

Carpathian Summer School of Physics 2014
Exotic Nuclei and Nuclear/Particle Astrophysics V
June 13th – July 26th, 2014, Sinaia, Romania
Program

Monday, July 14th, 2014	
Morning Session: Opening <i>Chair: L. Trache</i>	
9:00 - 9:15	<i>Opening</i>
9:15 - 9:55	C. Bertulani (I): <i>Quasi-free scattering and knockout reactions with rare isotopes</i>
9:55 - 10:50	M.C. Wiescher (I): <i>Nuclear Astrophysics – challenges at threshold energies</i>
10:50 - 11:10	<i>Coffee break</i>
11:10 - 12:00	K. Langanke:
12:00 - 12:50	B.S. Meyer (I): <i>Synthesis of Radioactive Nuclei and Secondary Supernova Machine</i>
13:00 - 15:00	<i>Lunch</i>
Afternoon Session <i>Chair: K. Langanke</i>	
15:00 - 15:50	R. Diehl:
15:50 - 16:10	<i>Coffee break</i>
16:10 - 17:05	J. Lattimer (I): <i>Introduction to Neutron stars I</i>
17:05 - 18:00	I. Mocioiu: <i>News about nus</i>
18:00 - 18:55	<i>Communications</i>

Tuesday, July 15th, 2014	
Morning Session <i>Chair: B.S. Meyer</i>	
9:00 - 9:55	K-L Kratz (I): <i>Astrophysical, observational and nuclear-structure aspects of r-process nucleosynthesis</i>
9:55 - 10:50	M.C. Wiescher (II): <i>Nuclear Astrophysics – challenges at threshold energies</i>
10:50 - 11:10	<i>Coffee break</i>
11:10 - 12:00	T. Kajino: <i>Big-Bang and Supernova Neutrinos and Nucleosynthesis</i>
12:00 - 12:50	B.S. Meyer (II): <i>Synthesis of Radioactive Nuclei and Secondary Supernova Machine</i>
13:00 - 15:00	<i>Lunch</i>
Afternoon Session <i>Chair: D. Cozma</i>	
15:00 - 15:50	D. Nicmoruş: <i>FAIR – exploring the nature of matter and its evolution</i>
15:50 - 16:10	<i>Coffee break</i>
16:10 - 17:05	J. Lattimer (II): <i>Introduction to Neutron Stars II</i>
17:05 - 18:00	C. Bertulani (II): <i>Two-photon and photonuclear collisions at the Large Hadron Collider at CERN</i>
18:00 - 18:55	<i>Communications</i>

Wednesday, July 16th, 2014	
<i>EOS and compact stars</i>	
Morning Session: <i>Chair: J. Lattimer</i>	
9:00 - 9:55	F. Gulminelli: <i>Sub-saturation equation of state for Core-Collapse Supernovae and Neutron Stars</i>
9:55 - 10:50	A. Fantina: <i>Neutron-star matter within the energy-density functional theory and neutron-star structure</i>
10:50 - 11:10	<i>Coffee break</i>
11:10 - 12:00	C. Providência: <i>The symmetry energy: the inner crust and strangeness of neutron stars</i>
12:00 - 12:50	T. Aumann: <i>The dipole response and neutron-skin of nuclei and the symmetry energy</i>
13:00 - 15:00	<i>Lunch</i>
Afternoon Session: <i>Chair: F. Gulminelli</i>	
15:00 - 15:50	I. Vidana: <i>Hyperons and Neutrons Stars</i>
15:50 - 16:10	<i>Coffee break</i>
16:10 - 17:05	Ad. Răduță: <i>Strangeness driven phase transitions in compressed baryonic matter and their relevance for neutron stars and core collapsing supernovae</i>
17:05 - 18:00	I. Sagert: <i>Quark matter in compact stars</i>
18:00 - 18:55	Communications

