihi)

10:40-11:00 **Jeremy W. Holt** (Texas A&M University), Universal correlations in the nuclear symmetry energy, slope parameter, and curvature

11:00-11:20 **Niels-Uwe Friedrich Bastian** (University of Wroclaw), A unified quark-hadron equation of state and the effect of symmetry energy in quark-matter

11:20-11:40 **Yeunhwan Lim** (Texas A&M University), Nuclear symmetry energy from finite nuclei to neutron stars

11:40-12:00 **Kris Hagel** (Texas A&M University), The symmetry energy of low density nuclear matter

12:00-13:30 Lunch

Session 3: Microscopic approaches II

(Chair: Chang Ho Hyun)

13:30-13:50 **Ulugbek Yakhshiev** (Inha University), Symmetry energy in the chiral soliton model

13:50-14:10 **Tsuyoshi Miyatsu** (Tokyo University of Science), The role of Fock terms on nuclear symmetry energy in a relativistic framework

14:10-14:30 **Kie Sang Jeong** (APCTP), Isospin asymmetry in perspective of QCD symmetry breaking

14:30-14:50 **Stefano Gandolfi** (LANL), Quantum Monte Carlo calculations of pure neutron systems and the symmetry energy

14:50-15:20 Break

Session 4: Neutron stars

(Chair: Edward Brown)

15:20-15:40 **Slavko Bogdanov** (Columbia University), The Neutron Star Interior Composition Explorer

15:40-16:00 **David Alvarez** (BLTP JINR), The symmetry energy in neutron stars: constraints from GW170817 and direct Urca cooling.

16:00-16:20 **Betty Tsang** (NSCL/MSU), Comparison of symmetry energy constraint from neutron star merger and heavy ion collisions

16:20-16:40 **Hyun Kyu Lee** (Hanyang University), Nuclear symmetry energy in compact star matter II

16:40-17:00 **Young-Min Kim** (UNIST), Gravitational waves and tidal deformability of neutron stars

17:00-17:15 **Soonchul Choi** (Soongsil University), Relations between symmetry energy and tidal deformability

17:15-17:35 **Morgane Fortin** (N. Copernicus Astronomical Center), Neutron star properties, nuclear parameters, (hyper)nuclei, and gravitational waves

18:00-21:00 Reception

Tuesday, September 11

Session 5: Equation of state

(Chair: Peter Senger)

09:00-09:20 **Paolo Napolitani** (IPN Orsay), How DO volume and surface instabilities rival in heavy-ion collisions?

09:20-09:40 **Abdou Chbihi** (GANIL), Isospin effects on the nuclear equation of state

09:40-10:00 **Zbigniew Chajecki** (Western Michigan University), Probing the equation of state of asymmetric nuclear matter with heavy ion collisions

10:00-10:20 **Jong-won Lee** (Korea University), An application of 500 Msps FADC DAQ system to the NSCL LANA Detector

10:20-10:35 **Myungguk Kim** (Pusan National University), Application of parity doublet model in HIC

10:35-11:00 Break

Session 6: Astrophysical objects

(Chair: Zhigang Xiao)

11:00-11:20 **Andre da Silva Schneider** (Stockholm University), Equation of state effects on core-collapse supernovae

11:20-11:40 **Kenichiro Nakazato** (Kyushu University), Astrophysical implications of the nuclear symmetry energy

11:40-12:00 **Hajime Togashi** (RIKEN), Supernova equation of state and symmetry energy at subnuclear densities

12:00-12:20 **Edward Brown** (MSU), Measuring the specific heat and neutrino emissivity of neutron stars

12:20-14:00 Lunch

Session 7: Heavy-ion collisions I

(Chair: TadaAki Isobe)

14:00-14:20 **Gao-Chan Yong** (IMP CAS), Several aspects on probing the high-density symmetry energy by HI collisions

14:20-14:40 **Peter Senger** (GSI), Exploring the nuclear matter equation-of-state at neutron star core-densities

14:40-14:55 **Jung Woo Lee** (Korea University), Charged particle track reconstruction for heavy ion collision experiments with SπRIT Time Projection Chamber

14:55-15:15 **Rensheng Wang** (SooChow University & NSCL/MSU), Quality assurance for TPC data analysis of intermediate energy heavy ion collisions

15:15-15:35 **Mizuki Kurata-Nishimura** (RIKEN), Collective flow at neutron rich Sn+Sn collisions with 270 MeV/u

15:35-15:55 **Arnaud Le Févre** (GSI), Results of the ALADiN experiment at GSI: The asymmetry energy at sub-saturation density

15:55-16:20 Break

Session 8: Heavy-ion collisions II

(Chair: Jerzy Lukasik)

16:20-16:40 **Akira Ono** (Tohoku University), Interplay between cluster correlations and collision dynamics

