



**International Conference
“Nuclear Theory
in the Supercomputing Era – 2018”**

<https://ntse.khb.ru/2018/>

Program

Institute for Basic Science, Daejeon, Korea

October 29 – November 2, 2018

Sunday, October 28. Hotel ICC 1F

16:30 - 19:00	Registration
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Monday, October 29. Auditorium, IBS Science Culture Center 2F

8:00 - 9:00	Registration
	Chair: James P. Vary
9:00 - 9:10	Conference opening
9:10 - 9:40	Youngman Kim Daejeon16 NN interaction
9:40 - 10:10	Ruprecht Machleidt What is wrong with our current nuclear forces?
10:10 - 10:30	Mario Sánchez The two-nucleon system within Chiral Effective Field Theory
10:30 - 11:00	Coffee break
	Chair: Jerry Draayer
11:00 - 11:30	Ulf-G. Meißner Towards Nuclear Physics as Precision Science
11:30 - 12:00	Dean Lee Applications of Lattice Effective Field Theory to Nuclear Forces and Structure
12:00 - 12:30	Andreas Ekström Statistical analysis and optimization of chiral forces
12:30 - 14:00	Lunch
	Chair: Grigory Rogachev
14:00 - 14:30	Thomas Neff Cluster states in ^{12}C and neighboring nuclei
14:30 - 15:00	Alexander Volya Interplay of single-particle and cluster degrees of freedom in atomic nuclei
15:00 - 15:30	Yury Tchuvi'sky Nuclear Clustering, Step To A Supercomputing Approach
15:30 - 15:50	Dmitry Rodkin <i>Ab initio</i> description of one-nucleon resonances and halo states in light nuclei
15:50 - 16:20	Coffee break
	Chair: Thomas Neff
16:20 - 16:50	Nir Barnea <i>Ab initio</i> calculation of nuclear structure effects in muonic atoms
16:50 - 17:10	Seonghyun Kim Calculation of ground-state energy for light nuclei with the Strutinsky's method
17:10 - 17:30	EunJin In Nuclear mass table in deformed relativistic continuum Hartree-Bogoliubov theory
17:30 - 17:50	Kyoungsu Heo Extended optical model analyses of $^{11}\text{Be}+^{197}\text{Au}$ System with dynamical polarization potential
17:50 - 18:10	Jounghwa Lee A semi-empirical model for calculating fission product yields
19:00 -	Welcome party

Tuesday, October 30. Auditorium, IBS Science Culture Center 2F

	Chair: Ulf-G. Meißner		
8:30 - 9:00	Young Kwan Kwon	Status of RAON	
9:00 - 9:30	Grigory Rogachev	Benchmarking ab initio theories using resonance scattering	
9:30 - 10:00	Wei Zuo	Three-body force effect on the Properties of nuclear matter	
10:00 - 10:30	Francesca Sammarruca	Correlations in nuclei and nuclear matter	
10:30 - 11:00	Coffee break		
	Chair: Ruprecht Machleidt		
11:00 - 11:30	Esmond G. Ng	Scientific Discovery Through Exascale Computing	
11:30 - 12:00	Kihyeon Cho	Nuclear Theory in the 5th supercomputing era	
12:00 - 12:30	Stefan Wild	Optimization Problems in Nuclear Theory	
12:30 - 14:00	Lunch		
	Chair: Kimiko Sekiguchi		
14:00 - 14:30	Witold Nazarewicz	Quantified nuclear density functional theory	
14:30 - 15:00	Chang Ho Hyun	Novel Framework of Nuclear EDF	
15:00 - 15:30	Feng Pan	Algebraic solution of the isovector pairing problem	
15:30 - 16:00	Myung Ki Cheoun	Competence of Pairing Correlations and Deformation in the Nuclear Structure	
16:00 - 16:30	Coffee break		
	Chair: Furong Xu		
16:30 - 17:00	Chong Qi	Large-scale shell model calculations of heavy nuclei	
17:00 - 17:30	Ionel Stetcu	Modeling fission dynamics with leadership class computing capabilities	
17:30 - 18:00	Jun Terasaki	Examination of consistency of QRPA approach to double-beta decay	

