ELI-RO Consortium          Bucharest-Magurele

ELI-NP: THE WAY AHEAD
10-12 March 2011
The IFIN-HH National Physics Library
409, Atomistilor Str., Bucharest-Magurele

PROGRAM

Thursday, March 10

Lecture Hall 1
14.00-18.00 GENERAL PRESENTATIONS

Nicolae Victor Zamfir
Gérard Mourou
Toshiki Tajima
Jean-Paul Chambaret
Christopher Barty
Dietrich Habs
John Collier

(16.00-16.15 – COFFEE BREAK)

19.00 DINNER
20.00 BUS TO THE HOTELS

Friday, March 11

08.45 BUS FROM HOTEL PARLIAMENT TO THE WORKSHOP

09.30-13.00 PARALLEL SESSIONS – PRESENTATIONS

Lecture Hall 1
Session 1: EXPERIMENTS
Chairs: Dietrich Habs, Florin Negoita

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
<th>Topic</th>
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<tbody>
<tr>
<td>DINO ANTHONY JAROSZYNSKI</td>
<td>University of Strathclyde</td>
<td>Gamma ray sources based on laser plasma wakefield accelerators</td>
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<tr>
<td>PETER G. THIROLF</td>
<td>LMU, Munich</td>
<td>The ‘Fission–Fusion’ Reaction Mechanism: Using dense laser-driven ion beams for nuclear astrophysics</td>
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<tr>
<td>PAUL MCKENNA</td>
<td>University of Strathclyde</td>
<td>Ion acceleration and strong field physics driven by multi-PW laser pulses.</td>
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<tr>
<td>Name</td>
<td>Institution/Location</td>
<td>Research Area</td>
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<tr>
<td>WEN-TE LIAO</td>
<td>MPI, Nuclear Physics</td>
<td>Nuclear coherent population transfer with X-ray laser pulses</td>
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<tr>
<td>VALER TOSA</td>
<td>INCDTIM Cluj-Napoca</td>
<td>Propagation effects of femtosecond laser pulses in ionizing gas media</td>
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<tr>
<td>LUCA VOLPE</td>
<td>University of Milano-Bicocca</td>
<td>Proton Radiography of dense matter</td>
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<tr>
<td>TZVETA APOSTOLOVA</td>
<td>INRNE</td>
<td>Modeling of electronic excitation and dynamics in swift heavy ion irradiated semiconductors</td>
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<td>ATTILA KRASZNAHORKAY</td>
<td>ATOMKI, Debrecen</td>
<td>Soft collective excitations in weakly bound nuclei studied with ELI-NP</td>
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<tr>
<td>KLAUS MICHAEL SPOHR</td>
<td>University of the West of Scotland</td>
<td>Precision measurement of the dipole polarizability of Pb-208 for the evaluation of the neutron skin and enhancement of UNEDF</td>
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<tr>
<td>CHRISTOPHER ROMIG</td>
<td>TU Darmstadt</td>
<td>Investigation of Parity Quantum Numbers with Laser Compton Back-Scattered Photons</td>
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<tr>
<td>PATRIZIO ANTICI</td>
<td>University of Rome</td>
<td>Generation of laser-accelerated ions and secondary sources</td>
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<tr>
<td>CHRISTOPHER BARTY</td>
<td>LLNL</td>
<td>Advanced Nuclear Resonance Fluorescence applications with the ELI-NP gamma source</td>
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<tr>
<td>TOSHIYUKI SHIZUMA</td>
<td>Japan Atomic Energy Agency</td>
<td>Photo-nuclear physics experiments by using an intense photon beam</td>
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<tr>
<td>PIOTR RACZKA</td>
<td>Institute of Plasma Physics and Laser Microfusion</td>
<td>Production of positrons in laser-matter interactions</td>
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<tr>
<td>RADU A. VASILACHE</td>
<td>Canberra Packard CE GmbH</td>
<td>Non Standard Hadronic Therapy Based on the Use of the Compton Gamma Back Scattering Source to be Developed within the Project ELI-NP</td>
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<tr>
<td>HARTMUT RUHL</td>
<td>LMU, Munich</td>
<td>Ultra-intense field effects in ELI-NP</td>
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<td>KENSUKE HOMMA</td>
<td>LMU, Munich and Hiroshima Univ.</td>
<td>Probing vacuum by high intensity lasers</td>
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<tr>
<td>NINA ELKINA</td>
<td>LMU, Munich</td>
<td>Simulating experiments for ultra-intense laser-vacuum interaction</td>
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<tr>
<td>SILVIU OLARIU</td>
<td>IFIN-HH</td>
<td>Assessment of physics, applications and construction issues for the proposed Magurele short-pulse facility</td>
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Seminar Room
Session 2: LASERS
Chairs: Jean-Paul Chambaret, Daniel Ursescu