16:40-17:00 **Jun Su** (Sun Yat-sen University), Dynamical properties and secondary decay effects of projectile fragmentations in ^{124}Sn,^{107}Sn + ^{120}Sn collisions at 600 MeV/nucleon

17:00-17:20 **Yingxun Zhang** (CIAE), Constraints of symmetry energy from HICs and the in-medium NN→NΔ cross section

17:20-17:40 **Jun Xu** (SINAP), Relevant studies on isospin splitting of nucleon effective mass

17:40-18:00 **Kyungil Kim** (RISP/IBS), Effects of isospin asymmetry on the energy isotropy ratio of nucleons in heavy-ion collisions

18:00-18:15 **Masanori Kaneko** (Kyoto university), Study of light cluster production in intermediate energetic heavy-RI collision at RIBF

Wednesday, September 12

Session 9: Pions and deltas

(Chair: Su Houng Lee)

09:00-09:25 **Che-Ming Ko** (Texas A&M University), Pion production in HIC

09:25-09:45 **Natsumi Ikeno** (Tottori University), Pauli blocking effects on pion production in heavy-ion collisions

09:45-10:05 **Genie Jhang** (NSCL/MSU), Recent results on pion analysis of Sn+Sn collisions

10:05-10:25 **Masayasu Harada** (Nagoya University), Study of phase structure of nuclear matter based on a parity doublet model

10:25-10:50 Break

Session 10: Nuclear structure I

(Chair: Zbigniew Chajecki)

10:50-11:10 **Long Zhu** (Sun Yat-sen University), The mechanism of multinucleon transfer reactions for producing neutron-rich heavy nuclei

11:10-11:30 **Stefano Burrello** (INFN Catania & Sevilla University), Understanding the isovector channel of nuclear interaction through heavy ion charge-exchange reactions

11:30-11:50 **Pawel Danielewicz** (MSU/University of Kinshasa/African Institute for Mathematical Sciences), Stiff symmetry energy from thick isovector aura

11:50-13:00 Lunch

13:00-18:00 Excursion

18:00-21:00 Banquet

Thursday, September 13

Session 11: Nuclear structure II

(Chair: Giuseppe Verde)

09:00-09:25 **Robert Michaels** (TJNL), Electroweak measurements of neutron densities in CREX and PREX at JLab, USA

09:25-09:45 **Bao-hua Sun** (Beihang University), Measurements of neutron-skin thickness of exotic nuclei via nuclear reaction cross section measurements

09:45-10:05 **Atsushi Tamii** (RCNP), Electric dipole response of nuclei studied by proton scattering

10:05-10:25 **Panagiota Papakonstantinou** (RISP/IBS), From homogeneous matter straight to nuclei: KIDS functional

10:25-10:45 **Chang Xu** (Nanjing University), Density dependence of symmetry energy constrained by nuclear radioactivity data

10:45-11:10 Break

Session 12: Microscopic approaches III

(Chair: Ulugbek Yakhshiev)

11:10-11:30 **Marcella Grasso** (IPN Orsay), From dilute matter to the equilibrium point in the energy-density-functional theory

11:30-11:50 **Xavier Roca-Maza** (University of Milan & INFN), The nuclear symmetry energy and the breaking of the isospin symmetry: how do they reconcile with each other?

11:50-12:10 **Bao Yuan Sun** (Lanzhou University), Correlated structure of nuclear symmetry energy from covariant nucleon self-energy

12:10-12:30 **Arianna Carbone** (ECT*), Ab initio studies of infinite matter from a Green's function approach

12:30-14:00 Lunch

Session 13: Heavy-ion collisions III

(Chair: Yvonne Leifels)

14:00-14:20 **Giuseppe Verde** (INFN Catania & IPN Orsay), In-medium structure in dilute and hot nuclear matter

14:20-14:40 **Jerzy Lukasik** (IFJ-PAN Krakow), Telescope energy spectra and the Ockham's razor

14:40-15:00 **Maria Colonna** (INFN-LNS, Catania), Connecting the nuclear EoS to the interplay between low-energy reaction mechanisms

15:00-15:20 **Dan Cozma** (IFIN-HH), Relativistic covariance corrections to transport models and symmetry energy constraints

15:20-15:50 Break

Session 14: Facilities and future

(Chair: Betty Tsang)

15:50-16:10 **Wolfgang Trautmann** (GSI), Symmetry energy at GSI/FAIR

16:10-16:30 **Dominic Rossi** (TU Darmstadt), Status of symmetry-energy studies at R3B

16:30-16:45 **Hyunha Shim** (Korea University), Performance of prototype neutron detectors for large-acceptance multipurpose spectrometer at RAON

16:45-17:05 **Young Kwan Kwon** (RISP/IBS), Status of RAON

Session 15: Summary & Discussion

(Chair: Betty Tsang)

17:05-17:35 **Hermann Wolter** (University of Munich), Summary

17:35-18:15 **Discussion by all participants**: Future emphasis