15th International Conference on Laser Optics «LO - 2012»

Final Call for Papers

St. Petersburg, Russia
June 25-29, 2012
The Laser Optics Conference is the traditional international event, organized in the field of laser physics, quantum electronics, photonics, and optical engineering. The conference will take place on 25-29 June 2012 in St.Petersburg, Russia, at the Holiday Inn St. Petersburg — Moskovskye Vorota Hotel.

The scope of LO’2012 covers all aspects of laser physics and engineering including:

- High-Field and High-Energy Lasers
- Lightwave Communication Technologies
- Biophotonics and Nanophotonics
- Nonlinear Photonics and Metamaterials
- Laser in Cultural Heritage Preservation
- Laser Beam Control
- Quantum Dot Lasers
- Solar Energy Utilization
- Novel Laser Materials
- Lasers in Environmental Monitoring
- Lasers in Medical Applications

Laser Optics presents three special symposia in these important areas:

- High-Power Fiber Lasers
- Lasers in Medicine
- Light in Conservation of Artworks

Attendees may get access to all symposia within the conference for the price of one.

*English will be the official language of the Conference.*

**ABSTRACT & SUMMARY DEADLINE**

*March 31, 2012*
15th Conference on Laser Optics
ORGANIZED BY:

Fund for Laser Physics
Institute for Laser Physics
of Vavilov SOI Corporation
Ministry of Industry and Trade of the Russian Federation
Ministry of Education and Science of the Russian Federation
St. Petersburg Government
St. Petersburg National Research State University
of Information Technologies, Mechanics and Optics
Scientific Education Center “Laser Optics” ITMO-SOI
Vavilov SOI Corporation
Centre of Laser Technology and Material Science
Research Institute for Complex Testing
of Optoelectronic Devices and Systems
St. Petersburg State University
Moscow State University
Ioffe Physical Technical Institute
Prokhorov General Physics Institute
Lebedev Physical Institute
St. Petersburg State Electrotechnical University
IRE-Polus Group
Russian Technologies State Corporation
JSC “SPC “Optical Systems and Technologies”
FSUE Astrophysica
POLYUS Research&Development Institute
Russian Foundation for Basic Research
Laser Association
Optical Society of America
SPIE
European Optical Society
Rozhdestvensky Optical Society (ROS)
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Ivan A. Shcherbakov
Prokhorov General Physics Institute, Russia

Marat S. Soskin
Institute of Physics of UAS, Ukraine
TECHNICAL PROGRAM
The LO’2012 technical program includes selected topic symposia, plenary, parallel and poster sessions over five days. Distinguished plenary and invited speakers will present the state-of-the-art of laser physics, photonics and optical engineering.

PUBLICATIONS
One page summaries, as submitted by the authors, of all accepted peer-reviewed papers will be included on the Technical Digest DVD-ROM distributed at the Conference.

ABSTRACT & SUMMARY DEADLINE
March 31, 2012

Prepare your submission using the provided templates, and follow the instructions at http://www.laseroptics.ru.

REGISTRATION FEES
The registration fee for Laser Optics 2012 includes admission to the technical sessions, exhibit, the conference reception, transportation from and to Pulkovo Airport and one copy of the Conference Program and Technical Digest on DVD-ROM.

Full Conference Registration € 500.00
(€ 400, if paid before April 30, 2012)

Student Registration € 150
(€ 100, if paid before April 30, 2012)

One-day Conference Registration € 300

Accompanying person € 100
**Housing**

**Holiday Inn**

Holiday Inn (LO 2012 Venue) – is located in the central part of the city. Subway station “Moskovskye Vorota”.

Address: Moskovsky Prospekt 97B • St.Petersburg.

<table>
<thead>
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<th>Single</th>
<th>Double</th>
<th>Credit cards</th>
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<tr>
<td>Rate$^1$ per night, in RUB</td>
<td>4 800</td>
<td>5 300</td>
<td>Visa, Master Card, American Express</td>
</tr>
</tbody>
</table>

1 – rates include 18% VAT and breakfast

**Grand Hotel Europe**

Grand Hotel Europe – is a luxury hotel in the city center. Subway station “Nevsky Prospekt”.

