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PROCEEDINGS

The Proceedings of the Symposium will be published by



IMPORTANT DATES & DEADLINES

A. ABSTRACT/EXTENDED ABSTRACT SUBMISSION:	April 25, 2012
B. ACCEPTANCE NOTIFICATION:	May 9, 2012
C. EARLY REGISTRATION (REDUCED FEE):	May 9, 2012 to July 9, 2012
D. HOTEL RESERVATION:	May 9, 2012 to July 9, 2012

Reservations received after July 9 will be accepted on availability basis

E. MANUSCRIPT SUBMISSION:	September 3, 2012
F. SYMPOSIUM OPENING:	September 10, 2012

REGISTRATION FEES

	BEFORE 9 July 2012	AFTER 9 July 2012
Full registration	600 €	650 €
Student registration	350 €	400 €
Accompanying persons	250 €	300 €

SPONSORS



The XIX International Symposium on High Power Laser Systems & Applications

10-14 September 2012
ISTANBUL - TURKEY

<http://hplsa2012.mam.gov.tr>

SYMPOSIUM VENUE

Will be in the
Second
Announcement



<http://www.mam.gov.tr>

ABOUT THE SYMPOSIUM

The XIX (The 19th) International Symposium on High-Power Laser Systems and Applications 2012, HPLS&A 2012, continues and develops the best tradition of thirty six years history of International Symposium on Gas Flow and Chemical Lasers. In 1996 the topics of our conference was extended to High Power Lasers due to a growing interest of our community to the new technological ideas and achievements. The last GCL/HPL Symposium demonstrated further extensions of interests of our attendees. Therefore the International Advisory Committee made the decision during the meeting in ISTANBUL (May 27-28, 2011) to organize (rename) the next meetings as the International Symposium on High Power Laser Systems & Applications, which will reflect better the increased emphasis on laser system considerations for various applications while maintaining the basic laser aspects required for future innovations.

The XIX International Symposium on High Power Laser Systems & Applications 2012, HPLS&A 2012, will be held in ISTANBUL, TURKEY, from the 10th to 14th September, 2012. For over thirty years, GCL&HPL has provided an excellent opportunity for researchers in gas, chemical and high power lasers, along with the end-users of these lasers to exchange ideas, review the state-of-the-art and foresee emerging trends within the field. Its scope is broad, including fundamental research, laser development, systems engineering and gas, chemical and high power laser applications in a wide range of fields.

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TOPICS

ADVANCES IN HIGH POWER LASER SOURCES

- Solid State Lasers Research (including Disk, Fiber & Q-switched Lasers) - UV, VUV, EUV Lasers
- YAG : Nd³⁺ Lasers
- Solid State Laser Sources and Engineering Systems (Including Diode Lasers). Sources and Engineering Systems
- Gas Lasers
- Chemical Lasers
- Hybrid Lasers
- Ultra-short Laser Pulses
- Theory & Simulation
- Laser System Design

LASER BEAM QUALITY

- High Brightness Lasers
- Phase Locking & Phase Conjugation
- Resonators, Adaptive Optics & Synthetic Apertures
- Beam Combining, Beam Control & Beam Directors

APPLICATIONS

- Laser Remote Sensing (including LIDARs, simulations and control)
- Laser Technologies - (including laser material macro - and microprocessing by CO₂, Nd-YAG, Diode, Disc and Fibre Sources) - Nano fabrication
- Mobile Platforms and Integration Aspects
- Lasers in Security
- Lasers in Defence and Space Applications
- Lasers in Marine
- Unique Laser Systems

LASERS in MEDICINE

- Surgery, Orthopedics, Ophthalmology, Dermatology Sport Medicine, Rehabilitation Medicine, Oncology

NOVEL APPROACHES

INVITED SPEAKERS

KEYNOTE LECTURE

Bedrich RUS, Institute of Physics, Academy of Sciences of CR, CZECH REPUBLIC

*ELI (Extreme Light Infrastructure) European Project.
ELI Beamlines Facility in the Czech Republic*

ADVANCES IN HIGH POWER LASER SOURCES

Oleg ABROSIMOV¹, Andrey B. YASTREBKOV¹, Kerim R. ALLAKHVERDIEV^{2,3}

¹Ryazan State Radio Engineering University, RUSSIA, ²TUBITAK, MRC, TURKEY,

³Inst. Phys., ANAS, AZERBAIJAN

High Power Nd³⁺: YAG Laser with Side Quasi-homogeneous Diode Pumping

Kerim R. ALLAKHVERDIEV^{1,2}, Eldar Yu. SALAYEV², ¹TUBITAK, MRC, TURKEY,

²Inst. Phys. ANAS, AZERBAIJAN

Layered Semiconductors for High Power Laser (NLO) Applications

Libor JUHA, Institute of Physics, Academy of Sciences of CR, CZECH REPUBLIC

Extreme Ultraviolet and X-ray Lasers and their Applications

Andrey SHAYKIN, Institute of Applied Physics of RAS, RUSSIA

Multipetawatt OPCPA Laser Pearl: Status and Perspectives

GAS AND CHEMICAL LASERS

David L. CARROLL, CU Aerospace, USA

Super-linear Enhancement of the Electric Oxygen-iodine Laser

Michael HEAVEN, Department of Chemistry, Emory University, Atlanta, GA 30322, USA

Optically Pumped Gas Phase Lasers: the Potential for High-powers with High Beam-quality

Andrey IONIN, P.N. Lebedev Physical Institute of RAS, RUSSIA

Advanced Carbon Monoxide Laser Systems

Vit JIRASEK, Institute of Physics, Academy of Sciences of CR, CZECH REPUBLIC

Overview of iodine Generation for the Oxygen-iodine Laser

Marsel ZAGIDULIN, P.N. Lebedev Physical Institute of RAS, Samara Branch, RUSSIA

Production, Study and Application for COIL of a Gas Flow Containing Singlet Oxygen Molecules

Boris ZHDANOV, US Air Force Academy, USA

Alkali Lasers: History and Current State of Research and Development

APPLICATIONS

Koichi KASUYA^{1,3}, Wardemar MROZ², Boguslaw BUDNER², Shinji

MOTOKOSHI³, Katsuhiko MIKAMI³, Takayoshi NORIMATSU⁴

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Comparison of Various Erosions with a Variety of Laser Lights and Applications

Sergey I. KUDRYASHOV, P.N. Lebedev Physical Institute of RAS, RUSSIA

Femtosecond Laser Fabrication of Nanoplasmonic and Nanophotonic Surface Structures: Fundamental Formation Mechanisms and Promising Applications

Anatoly M. ORISHICH, Khristianovich Institute of Theoretical and Applied Mechanics of RAS, RUSSIA

Energy Characteristics of the CO₂ Laser Cutting of Thick Steel Sheets

Igor VESELOVSKII, A.M. Prokhorov Institute of General Physics of RAS, RUSSIA

Potential of Multiwavelength Lidars for Remote Characterization of Particle Physical Properties

Omer YILDAY, Bilkent University, Ankara, TURKEY

Compact and Misalignment-free Ultrafast Fiber Lasers for Material Processing: Reaching Beyond 100 W Average Power and 40 μJ Pulse Energy

NOVEL APPROACHES

Irena MATULKOVA, Charles University in Prague, Faculty of Science, CZECH REPUBLIC
Laser-plasma Chemistry: Principles and Applications