

**Carpathian Summer School of Physics 2016**  
*Exotic Nuclei and Nuclear/Particle Astrophysics (VI). Physics with small accelerators*  
**June 26<sup>th</sup> – July 9<sup>th</sup>, 2016, Sinaia, Romania**  
**Program**

<b>Monday, June 27<sup>th</sup>, 2016</b>		<i><b>Physics with small accelerators</b></i>
<b>Morning Session: Opening</b>		
<i>Chair: L. Trache</i>		
09:00 - 09:15	<i>Opening</i>	
09:15 - 09:55	L. Trache: <i><b>Opening Session</b></i>	
09:55 - 10:50	M. Horoi: <i>Nuclear structure and weak probes</i>	
10:50 - 11:10	<i>Coffee break</i>	
11:10 - 12:00	A. Mackova: <i>Ion beams provided by small accelerators for material synthesis and characterization</i>	
12:00 - 12:50	B. Constantinescu: <i>Archaeometry with PIXE at small accelerators</i>	
13:00 - 15:00	<i>Lunch</i>	
<b>Afternoon Session</b>		
<i>Chair: D. Ghita</i>		
15:00 - 15:50	M. Straticiuc: <i>Particle Accelerators: Multi-tools for Science, Education and Technology</i> I. Burducea: <i>Ion Beam Analysis - Applications in Materials Science</i>	
15:50 - 16:10	<i>Coffee break</i>	
16:10 - 17:05	C. Granja: <i>Position-sensitive coincidence detection of nuclear reaction products at Prague VdG accelerator</i>	
17:05 - 18:00	M. Nistor: <i>The composition – property relationship of oxide thin films using Rutherford Backscattering Spectrometry</i>	
18:00 - 18:55	<i>Communications</i>	
<b>Tuesday, June 28<sup>th</sup>, 2016</b>		<i><b>AMS</b></i>
<b>Morning Session</b>		
<i>Chair: Stan-Sion</i>		
09:00 - 09:55	W. Kutschera : (I) <i>Exploring the World with Accelerator Mass Spectrometry</i>	
09:55 - 10:50	W. Kutschera: (II) <i>Exploring the World with Accelerator Mass Spectrometry</i>	
10:50 - 11:10	<i>Coffee break</i>	
11:10 - 12:00	H. A. Synal: <i>Progress in Accelerator Mass Spectrometry</i>	
12:00 - 12:50	T. Sava: <i>ROAMS – Status of the new Bucharest AMS center</i>	
13:00 - 15:00	<i>Lunch</i>	
<b>Afternoon Session</b>		
<i>Chair: Z. Fulop</i>		
15:00 - 15:50	N. Palincas: <i>Radiocarbon Dating in Archaeology as Interdisciplinary Approach</i>	
15:50 - 16:10	<i>Coffee break</i>	
16:10 - 17:05	S. Sion: <i>Physics with light nuclei at small accelerators</i>	
17:05 - 18:00	<i>Communications</i>	
18:00 - 18:55	<i>Communications</i>	

Wednesday, June 29<sup>th</sup>, 2016

*Physics with small accelerators*

**Morning Session**

*Chair: T. Sava*

09:00 - 09:55	Z. Fulop: <i>The Atomki Accelerator Centre</i>
09:55 - 10:50	S. Tamas: <i>Underground Nuclear Astrophysics</i>
10:50 - 11:10	<i>Coffee break</i>
11:10 - 12:00	A. Jokinen: <i>Nuclear and applied research at JYFL Accelerator Laboratory</i>
12:00 - 12:50	D. S. Delion: <i>Proton-neutron correlations above 100Sn</i>
13:00 - 15:00	<i>Lunch</i>

**Afternoon Session**

*Exotic nuclei*

*Chair: D. S. Delion*

15:00 - 15:50	E. Pollacco: <i>Drift towards time projection chambers in Nuclear Physics.</i>
15:50 - 16:10	<i>Coffee break</i>
16:10 - 17:05	C. Sotty: <i>Nuclear physics experiments with Plunger and Fast-Timing technique.</i>
17:05 - 18:00	<i>Communications</i>
18:00 - 18:55	<i>Communications</i>