Wednesday, October 31. Auditorium, IBS Science Culture Center 2F

Chair: Francesca Sammarruca	
9:00 - 9:30	Petr Navrátil Nuclear structure and dynamics from chiral forces
9:30 - 10:00	Charlotte Elster Nucleon-Nucleus elastic scattering using <i>ab initio</i> folding potentials based on NCSM nonlocal one-body densities
10:00 - 10:30	Bruce R. Barrett Microscopically calculated shell-model effective two-body matrix elements in the <i>sd</i> shell
10:30 - 11:00	Seung-Woo Hong Science opportunities with RAON
11:30 - 13:00	Lunch
13:00 - 18:00	Excursion
18:30 -	Conference dinner

Thursday, November 1. Auditorium, IBS Science Culture Center 2F

Chair: Petr Navrátil	
8:30 - 9:00	Kimiko Sekiguchi Approach to Three-Nucleon Forces via Three- and Four-Nucleon Scattering
9:00 - 9:30	Roman Skibiński Nucleon-deuteron scattering with chiral semilocal coordinate-space and momentum-space regularized interactions
9:30 - 10:00	Andreas Nogga Faddeev-Yakubovsky and Jacobi-no-core-shell model results for light hypernuclei
10:00 - 10:30	Kacper W. Topolnicki ^3H and ^3He bound state calculations without angular momentum decomposition
10:30 - 11:00	Coffee break
Chair: Charlotte Elster	
11:00 - 11:30	Rimantas Lazauskas On the solution of the Faddeev-Yakubovsky equations for five nucleon systems
11:30 - 12:00	Alexander K. Motovilov Unphysical energy sheets and resonances in the Friedrichs-Faddeev model
12:00 - 12:30	Sergey L. Yakovlev <i>Ab initio</i> scattering calculation in three-body Coulomb systems: $e^+ - \text{H}$, $e^- - \text{H}$ and $e^+ - \text{He}^+$
12:30 - 14:00	Lunch
Chair: Dean Lee	
14:00 - 14:30	Evgeny Epelbaum High-precision nuclear forces from chiral EFT: Where do we stand?
14:30 - 15:00	James P. Vary No-Core Shell Model with Chiral Effective Field Theory Interactions
15:00 - 15:30	Furong Xu <i>Ab initio</i> calculations of nuclear resonances
15:30 - 16:00	Shung-Ichi Ando The S_{E1} factor of radiative alpha capture on ^{12}C in cluster effective field theory
16:00 - 16:30	Coffee break
Chair: Witold Nazarewicz	
16:30 - 17:00	Luigi Coraggio Chiral three-body forces and the monopole component of effective shell-model hamiltonians
17:00 - 17:30	Carlo Barbieri Recent advances for computational self-consistent Green's function theory in nuclear physics
17:30 - 18:00	Noritaka Shimizu Large-scale shell model calculations and chiral doublet bands in ^{128}Cs

Friday, November 2. Auditorium, IBS Science Culture Center 2F

	Chair: Alexander Volya	
8:30 - 9:00	Tobias Frederico	The Relativistic Dynamics In Minkowski Space: Exploring Hadron Structure
9:00 - 9:30	Vladimir Karmanov	Bound states of relativistic origin
9:30 - 10:00	Xingbo Zhao	Light-front approach to a chiral nucleon-pion Lagrangian
10:00 - 10:30	Chandan Mondal	Basis light-front quantization approach for the nucleon
10:30 - 11:00	Coffee break	
	Chair: Nir Barnea	
11:00 - 11:30	Mark A. Caprio	Predictions for nuclear rotational structure from <i>ab initio</i> calculations
11:30 - 12:00	Gaute Hagen	A solution to the puzzle of quenched beta-decays
12:00 - 12:30	Nadezda Smirnova	Isospin-symmetry breaking correction to Fermi beta-decay
12:30 - 14:00	Lunch	
	Chair: Esmond G. Ng	
14:00 - 14:30	Jerry Draayer	Symmetry adapted no-core shell-model calculations for probing the structure of atomic nuclei
14:30 - 15:00	Anna McCoy	Convergence in the ab initio symplectic no-core configuration interaction framework
15:00 - 15:30	Takashi Abe	No-core Monte Carlo shell model calculations with Daejeon16 NN interaction
15:30 - 16:00	Kevin Fosse	Neutron-rich helium isotopes: complex made simple
16:00 - 16:30	Coffee break	
	Chair: Youngman Kim	
16:30 - 17:00	Alexander I. Mazur	Description of continuum states within no-core shell model. Single State HORSE method
17:00 - 17:30	Igor A. Mazur	Elastic n- ⁶ He scattering and ⁷ He resonant states in Single State HORSE method
17:30 - 18:00	Andrey Shirokov	Tetraneutron resonance
18:00 - 18:10	Conference closing	