Scientific Program

July 9-13, 2012
Opatija, Croatia

Organised by:
University of Zagreb
Ruđer Bošković Institute
1 Monday, July 9th

Opening Session
- Congress Hall -

08:45 - 08:50: Opening
08:50 - 09:20: Faiçal Azaiez, “Introductory talk”

Nuclear structure 1
- Congress Hall -

chair: Đuro Miljanić

09:20 - 09:50: Yoshiko Kanada-En'yo, “Cluster and deformation in C isotopes”
10:20 - 10:40: Martin Freer, "Challenges to understanding the structure of light nuclei"
10:40 - 11:00: Elias Khan, “How atomic nuclei cluster”

Nuclear dynamics 1
- Congress Hall -

chair: Lorenzo Corradi

11:30 - 12:00: Birger B. Back, “Light ion transfer reactions with the Helios spectrometer”
12:00 - 12:30: Thomas Aumann, “Quasi-free knockout reactions with high-energy radioactive beams”
12:30 - 12:50: Sait Umar, "Dynamic Microscopic Theory of Fusion Using DC-TDHF"
12:50 - 13:10: Daniele Montanari, 'Heavy-Ion Transfer Reactions at Large Internuclear Distances"
13:10 - 13:30: Dorel Bucurescu, "Fine structure of alpha decay of trans-lead nuclei - an intriguing nuclear structure paradigm"

Oral posters 1
- Congress Hall -

chair: Nils Paar

15:00 - 15:05: Sorin Pascu, “Experimental evidence for the presence of double octupole states in $^{240}$Pu”
15:05 - 15:10: Yulia Itkis, “Competition between fusion-fission and quasifission in the reactions with heavy ions leading to the formation of Hs”
15:10 - 15:15: Vazgen Sargsyan, “Effects of nuclear deformation and neutron transfer in capture processes, and fusion hindrance at deep sub-barrier energies”
15:15 - 15:20: Magdalena Matejska-Minda, “Lifetime measurement of high-lying short lived states in $^{69}$As”
15:20 - 15:25: Pierre Morfouace, “$^{72}$Zn($d,^3$He)$^{71}$Cu transfer reaction”
15:25 - 15:30: Vladimir Rachkov, “Effect of neutron transfer in the fusion process near and below the Coulomb barrier”
15:30 - 15:35: Mohamed Reda Oudih, “Microscopic investigation of structural evolution in even-even $N=60$ isotones”
15:35 - 15:40: Naziha Benhamouda, “Particle-number fluctuations and neutron-proton pairing effects on proton and neutron radii of even-even $N=Z$ nuclei”
15:40 - 15:45: Sadao Momota, “Reduced dispersion of transverse momentum of fragmentation products observed at 290 MeV/u”

**Nuclear structure 2**
- Congress Hall -

Chair: Emil Běták

16:00 - 16:30: Adam Maj, “Shape evolution of heated and rapidly rotating nuclei studied with GDR - status and new perspectives with the PARIS array”
16:30 - 17:00: Atilla Krasznahorkay, “Neutron-skin thickness from the study of the giant dipole resonance”

**Nuclear structure 3**
- Congress Hall -

Chair: Jie Meng

17:30 - 17:50: Georgios Lalazissis, "Density-dependent Covariant Energy Density Functionals"
17:50 - 18:10: Haozhao Liang, "Local covariant density functional constrained by the relativistic Hartree-Fock theory"
18:10 - 18:30: Nicola Lo Iudice, "Large scale shell model study of nuclear spectroscopy in nuclei around $^{132}$Sn"
18:30 - 18:50: Sophie Péru, "Some exploitations of the self-consistent QRPA approach with the Gogny force"

**Nuclear dynamics 2**
- Camelia -

Chair: Angela Bonaccorso

17:30 - 17:50: Franjo Krmpotić, "Dynamics of Hypernuclear Nonmesonic Weak Decay"
17:50 - 18:10: Chinmay Basu, "Properties of the alpha cluster states of $^{212}$Po from elastic scattering of alpha particles from $^{208}$Pb"
18:10 - 18:30: Galina Knyazheva, "Properties of quasifission in heavy ion induced reactions"
18:30 - 18:50: Giovanna Montagnoli, "Fusion of $^{32}$S + $^{48}$Ca near and below the Coulomb barrier: a case where transfer couplings dominate?"
18:50 - 19:10: Francesco Cappuzzello, "Nuclear rainbow in the $^{16}$O + $^{27}$Al system: The role of couplings at energies far above the barrier"
2 Tuesday, July 10th