Address: Mikhailovskaya Ulitsa 1/7

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<tr>
<th></th>
<th>Single/Double</th>
<th>Credit cards</th>
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</thead>
<tbody>
<tr>
<td>Rate$^1$ per night, in RUB</td>
<td>11 900</td>
<td>Visa, Master Card, American Express</td>
</tr>
</tbody>
</table>

1 – rates do not include 18% VAT and breakfast

**Nauka hotel**

Nauka hotel – is an economy class hotel.

Subway station “Udelnaya”.

Address: Engelsa Prospekt 65

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<tr>
<th></th>
<th>Single</th>
<th>Double</th>
<th>Double (shared bath)</th>
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<td>2000</td>
<td>2400</td>
<td>1800</td>
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</tbody>
</table>

1 – rates include 18% VAT. Credit cards are not accepted.

We urge you to book your room well ahead of time and benefit from the Conference Low Rates.

**Deadline for Housing Reservation**

**May 15, 2012**
TOPICS FOR LO’2012

REGULAR SECTIONS

Solid-State Lasers, Materials and Components
Diode pumped solid-state lasers and amplifiers • Upconversion lasers • Novel pump sources and techniques • Cavity design • High power operation • Beam quality improvements • Microchip lasers • Lasers with pulse compression • Narrow linewidth lasers • Advances in fiber lasers • Amplitude and frequency stabilization • Nonlinear frequency conversion

High Power Gas Lasers
CO₂/CO lasers • Iodine lasers • Slab gas lasers • Chemical lasers • Excimer lasers • Extreme-UV light sources • Advances in gas lasers

Semiconductor Lasers, Materials and Applications
Novel laser structures and devices • Quantum-well, wire, and dot lasers • MID-IR, Quantum Cascade and THz lasers • Type-II quantum-well and superlattice lasers • Q-switched and Mode-locked lasers • Ultrashort pulse lasers • VCSELs and VECSELs • Lasers on silicon • Optical coherent tomography • UV/Visible diode lasers and LEDs • Multi photon imaging • Novel applications

Laser Beam Control
Wavefront correction • Adaptive optics • Phase conjugation • Dynamic holography • Laser cavities • Stabilization and control of laser beam direction • Laser imaging • Coherent and non-coherent summation of laser beams • Singular laser optics

Super-Intense Light Fields and Ultra-Fast Processes
Generation of high-power, super short pulses • Problems of «Fast Ignition» for the ICF • Laser plasma X-ray sources • Fast particle generation and acceleration by laser pulses • Femtosecond laser technology and applications • Physics of ultrafast phenomena • Ultrafast devices and measurements
Nanophotonics and Biophotonics
Nonlinear optics of nanostructures • Spectroscopy of nanostructures • Optical power limiting • Nanoplasmonics • Photonic crystals • Nanostructures for solar energy utilization • Photodynamic processes in biology and nanophotonics • Nanoimaging and bioimaging • Biosensing

Lasers in environmental monitoring
Laser remote sensing technologies and methods • Lidar techniques and measurements for atmospheric remote sensing • Oil spill and ocean monitoring • Urban remote sensing • Laser sensing for geology • Remote sensing for agriculture and ecosystems • Space-based lidars for global observation

Nonlinear photonics: fundamentals and applications
Nonlinear optical devices • Tunable, active, and nonlinear optical metamaterials • Conservative and dissipative optical solitons • Supercontinuum generation • Fiber optics and telecommunications

6th International Symposium on High-Power Fiber Lasers and Their Applications

High power fiber lasers for material processing applications
High power and energy fiber lasers - latest achievements • Beam delivery for fiber laser materials processing • Fiber laser beam monitoring • In process control of fiber laser processing

Cutting and welding with kW fiber lasers
2D and 3D cutting machine concepts, limits in thickness, edge roughness, speed • Power train welding • Successful installations • Spatter and methods of its reduction • E-mobility: Aluminium and Copper welding, dissimilar joints • Remote cutting of metals with Single Mode fiber lasers • Sensors and monitors for welding and cutting
Fiber laser cladding, sintering and heat treatment
E-manufacturing, tailored alloys, build-ups and repair Rapid Prototyping with Direct Metal Deposition

Fiber lasers for automotive applications
Laser Spot welding tool LSS1 applications • Scanner, Robot based scanner or Flip Flop technology • The use of Aluminium and other light weight materials