Thursday, July 17th, 2014	
<i>ELI-NP session</i>	
Morning Session: <i>Chair: N.V. Zamfir</i>	
9:00 - 9:55	N.V. Zamfir: <i>Extreme Light Infrastructure – Nuclear Physics (ELI-NP) Status and Perspectives</i>
9:55 - 10:50	S. Gales: <i>Nuclear Science and Applications with next generation of High Power Lasers and Brilliant Low Energy Gamma Beams at ELI-NP</i>
10:50 - 11:10	<i>Coffee break</i>
11:10 - 12:00	D.L. Balabanski: <i>Nuclear Physics Experiments at the ELI-NP Facility</i>
12:00 - 12:50	C.A. Ur: <i>Positron Production at Extreme Light Infrastructure Nuclear Physics (ELI-NP)</i>
13:00 - 15:00	<i>Lunch</i>
Afternoon Session <i>Chair: C. A. Ur</i>	
15:00 - 15:50	M. Gai: <i>Physics with Gamma-Beams and Charged Particle Detectors: I Nuclear Structure</i>
15:50 - 16:10	<i>Coffee break</i>
16:10 - 17:05	M. Gai: <i>Physics with Gamma-Beams and Charged Particle Detectors: II Nuclear Astrophysics</i>
17:05 - 18:00	M. Zweidinger: <i>Contemporary Research with Nuclear Resonance Fluorescence at the S-DALINAC</i>
18:00 - 18:55	Communications

Friday, July 18th, 2014*ELI-NP session***Morning Session***Chair: S. Gales*

9:00 - 9:55	G. Mourou: <i>Zepto-Physics at ELI-NP</i>
9:55 - 10:50	R. Dabu: <i>Ultra-high intensity lasers based on chirped pulse amplification technique</i>
10:50 - 11:10	<i>Coffee break</i>
11:10 - 12:00	R. Dabu: <i>High Power femtosecond lasers at ELI-NP</i>
12:00 - 12:50	P.G. Thirolf: <i>From laser particle acceleration to the synthesis of the extremely neutron rich isotopes via the novel fission-fusion mechanism</i>
13:00 - 15:00	<i>Lunch</i>
Afternoon Session	
<i>Chair: Balabanski</i>	
15:00 - 15:50	P.G. Thirolf: <i>From laser particle acceleration to the synthesis of the extremely neutron rich isotopes via the novel fission-fusion mechanism</i>
15:50 - 16:10	<i>Coffee break</i>
16:10 - 17:05	V. Băran: <i>Mass and Isospin Dependence of the Dipole Response in a Microscopic Transport Model Approach</i>
17:05 - 18:00	A. Bonasera: <i>Nuclear Physics Using Lasers</i>

18:00 - 18:55	F. Negoită: <i>Perspectives for neutron and gamma spectroscopy in high power laser driven experiments at ELI-NP</i>
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Saturday, July 19th, 2014	
<i>Outreach day</i>	
Morning Session:	
<i>Chair: Wiescher</i>	
9:00 - 9:55	Haungs (I): <i>At the Doorway to Astroparticle Astronomy</i>
9:55 - 10:50	S. Bishop: <i>Search for Supernova-produced ⁶⁰Fe in the Earths Fossil Record</i>
10:50 - 11:10	<i>Coffee break</i>
11:10 - 12:00	R. Egli: <i>From supernova to terrestrial dirt: a journey between astrophysics, biology and geophysics</i>
12:00 - 12:30	Kratz (II): <i>Astrophysical, observational and nuclear-structure aspects of r-process nucleosynthesis</i>
12:30 - 13:30	<i>Lunch</i>
13:30	Round table: CERN at 60. And the internationalization of science
15:50 - 16:10	<i>Coffee break</i>
16:10 - 17:05	<i>Round table (cont'd)</i>
19:00 on	BANQUET

Monday, July 21st, 2014	
	<i>Astroparticles</i>
Morning Session	
<i>Chair: Cheşneanu</i>	
9:00 - 9:50	Haungs (II): <i>The Pierre Auger Observatory: highlights and future prospects</i>
10:00 - 10:50	Brâncuş: <i>Cosmic Muons as Messengers from the Universe</i>
10:50 - 11:10	<i>Coffee break</i>
11:10 - 12:00	Sima: <i>The KASCADE-Grande Experiment</i>
12:00 - 12:50	Mitrică: <i>New cosmic rays experiments in the underground laboratory of IFIN-HH from Slănic Prahova, Romania</i>
13:00 - 15:00	<i>Lunch</i>
Afternoon Session: Exotic decays	
<i>Chair: Sima</i>	
15:00 - 15:50	Pfutzner: <i>Charge-particle spectroscopy with the Optical TPC</i>
15:50 - 16:10	<i>Coffee break</i>
16:10 - 17:05	Horoi: <i>Search for physics beyond the Standard Model in double-beta decay</i>
17:05 - 18:00	Grigorenko:
18:00 - 18:55	<i>Communications</i>