Nuclear astrophysics
- Congress Hall -

chair: Martin Freer
08:30 - 09:00: Brian Fulton, “Recent progress in nuclear astrophysics”
09:00 - 09:30: Stéphane Goriely, “The r-process nucleosynthesis: nuclear and astrophysics challenges”
09:30 - 09:50: Valery Zagrebaev, "Formation of superheavy nuclei in astrophysical r-process"
09:50 - 10:10: Alexis Diaz-Torres, "Quantum partner-dance of two interacting $^{12}$C nuclei fuels"
10:10 - 10:30: Tomás Rodríguez, "Application of nuclear density functionals to lepton number violating weak processes"

Nuclear astrophysics and light nuclei
- Congress Hall -

chair: Wolfram von Oertzen
11:00 - 11:30: Phil Woods, “Experiments at the interface between nuclear structure and explosive nuclear astrophysics”
11:30 - 12:00: Gabriel Martínez-Pinedo, “Challenges in explosive nucleosynthesis of heavy elements”
12:00 - 12:20: Vladilen Goldberg, "Unusual states in light nuclei"
12:20 - 12:40: Makoto Ito, "Studies of neutron-excess systems from bounds to continuum"
12:40 - 13:00: Sergey Sidorchuk, "Study of low-energy spectra of the helium isotopes $^{8,9,10}$He in the experiments with a tritium target"

Oral posters 2
- Congress Hall -

chair: Neven Soić
15:00 - 15:05: Jan Mierzejewski, “Modeling incomplete fusion reactions”
15:05 - 15:10: Milivoj Uroić, “Reactions induced by $^7$Li beam and optimization of silicon detector telescope”
15:10 - 15:15: Yulia Parfenova, “Studies of few-body dynamics in dripline nuclei at FLNR, JINR”
15:25 - 15:30: Vivek Parkar, “Validation of cluster structures for $^9$Be through Coupled channel calculations”
15:30 - 15:35: Lovro Prepolec, “$^{13}$C+$^4$He resonant elastic scattering on thick gas target”
15:40 - 15:45: Adhikari Sucheta, “Observation of breakup transfer process for the bound states of $^{16}$O populated from $^{12}$C($^6$Li,$d$) reaction at 20 MeV”
15:45 - 15:50: Vedrana Tokić, “Study of $^{24}$Mg resonances relevant for carbon burning nucleosynthesis”
Nuclear structure 4  
- Congress Hall -

chair: Faiçal Azaiez

16:00 - 16:30: Hiroyoshi Sakurai, “Highlights and future plans at RIBF”
16:30 - 17:00: Michael Block, “Extending Mass Measurements and Laser Spectroscopy to the Heaviest Elements”

Nuclear structure 5  
- Congress Hall -

chair: Takaharu Otsuka

17:30 - 17:50: Xavier Viñas, "Symmetry energy properties of bulk matter estimated from neutron skin thickness in finite nuclei"
17:50 - 18:10: Veerle Hellemans, "Finite-size instabilities in nuclear energy density"
18:10 - 18:30: Zhipan Li, "Energy density functional description of nuclear low-lying spectrum and shape transition"
18:30 - 18:50: Jiri Kroll, "Scissors Mode Resonances Built on Excited Levels in Gd Nuclei Studied from Neutron Capture in Resonance Region"
18:50 - 19:10: Danilo Gambacurta, "Low-lying dipole response in the stable $^{40,48}$Ca nuclei with the second random-phase approximation"

Nuclear astrophysics and dynamics  
- Camelia -

chair: Matej Lipoglavšek

17:30 - 17:50: Alain Goasduff, "$^{12}$C+$^{16}$O: properties of sub-barrier resonances gamma-decay"
17:50 - 18:10: Cristina Bordeanu, "$^3$He+$^4$He astrophysical factor study using activation method"
18:10 - 18:30: Guillaume Hupin, "Ab Initio Calculations of Light-Ion Fusion Reactions"
18:30 - 18:50: Jelena Gajević, "Electron Screening in Nickel"
3 Wednesday, July 11th