Mid power fiber laser applications
Surfaces structuring for moulds • Cleaning, preparation of surfaces for adhesive bonding • Plastic cutting and welding with Thulium lasers

Pipe and thick section welding
Laser-plasma hybrid welding from 6mm to 40mm thickness • Laser vacuum welding • Continuous welding: sound weld bead and root • Laser cutting as edge preparation for laser welding • Record penetration in stainless steel

Marking and engraving
Metals, plastics and semiconductors including deep engraving for visibility after paint shop • Applications in display, photovoltaics and packing industry • Micro-machining with low power and short pulse length fiber lasers

Telecoms and Sensors
High power fiber lasers and amplifiers in communications • Advances in application of high power optical amplification to long-haul transmission and next generation passive optical networks (NGPON) • Remote intelligent sensors powered over fiber.

Mid infra-red, 2 to 3 micron fiber lasers, processing including cutting and welding of plastics

Visible, uv and ultrafast fiber lasers and applications

Life Sciences, medical, surgical, food production, agricultural pest and herbal control applications of fiber lasers
2nd International Symposium on Lasers in Medicine

Optical Biomedical Diagnostics
Clinical Laser Applications
Laser Tissue Interaction
Advanced Laser Systems for Medicine

2nd International Symposium on Light in Conservation of Artworks (L’ICONA 2012)

Material characterization and structural diagnostics by NDT
Laser spectroscopic techniques: Optical (LIF, LIBS, Raman) and Mass spectrometric (LMS) • Interferometric Techniques: Double exposure holography, Speckle Interferometry, and other (Optical Coherence Tomography etc.) • 3-D laser and fringe-pattern projection scanning • X-ray, particle beam, neutron diffraction and other techniques • Luminescence techniques in dating and materials characterization.

Laser treatments in artworks conservation
Laser cleaning of stone, metals, wood, paper, parchments, painted surfaces • Laser soldering and micro-welding • Thermal stabilization • Recent advances: remote cleaning, laser pulse duration effects, and other.

Case studies and project presentations.
Practical methodologies • European and other projects.

6th International Conference on Laser Optics for Young Scientists and Engineers

Desktop Exhibition
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Co-chairs:
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Co-chairs:
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Super-Intense Light Fields and Ultra-Fast Processes
Co-chairs:
A. A. Andreev, Inst. for Laser Physics of Vavilov SOI Corp., Russia
P. McKenna, Univ. of Strathclyde, UK
A. M. Sergeev, Inst. of Applied Physics, Russia

Nanophotonics and Biophotonics
Co-chairs:
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Co-chairs:
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Nonlinear photonics: fundamentals and applications
Co-chairs:
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6th International Symposium on High-Power Fiber Lasers and Their Applications
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2nd International Symposium on Lasers in Medicine
Chairs:
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I. A. Shcherbakov, Prokhorov General Physics Inst., Russia

2nd International Symposium on Light in Conservation of Artworks (L’ICONA 2012)
Chairs:
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M. Martini, Univ. di Milano-Bicocca, Italy

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V.A. Makarov, Moscow State Univ., Russia
Secretary:
E. Buyanovskaya, St.Petersburg National Research Univ. of ITMO, Russia
Invited talks

PLENARY SESSION

• Three-Port operation of transistor laser and photon assisted tunneling signal mixing.  
  M. Feng, N. Holonyak, Jr. Univ. of Illinois at Urbana-Champaign, USA

• Si based photonics.  
  J. S. Harris, Stanford Univ., USA

• Tunable and nonlinear metamaterials: from microwaves to photonics.  
  Yu. S. Kivshar, Australian National Univ., Canberra, Australia

• Laser-tissue interaction at tissue optical clearing: enhanced imaging and therapy.  
  V. V. Tuchin\textsuperscript{1,2}  
  1 - Saratov State Univ., Russia;  
  2 - Univ. of Oulu, Finland

REGULAR SECTIONS

Solid-State Lasers  
and Nonlinear Frequency Conversion

• Research of the equation of the state with “Luch” facility.  
  V. Derkach, Russian Federal Nuclear Center- VNIIEF, Russia

• Laser methods of generation and visualization of single-shot megavoltage terahertz pulses.  
  S. V. Garnov, I. A. Shcherbakov, Prokhorov General Physics Inst., Russia