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<td>DANIEL URSESCU</td>
<td>INFLPR</td>
<td>ELI-NP laser conceptual design report</td>
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<tr>
<td>RAZVAN DABU</td>
<td>INFLPR</td>
<td>About the possibility to build a 10-PW laser for ELI-NP until 2015</td>
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<td>CHRISTOPHE SIMON-BOISSON</td>
<td>Thales Optronique</td>
<td>Technologies for multi-PW laser systems</td>
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<td>TODD DITMIRE</td>
<td>National Energetics</td>
<td>High energy pump laser development for 10 PW beamlines</td>
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<tr>
<td>TAE MOON JEONG</td>
<td>APRI, GIST</td>
<td>0.1 Hz 1 PW Ti:sapphire Laser System</td>
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<td>CONSTANTIN HAEFNER</td>
<td>LLNL</td>
<td>High Peak power short pulse laser technologies for ELI-NP</td>
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<td>FRANCK FALCOZ</td>
<td>Amplitude Technologies</td>
<td>Industrial approach and identification of risks for multi-PW laser systems</td>
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<td>CURTIS DALE FREDERICKSON</td>
<td>Continuum</td>
<td>OPCPA pump source</td>
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<tr>
<td>CHRISTOPHER EBBERS</td>
<td>LLNL</td>
<td>Advanced pump laser technologies for high repetition rate Petawatt lasers</td>
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<tr>
<td>NATHAN CARLIE</td>
<td>SCHOTT North America</td>
<td>Laser glass development at SCHOTT</td>
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<td>CATALIN MIHAI TICOS</td>
<td>INFLPR</td>
<td>Beam transport in vacuum: main issues and possible solutions</td>
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Lecture Hall 2
Session 3: GAMMA BEAM
Chairs: Christopher Barty, Dan Cutoiu

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<tr>
<td>LUCA SERAFINI</td>
<td>INFN-Milan</td>
<td>Possible Involvement of INFN-LNF in ELI-NP</td>
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<tr>
<td>MICHAEL JENTSCHEL</td>
<td>Institut Laue-Langevin</td>
<td>Monochromatization of gamma rays with ppm resolution via crystal diffraction</td>
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<td>FREDERIC V. HARTEMANN</td>
<td>LLNL</td>
<td>Accelerator optimization for bright gamma-ray production</td>
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<td>ANDREA MOSTACCI</td>
<td>University of Rome</td>
<td>Beam dynamics for X-band linac</td>
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<td>DAN CUTOIU</td>
<td>IFIN-HH</td>
<td>Steps for funding ELI-NP</td>
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**Lecture Hall 2**  
**Session 4: CIVIL ENGINEERING**  
**Chairs: Constantin Ivan, Gheorghe Cata-Danil**

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<tr>
<td>ANNA FERRARI HZDR</td>
<td>An overview of the shielding problems around high-energy laser-accelerated beams</td>
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<tr>
<td>GARY A. DEIS LLNL</td>
<td>Gamma-ray source shielding requirements</td>
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<td>MARIA-ANA POPOVICI UPB</td>
<td>FLUKA radioprotection calculations</td>
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<td>PETER NAWROTZKI THOMAS JAQUET GERB Schwingungsisolierungen GmbH &amp; Co. KG</td>
<td>Highly efficient vibration control with steel springs in nanotechnology facilities</td>
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(11.00-11.30 - COFFEE BREAK)  
13.00 LUNCH

14.00-18.30 PARALLEL SESSIONS – DISCUSSIONS  
(16.00-16.30 – COFFEE BREAK)

19.00 DINNER  
20.00 BUS TO THE HOTELS

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**Saturday, March 12**

08.30 BUS FROM HOTEL PARLIAMENT TO THE WORKSHOP

Lecture Hall 1  
09.30-13.00 CLOSING SESSION – WORKSHOP REPORTS  
- Gérard Mourou  
- Toshiki Tajima  
- Jean-Paul Chambaret  
- Christopher Barty  
- Dietrich Habs  
- Nicolae Victor Zamfir

(11.00-11.30 – COFFEE BREAK)  
13.00 LUNCH  
14.30 BUS TO THE HOTELS/ AIRPORT