Tuesday, July 22nd, 2014	
	<i>Nuclear Reactions</i>
Morning Session:	
<i>Chair: Motobayashi</i>	
9:00 - 9:50	Bonaccorso: <i>Knockout beyond the dripline</i>
10:00 - 10:50	Uesaka:
10:50 - 11:10	<i>Coffee break</i>
11:10 - 12:00	Camera (I): <i>New scintillator materials for future and present facilities</i>
12:00 - 12:50	Iacob:
13:00 - 15:00	<i>Lunch</i>
Afternoon Session: Exotic Nuclei	
<i>Chair: Goldberg</i>	
15:00 - 15:50	Camera (II): <i>New scintillator materials for future and present facilities</i>
15:50 - 16:10	<i>Coffee break</i>
16:10 - 17:05	Carstoiu: M. Avrigeanu: <i>On reaction mechanism involved in the deuteron-induced surrogate reactions on actinides</i>
17:05 - 18:00	<i>Communications</i>
18:00 - 18:55	<i>Communications</i>

Wednesday, July 23rd, 2014	
Morning Session	
<i>Chair: V. Avrigeanu</i>	
9:00 - 9:55	T. Motobayashi: <i>Nuclear astrophysics studies at RIKEN RIBF</i>
10:00 - 10:50	Parikh: <i>Important and significant: lies the experimentalist told me</i>
10:50 - 11:10	<i>Coffee break</i>
11:10 - 12:00	A. Petrovici: <i>Isospin-symetry-breaking effects in A~70 nuclei within beyond-mean-field approach</i>
12:00 - 12:50	M. Petrovici: <i>Recent results and open questions on collective type phenomena from A+A to p+p collisions</i>
13:00 - 15:00	<i>Lunch</i>
Free afternoon Trip to Braşov? Walking in Sinaia?	

Thursday, July 24th, 2014	
	<i>Nuclear astrophysics</i>
Morning Session	
<i>Chair: Spitalieri</i>	
9:00 - 9:50	El Eid: <i>Heavy Element Synthesis in the Early Galaxy</i>
10:00 - 10:50	Woods: <i>Measurements for Explosive Nuclear Astrophysics</i>
10:50 - 11:10	<i>Coffee break</i>
11:10 - 12:00	Lederer: <i>Neutron induced reactions in Nuclear Astrophysics</i>
12:00 - 12:50	V. Avrigeanu: <i>Enhanced α-particle optical model potential at low energies for the mass range A~40-209</i>
13:00 - 15:00	<i>Lunch</i>
Afternoon Session:	
<i>Chair: Avrigeanu</i>	
15:00 - 15:50	Goldberg: <i>Recently developed approaches to calculate nuclear structure need tests by novel experimental methods</i>
15:50 - 16:10	<i>Coffee break</i>
16:10 - 17:05	<i>Communications</i>
17:05 - 18:00	<i>Communications</i>

Friday, July 25th, 2014**Morning Session***Chair: El Eid*

9:00 - 9:50	Spitalieri: <i>Nuclear Astrophysics with the Trojan Horse Method</i>
10:00 - 10:50	LaCognata:
10:50 - 11:10	<i>Coffee break</i>
11:10 - 12:00	Lamia: <i>Light elements burning reaction rates at stellar temperatures as deduced by the Trojan Horse measurements</i>
12:00 - 12:50	Andreas Best: <i>LUNA: Underground nuclear astrophysics</i>
13:00 - 15:00	<i>Lunch</i>
Afternoon Session: Communications	
<i>Chair: Trache</i>	
15:00 - 15:50	<i>Communications</i>
15:50 - 16:10	<i>Coffee break</i>
16:10 - 17:05	<i>Communications</i>
17:05 - 18:00	<i>Closing</i>

Saturday, July 26th, 2014**Departures****9:00**