• Frequency divide-and-conquer approach to producing octave-wide mid-infrared frequency combs.  
  K. L. Vodopyanov, Stanford Univ., USA
High Power Gas Lasers

- Optical heterodyne measurements of flight velocity of plates accelerated by high explosive.
  **V. Baranov.** Russian Federal Nuclear Center- VNIIEF, Russia

- Revisiting mechanisms of I2 dissociation in the chemical oxygen-iodine laser using three- and one- dimensional computational fluid dynamics modeling.
  **B. D. Barmashenko, I. Brami-Rosilio, K. Waichman, S. Rosenwaks.** Ben-Gurion Univ. of the Negev, Israel

- Diode pumped alkali vapor lasers.
  **S. Kulikov.** Russian Federal Nuclear Center- VNIIEF, Russia

- High-power laser propulsion.
  **Yu.A. Rezunkov.** Inst. of Complex Testing, Russia

- Application of nonlinear processes for the controlling of photo dissociation lasers.
  **S. Sukharev.** Russian Federal Nuclear Center- VNIIEF, Russia

- Researches in COIL laser in RFNC-VNIIEF.
  **B. Vyskubenko.** Russian Federal Nuclear Center- VNIIEF, Russia

- Alkali vapor lasers: history, current state and perspectives.
  **B. Zhdanov,** US Air Force Academy, USA

Semiconductor Lasers,
Materials and Applications

- Optical coherence tomography.
  **P. Andersen.** Technical Univ. of Denmark, Denmark

  **L. Asryan.** Virginia Polytechnic Inst. and State Univ., USA

- Recent progress in InAs-based quantum cascade lasers.
  **A. Baranov.** Univ. of Montpellier, France

- Photonic crystal VCSELs.
  **K. Choquette.** Univ. of Illinois at Urbana Champaign, USA
• 3D fs laser writing of quantum dots and metallic nanostructures.
  \textit{M. Farsari.} Inst. of the Electronic Structure and Laser, Foundation for Research and Technology-Hellas, Greece

• Quantum dot based devices for broadband emitters and amplifiers for biomedical imaging.
  \textit{R. Hogg.} Univ. of Sheffield, UK

• Bottom-up photonic crystal cavities laser.
  \textit{D. Huffaker.} Univ. of California, USA

• Deterministic quantum wire and dot systems for nanophotonic and laser applications.
  \textit{E. Kapon.} Swiss Federal Inst. of Technology, Switzerland

• Progress in QD technology.
  \textit{D. Livshits.} Innolume, Germany

• Multiphoton imaging with compact semiconductor disk lasers.
  \textit{P. Loza-Avarez.} Inst. of Photonic Sciences, Spain

• High power quantum dot semiconductor disk lasers
  \textit{O.G. Okhotnikov.} Tampere Univ. of Technology, Finland.

• Microscopic theory for intersubband lasing.
  \textit{M. Pereira.} Sheffield Hallam Univ. and Univ. of Jazan, UK

• Quantum dot in well photodetectors (TBC).
  \textit{M. Razeghi.} Northwestern Univ., USA

• High power quantum dot semiconductor lasers.
  \textit{J. P. Reithmaier.} Kassel Univ., Germany

• Quantum dot mode locked lasers for coherent frequency comb generation.
  \textit{R. Ricardo, K. Merghem, C. Calò, A. Martinez, A. Accard*}, \textit{F. Lelarge*}, \textit{A. Ramdane.} CNRS Laboratory for Photonics and Nanostructures, France; *III-V Lab, France

• Advanced self-assembled InAs quantum dot lasers.
  \textit{M. Sugawara.} QD Laser Ltd, Japan

• QD visible LED.
  \textit{A. Tsatsulnikov.} Ioffe Physical Technical Inst., Russia
• InGaAs quantum well laser with wavelength (1.6–2.0 μm) for application in tunable laser absorption.  
  Inst. of Semiconductors, P.R.China

• Broadband nonlinear signal processing in silicon nanowires.  
  Technical Univ. of Denmark, Denmark

**Laser Beam Control**

• Improving spectropolarimetric and full field optical coherence tomography systems with liquid crystal devices.  
  I. Abdulhalim.  
  Ben Gurion Univ. of the Negev, Israel