Thursday, June 30<sup>th</sup>, 2016

*ELI-NP session*

**Morning Session**

*Chair: F. Negoita*

09:00 - 09:55	S. Gales: <i>From Technical Design reports to Implementation phase. Status and Perspectives.</i>
09:55 - 10:50	R. Dabu: <i>High power, high contrast hybrid femtosecond laser systems</i>
10:50 - 11:10	<i>Coffee break</i>
11:10 - 12:00	A. Bonasera: <i>Nuclear Physics Using Lasers</i>
12:00 - 12:50	M. Boca: <i>Elementary processes in the presence of super-intense laser fields; beyond perturbative QED</i>
13:00 - 15:00	<i>Lunch</i>

**Afternoon Session**

*Chair: D. Balabanski*

15:00 - 15:50	D. Neely: <i>Laser driven particle accelerators</i>
15:50 - 16:10	<i>Coffee break</i>
16:10 - 17:05	D. Stutman: <i>X-ray and XUV phase-contrast diagnostics for ELI-NP</i>
17:05 - 18:00	F. Negoita: <i>Nuclear Physics using High Power Laser System of ELI-NP</i>
18:00 - 18:55	<i>Communications</i>

**Friday, July 1<sup>st</sup>, 2016**

***ELI-NP session***

**Morning Session**

*Chair: S. Gales*

09:00 - 09:55	C. Matei: <i>How to Prepare an Experiment using the Gamma Beam System at ELI-NP</i>
09:55 - 10:50	D. Balabanski: <i>Highlights of the experimental program with brilliant gamma beams at ELI-NP</i>
10:50 - 11:10	<i>Coffee break</i>
11:10 - 12:00	D. Filipescu: <i>Neutron multiplicity sorting in photo-neutron reactions. Revisiting gamma strength functions database.</i>
12:00 - 12:50	V. Baran: <i>The macroscopic structure of pygmy dipole resonance</i>
13:00 - 15:00	<i>Lunch</i>

**Afternoon Session**

*Chair: D. Stutman*

15:00 - 15:50	S. Miyamoto: <i>Laser Compton Scattering Gamma-ray Beam Generation and Applications</i>
15:50 - 16:10	<i>Coffee break</i>
16:10 - 17:05	M. Fujiwara: <i>Medical Isotope Production via photonuclear reactions</i>
17:05 - 18:00	O. Tesileanu: <i>Combined laser-gamma beam experiments at ELI-NP</i>

**Saturday, July 2<sup>nd</sup>, 2016**

***Outreach day***

**Morning Session**

*Chair:*

09:00 - 09:55	P.J. Woods:
09:55 - 10:50	M. G. Itkis: <i>SHE research at JINR Dubna</i>
10:50 - 11:10	<i>Coffee break</i>
11:10 - 12:00	S. Bishop: <i>Time-Resolved Two Million Year Old Supernova Activity . Discovered in the Earth's Microfossil Record</i>
12:00 - 12:50	T. Jull: <i>Radiocarbon dating methods and applications to environmental studies</i>
12:30 - 13:30	<i>Lunch</i>

**13:30 Round table: JINR at 60**

15:00 - 15:50	M. G. Itkis, B. Sharkov
15:50 - 16:10	<i>Coffee break</i>
16:10 - 17:05	Round table

**19:00**

***Banquet***

**Monday, July 4<sup>th</sup>, 2016**

***Astroparticles***

**Morning Session**

***Chair: Ad. Vd Berg***

09:00 - 09:50	A. Haungs: <i>Status of JEM-EUSO and its Test Experiments</i>
10:00 - 10:50	K. Kampert:
10:50 - 11:10	<i>Coffee break</i>
11:10 - 12:00	I. Brancus: <i>Romanian contribution in Pierre Auger Observatory</i>
12:00 - 12:50	A. Gladyshev:
13:00 - 15:00	<i>Lunch</i>

**New Facilities**

***Chair: K. Langanke***

15:00 - 15:50	V. Kolesnikov: <i>Prospects for the study of the properties of dense nuclear matter at the NICA heavy-ion complex at JINR (Dubna)</i>
15:50 - 16:10	<i>Coffee break</i>
16:10 - 17:05	D. Nicmorus: <i>FAIR exploring the nature of matter and its evolution</i>
17:05 - 18:00	T. Motobayashi: <i>Manifestation and Latency of Nuclear Magic Numbers</i>
18:00 - 18:55	<b><i>Communications</i></b>

