

## SCIENTIFIC PROGRAM

### WEDNESDAY, OCTOBER 5, 2011

08:00 – 09:00 Registration, Foyer Budapest (2<sup>nd</sup> Floor)

#### Library, 1<sup>st</sup> Floor

08:30 – 09:00 Press Conference

#### Cracow I+II, 2<sup>nd</sup> Floor

09:00 – 09:05 J. Ridky: *Welcome Address*

09:05 – 09:25 G. Mourou: *Introduction to the ELI-Project and Its Four Pillars*

09:25 – 09:45 V. Ruzicka, F. Gliksohn: *ELI Beamlines and ELI Delivery Consortium General Considerations and Current State*

09:45 – 10:05 W. Sandner (ISAC): *Europe 2016*

10:05 – 10:25 G. Korn: *ELI and ELI Beamlines Science and Technology Topics*

10:25 – 10:40 **Coffee Break**

#### ELI-Beamlines Project Development Overview

10:40 – 11:05 B. Rus: *ELI Beamlines Facility Development*

11:05 – 11:20 S. Sebban: *Planned Coherent and Incoherent X-rays Sources at ELI-Beamlines*

11:20 – 11:35 D. Margarone: *Planned Experiments on Acceleration of Particles at ELI Beamlines*

11:35 – 11:50 L. Juha: *Planned Applications in Molecular, Biomedical and Material Research*

11:50 – 12:05 J. Limpouch: *Physics of Dense Plasma and First Planned Proof of Principle Experiments*

12:05 – 12:20 K. Rohlena: *High Field Physics Area at ELI Beamlines and Proof of Principle*

## Experiments for Climbing Up the Intensity Ladder

- 12:05 – 12:35 T. Homola, J. Clements: *ELI Beamlines – Delivering the Project*
- 12:35 – 13:00 Discussion
- 13:00 – 13:45 **Lunch, Restaurant Loreta**

## Secondary Sources Session (X-rays and Laser Accelerated Particles)

- 13:45 – 14:15 M. Borghesi: *Acceleration with Superintense Lasers: Current Activities and Future Perspectives*
- 14:15 – 14:45 W. Leemans: *Progress on Laser Plasma Accelerators at LBNL*
- 14:45 – 15:15 L. Silva: *Recent Progresses in Laser-plasma Accelerators and Their Applications*
- 15:15 – 16:05 P. Raczka: *Enhanced Laser-driven Ion Acceleration via Cavity-amplified Radiation Pressure*
- 16:05 – 16:30 M. Zepf: *Harmonic Generation from Relativistic Plasma Surfaces in the Few-cycle Regime and Novel Approaches to Phasematching HHG in Gases*
- 16:30 – 16:50 I. Andriyash: *Diffraction of Relativistic Electron Beam on a High Intensity Optical Lattice as a New Approach to the X-ray Generation*
- 16:50 – 17:00 **Coffee Break**
- 17:00 – 18:15 **ISAC (International Scientific Advisory Committee) Meeting  
- Members of the Committee Only**
- 18:30 **Departure to Opening Ceremony Strahov Monastery**

**Cracow I+II, 2<sup>nd</sup> Floor**

**Applications I Session**

**Ion Therapy**

- 09:00 – 09:30 J. Wilkens: *Towards Radiation Therapy with Laser-driven Ion Beams: Beamline Developments and Biological Experiments*
- 09:30 – 09:50 U. Schramm: *Dose Controlled Radiobiological Experiments with Ultra-short Pulse Laser Accelerated Proton Beams*
- 09:50 – 10:10 P. Cirrone: *Characterization of Tumor Cells after Ion Beam Irradiation – Treatment Planning*

**Imaging**

- 10:10 – 10:40 J. Hajdu: *Imaging with Short Intense X-ray Pulses*
- 10:40 – 11:10 C. Rose-Petruck: *Imaging and Structural Investigations with Femtosecond Laser Produced X-ray Pulses*

**11:10-11:25 Coffee Break**

**Lasers Session**

- 11:25 – 11:55 S. Karsch: *Stability Issues in OPCPA Systems*
- 11:55 – 12:25 J. Collier: *ELI Relevant Technology Developments at Rutherford Appleton Laboratory*
- 12:25 – 12:55 J. Zhu, Jianqiang Zhu, Baoqiang Zhu, Xuechun Li, Jian Zhu, Weixin Ma, Dean Liu, Xinqiang Lu, Wei Fan, Zhigang Liu, Shenglei Zhou, Dongfeng Zhao, Weixing Shen, Yan Zhang, Baosuan Chen, Dianyuan Fan, Zunqi Lin, Shiji Wang: *The Status of High Power Laser Development in China*
- 12:55 – 13:15 C. Simon-Boisson: *High Energy 1 Hz Titanium Sapphire Amplifier for PetaWatt Class Lasers*
- 13:15- 14:00 Lunch Break**
- 13:00 – 13:20 T. Metzger: *Short Pulse Thin Disk Lasers and Their Power Scaling for ELI's fs-OPCPA Systems*

13:20 – 13:40 M. Hemmer: *Few-cycle and CEP Stable OPCPA at High Average Power and Applications in Strong Field Physics*

## **Dense Plasma Physics and Dignostics**

13:40 – 14:00 G. Tallents: *The Creation and Probing of High Energy Density Plasma with High Intensity Lasers*

14:00 – 14:20 S. Pikuz: *X-ray Spectroscopy and Backlighting Diagnostic Methods Proposed for ELI Beamlines Experiments*

## **High-intensity Session and Theory**

14:20 – 14:50 S. Bulanov: *High Field Limits in Ultra-relativistic Laser-matter Interaction*

14:50 – 15:20 C. Keitel: *Extremely High-intensity Laser-interactions with Fundamental Quantum Systems*

15:20 – 15:40 L. Drska: *Exotic Matter Physics: Chances for ELI Beamlines*

15:40 – 16:10 V. Petracek: *Ideas and Progress on Calorimetric Detectors of Energetic Particles Generated by ELI*

16:10 - 16:30 I. Sokolov: *Modeling of Radiation-dominated and QED-strong Regimes of Laser - Plasma Interaction*

16:30 – 16:50 N. Naumova: *Simulations of Laser - Plasma Interaction in Radiation-dominated and QED-strong Regimes*

16:50 - 17:10 M. Bussmann: *Using Table-top Supercomputers for Simulating Table-top Radiation Sources*

17:10 – 17:30 M. Marklund: *TBA*

**17:45 Round Table – Conclusions**

**17:45 – 18:00 Coffee Break**