**Nuclear dynamics 3**  
- Congress Hall -

**chair:** Giovanni Pollarolo

08:30 - 09:00: Antonio M. Moro, “Core excitation effects in the breakup of halo nuclei”
09:00 - 09:30: Pierpaolo Figuera, “Collisions Induced by Halo and Weakly Bound Nuclei Around the Coulomb Barrier: Recent Results at INFN-LNS Catania”
09:30 - 09:50: Pierre Descouvemont, ”Microscopic description of reactions involving exotic nuclei”
09:50 - 10:10: Konstanze Boretzky, ”Low-Lying Dipole Strength in Exotic Neutron-Rich and Neutron-Deficient Nuclei”
10:10 - 10:30: Alinka Lépine-Szily, ”Radioactive Ion Beams in Brasil (RIBRAS)-Recent results”

**Nuclear structure 6**  
- Congress Hall -

**chair:** Hiroyoshi Sakurai

11:00 - 11:30: Takaharu Otsuka, ”Perspectives of Monte-Carlo Shell Model”
11:30 - 12:00: Volker Werner, “Lifetimes and g-factors in the $A\approx100$ region”
12:00 - 12:20: Hans Geissel, ”Recent Experimental Results with Uranium Fragments at the Present FRS”
12:20 - 12:40: Andrei Andreyev, ”Shape coexistence and charge radii in the lead region studied by in-source laser spectroscopy at RILIS-ISOLDE”
12:40 - 13:00: Nicu Sandulescu, ”Alpha-like quartet correlations and proton-neutron pairing in $N=Z$ nuclei”
4    Thursday, July 12th

Nuclear structure 7
- Congress Hall -

chair: Giacomo de Angelis

08:30 - 09:00: Enrico Farnea, “Results from the experimental campaign of the AGATA Demonstrator at LNL”
09:00 - 09:30: Peter Reiter, “MINIBALL γ-ray Spectroscopy far from Stability”
09:30 - 09:50: Tommi Eronnen, "Recent Penning trap mass measurement results of neutron rich nuclei"
09:50 - 10:10: Amiram Leviatan, "Order and chaos across a first-order quantum phase transition in nuclei"
10:10 - 10:30: Pedro Sarriguren, "Nuclear shape transitions in neutron-rich medium-mass nuclei"

Nuclear structure 8
- Congress Hall -

chair: Peter Ring

11:00 - 11:30: Jacek Dobaczewski, “New nonrelativistic energy density functionals for low-energy nuclear phenomena”
11:30 - 12:00: Gianluca Colò, “A microscopic particle-vibration coupling model applied to single-particle states and giant resonances”
12:00 - 12:20: Jie Meng, "Magnetic and Antimagnetic rotation: a microscopic description"
12:20 - 12:40: Jose-Enrique García-Ramos, "Concealed configuration mixing and shape coexistence in the platinum nuclei"
12:40 - 13:00: Peter Schuck, "Accurate Masses from a 2-3 parameter Kohn-Sham Density Functional"

Oral posters 3
- Congress Hall -

chair: Lorenzo Corradi

15:00 - 15:05: William Collis, “Improved Local and Global Nuclear Mass Relations”
15:15 - 15:20: Dankrad Feist, “Skyrmions”
15:30 - 15:35: Serdar Ünlü, “The Study of two neutrino double beta decay by including Fermi contributions”

Nuclear structure 9  
- Congress Hall -

chair: Alahari Navin

16:30 - 16:50: Stuart Pittel, "Systematic shell-model study of isovector and isoscalar pairing in the 2p1f shell"
16:50 - 17:10: Alberto Andrighetto, "SPES: the INFN radioactive beam facility for nuclear physics"
17:10 - 17:30: Domenico Torresi, "Measurements of the DSSSD efficiency"
17:30 - 17:50: Victor Modamio Hoybjor, "Lifetime measurements of low-lying states in $^{63}$Co and $^{65}$Co"
17:50 - 18:10: Pete Mason, "$^7$Li-Induced Reactions for Fast-Timing With LaBr3: Ce Detectors"
18:10 - 18:30: Roman Slepnev, "Study of the structure of light nuclei far from the stability at FLNR"
18:30 - 18:50: Xavier Roca-Maza, "Dipole Polarizability and Parity Violating Asymmetry in $^{208}$Pb"

Nuclear structure 10  
- Camelia -

chair: Bogdan Farnal

16:30 - 16:50: Paolo Finelli, "Applications of In-Medium Chiral Dynamics to Nuclear Structure"
16:50 - 17:10: Jan Kvasil, "E1 vorticity and its manifestation in $^{124}$Sn"
17:10 - 17:30: Dimitar Tonev, "Chirality in Nuclei"
17:30 - 17:50: Hitoshi Nakada, "Effects of Realistic Tensor Force on Nuclear Structure"
17:50 - 18:10: Razvan Ličă, "Low-lying isomeric state in $^{80}$Ga from the beta decay of $^{80}$Zn"
18:10 - 18:30: Tamás Vertse, "Poles of the S-matrix in Woods-Saxon and Salamon-Vertse potentials"
18:30 - 18:50: Ernest Grodner, "DSA lifetime measurements of $^{124}$Cs in the context of time-reversal symmetry"