**Tuesday, July 5<sup>th</sup>, 2016**

***Nuclear astrophysics***

**Morning Session**

***Chair: K-L. Kratz***

09:00 - 09:50	K. Langanke: <i>Neutrino-nucleus reactions and their role for supernova dynamics and nucleosynthesis</i>
10:00 - 10:50	C. Spitaleri:
10:50 - 11:10	<i>Coffee break</i>
11:10 - 12:00	A. Tumino: <i>The <math>^{12}\text{C}(^{12}\text{C},\alpha)^{20}\text{Ne}</math> and <math>^{12}\text{C}(^{12}\text{C},p)^{23}\text{N}</math> reactions at the Gamow peak</i>
12:00 - 12:50	C. Bertulani: <i>Searching for Pigmy resonances</i>
13:00 - 15:00	<i>Lunch</i>

**Afternoon Session**

***Chair: M. Hass***

15:00 - 15:50	K-L. Kratz: <i>Nuclear-data input to the solar-system r-process: The case of beta-decay properties</i>
15:50 - 16:10	<i>Coffee break</i>
16:10 - 17:05	A. Haungs: <i>25 years of KASCADE and KASCADE-Grande Experiments. Achievements in Cosmic Ray Physics</i>
17:05 - 18:00	<b><i>Communications</i></b>
18:00 - 18:55	<b><i>Communications</i></b>

Wednesday, July 6<sup>th</sup>, 2016

*Astroparticles*

**Morning Session**

*Chair: K-H. Kampert*

09:00 - 09:50	Ad. Berg : <i>Detection of cosmic rays at the Pierre Auger Observatory using the Auger Engineering Radio Array (AERA)</i>
10:00 - 10:50	I. Mocioiu: <i>Neutrinos and New Interactions</i>
10:50 - 11:10	<i>Coffee break</i>
11:10 - 12:00	R. Diehl: (I) <i>Cosmic gamma ray line spectroscopy in the MeV regime: radioactivities and positron annihilation</i>
12:00 - 12:50	R. Diehl: (II) <i>Supernova explosion diagnostics with cosmic gamma ray lines</i>
13:00 - 13:50	C. Borcea: <i>Proton beta decay in a colliding system</i>
13:50 - 15:00	<i>Lunch</i>

**Sinaia's trails or excursion**

15:00 - 15:50  
15:50 - 16:10  
16:10 - 17:05  
17:05 - 18:00



Thursday, July 7<sup>th</sup>, 2016

*Exotic nuclei*

**Morning Session**

*Chair: C. Bertulani*

09:00 - 09:50	M. Petrovici: <i>From p+p to A+A ultrarelativistic collisions</i>
10:00 - 10:50	A. Petrovici: <i>Shape coexistence effects on stellar weak interaction rates of proton-rich nuclei within beyond-mean-field approach</i>
10:50 - 11:10	<i>Coffee break</i>
11:10 - 12:00	S. Shlomo: <i>A novel method for determining the mean-field directly from the single particle matter density: Application to the measured charge density difference between the isotones <math>^{206}\text{Pb}</math>-<math>^{205}\text{Tl}</math></i>
12:00 - 12:50	Bao An Li: <i>Symmetry Energy of Neutron-Rich Matter and its Astrophysical Impacts</i>
13:00 - 15:00	<i>Lunch</i>

**Afternoon Session**

*Chair:*

15:00 - 15:50	M. Gai: <i>Using Stars to measure the Universe</i>
15:50 - 16:10	<i>Coffee break</i>
16:10 - 17:05	T. Jull: <i>Applications of cosmogenic nuclides to extraterrestrial materials</i>
17:05 - 18:00	S. Bishop: <i>Time-Resolved Two Million Year Old Supernova Activity . Discovered in the Earth's Microfossil Record</i>

**Friday, July 8<sup>th</sup>, 2016****Morning Session***Chair:*

09:00 - 09:50	V. Avrigeanu: <i>Uncertainties of alpha-particle optical-potential assessment around and below the Coulomb barrier</i>
10:00 - 10:50	M. Gai: <i>Nuclear Astrophysics With Charged Particle Detection at the ELI-NP</i>
10:50 - 11:10	<i>Coffee break</i>
11:10 - 12:00	M. Hass: <i>Probing fundamental interactions by an Electrostatic Ion Beam Trap and by an Atom MOT Trap</i>
12:00 - 12:50	B. Mitrica: <i>Modern cosmic rays muon detectors developed in IFIN-HH</i>
13:00 - 15:00	<i>Lunch</i>

**Afternoon Session***Closing**Chair: L. Trache*

15:00 - 15:50	
15:50 - 16:10	<i>Coffee break</i>
16:10 - 17:05	
17:05 - 18:00	

**Saturday, July 9<sup>th</sup>, 2016**

09:00	<i>Departures</i>
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