Poster session: 20:30 - 23:00
5  Friday, July 13th

Nuclear structure 11  
- Congress Hall -

chair: Hans Geissel

08:30 - 09:00: Shan-Gui Zhou, “Neutron halo in deformed nuclei from a deformed Relativistic Hartree-Bogoliubov theory in continuum”
09:00 - 09:30: Silvia Leoni, “Gamma spectroscopy of calcium nuclei around doubly magic \(^{48}\text{Ca}\) using heavy-ion transfer reactions”
09:30 - 09:50: Toshio Suzuki, "Spin-dependent modes in nuclei and nuclear forces"
09:50 - 10:10: Peter Ring, "Covariant density functional theory with energy dependent self energies in nuclei"
10:10 - 10:30: Takashi Nakatsukasa, "Stochastic approach to correlations beyond the mean field with the Skyrme interaction"

Nuclear dynamics 4  
- Congress Hall -

chair: Birger B. Back

11:00 - 11:30: Alberto M. Stefanini, “Fusion of calcium isotopes and of other medium-mass systems”
11:30 - 12:00: Alahari Navin, “Probing neutron pair transfer with Borromean isotopes of Helium”
12:00 - 12:20: Yoshihiro Aritomo, "Dynamical approach to heavy-ion induced fission using actinide target"
12:20 - 12:40: Wolfram von Oertzen, "Collinear cluster tri-partition: a new kind of radioactive decay of \(^{252}\text{Cf}\) and \(^{236}\text{U}\)”
12:40 - 13:00: Angela Bonaccorso, “Dynamical effects in proton breakup from exotic nuclei”

Nuclear structure 12  
- Congress Hall -

chair: Jacek Dobaczewski

15:00 - 15:20: Julien Piot, "First observation of the ground-state based rotational band in \(^{256}\text{Rf}\) at the border of the superheavy nuclei"
15:20 - 15:40: Michelangelo Sambataro, "Multipair approach to pairing in nuclei"
15:40 - 16:00: Yasuhiro Togano, "Hindered proton collectivity in the proton-rich nucleus \(^{28}\text{S}\): Possible magic number \(Z=16\)"
16:00 - 16:20: Luciano Moretto, "Phase transitions and phase diagrams in hadronic and partonic systems"
16:20 - 16:40: Vaia Prassa, "Towards the island of stability with relativistic energy density functionals"
Nuclear structure 13
- Congress Hall -

chair: Gianluca Colò

17:10 - 17:30: Sonja Orrigo, "Beta Decay of Exotic fp-shell Nuclei with $T_z=-1$ and $T_z=-2$ at GANIL"
17:40 - 17:50: Michael Bowry, "Population of high-spin states following fragmentation"
17:50 - 18:10: Tomislav Marketin, “Role of momentum transfer in the quenching of Gamow-Teller strength”

Nuclear structure 14
- Camelia -

chair: Peter Reiter

15:00 - 15:20: Kosuke Nomura, "Interacting boson model from energy density functionals: gamma-softness and the related topics"
15:20 - 15:40: R. Burcu Cakirli, "Correlations in structure between masses and spectroscopic observables"
15:40 - 16:00: Mouna Bouhelal, "0 and 1 hbar omega Shell Model Description of the Phosphor Isotopes with $A=30$ to 35"
16:00 - 16:20: Angelo Signoracci, "Spectroscopic factors and ESPE from renormalized interactions"
16:20 - 16:40: Wenchao Ma, "Identification of Triaxial Strongly Deformed Bands in $^{164}$Hf"

Nuclear dynamics 5
- Camelia -

chair Thomas Aumann

17:10 - 17:30: Dharmendra Singh Singh, "Investigation of Incomplete Fusion Dynamics by Spin Distribution Measurement"
17:30 - 17:50: Emil Běták, "Heavy Ion Collisions and the Pre-Equilibrium Exciton Model"
17:50 - 18:10: Tea Mijatović, “Response function of the magnetic spectrometer Prisma for the multinucleon transfer reaction $^{40}$Ar+$^{208}$Pb”

Closing Session
- Congress Hall -

18:10 - 18:40: Giacomo de Angelis