• Adaptive system of coherent radiation focusing with the use of fluctuating “illumination” signal as the reference one.  
  L.A. Bolbasova, V.P. Lukin.  
  Inst. of Atmospheric Optics of RAS, Russia

• Rolici® LCMO photo-alignment technologies: state of the art.  
  M. Ibn-Elhaj, I. Bury.  
  Rolici Technologies Ltd., Switzerland

• Dynamic diffraction gratings in dye-doped chiral nematics.  
  A. Iljin.  
  Institute of Physics of NAS, Ukraine

• Adaptive system for forming the laser beam in atmosphere with the use of incoherent images as the reference sources.  
  V.P. Lukin.  
  Inst. of Atmospheric Optics of RAS, Russia

• LC nanocomposites: induced optical singularities, managed nano/micro structure and electrical conductivity.  
  V.V. Ponevchinsky¹, A.I. Gonchrsruk², S.S. Minenko³, L.N. Lisetskii³, N.I. Lebovka², M.S. Soskin¹.  
  ¹ – Institute of Physics, Ukraine  
  ² – F. D. Ovcharenko Insitute of Biocolloidal Chemistry, Ukraine  
  ³ – Institute of Scintillation Materials, Ukraine

• On the collective processes at stimulated scattering of light.  
  V. Sidorovich.  
  Rozhdestvensky Optical Society, Russia
• Topological ergodic dynamics of optical singularities in laser-induced speckle field following “optical damage” of photorefractive LiNbO3:Fe crystal.
  *M.S. Soskin, V. Vasil’ev.* Inst. of Physics, Ukraine

• Adaptive correction and phase locking for powerful lasers in RFNC-VNIIEF.
  *F. Starikov.* Russian Federal Nuclear Center- VNIIEF, Russia

### Super-Intense Light Fields and Ultra-Fast Processes

• Relativistic nano-plasma-photonics.
  *A.A. Andreev.* Vavilov State Optical Inst., Russia; Max-Born Inst., Germany

• Preliminary results from recent experiments and future roadmap to Shock Ignition of Fusion Targets.
  *D. Batani.* Milano Univ., Italy

• Conception of megajoule-level laser facility.
  *S. Bel’kov.* Russian Federal Nuclear Center- VNIIEF, Russia

• Investigations of laser driven plasmas on solid and gaseous targets at 100TW Arcurtus Laser Facility.
  *M. Cerchez.* Inst. for Laser and Plasma Physics, Germany

• Physics with extreme fields: GeV ion acceleration, X-ray generation and high field physics.
  *B. M. Hegelich.* Los Alamos National Laboratory, USA

• Propagation of laser radiation in a medium with birefringence and cubic nonlinearity.

• Recent developments of laser plasma accelerators at LOA.
  *V. Malka.* CNRS-LOA, ENSTA, Ecole Polytechnique, France

• Effect of lattice structure on energetic electron transport in solids irradiated by ultraintense laser pulses.
  *P. McKenna.* Univ. of Strathclyde, UK

• Ultrafast spectroscopy at (bio)interfaces: current challenges and further prospects.
  *M.S. Pchenitchnikov.* Univ. of Groningen, The Netherlands

• Electron acceleration in plasmas: scaling laws.
  *A. Pukhov.* Heinrich-Heine Univ., Germany
- Reaching the heisenberg-schwinger limit with X-Rays. 
  **Ch.K. Rhodes.** Univ. of Illinois at Chicago, USA

- Producing high energy ion bunches using hole-boring radiation pressure acceleration. 
  **A. Robinson.** Rutherford Appleton Lab., UK

- Laser radiation-induced acceleration of orbital electrons forbidden captures and double neutrinoless electron captures by atomic nuclei. 
  **M.Yu. Romanovsky.** A.M.Prokhorov General Physics Inst., Russia

- Multi-PW laser PEARL-10: status and application. 
  **A. Shaykin,** Inst. Appl. Phys., Russia

- Laser plasma interaction physics in shock ignition. 
  **V. Tikhonchuk.** Bordeaux Univ., France

- Coherent synchrotron emission in ultraintense foil interactions. 
  **M. Zepf.** Queen’s Univ.Belfast, UK

**Nanophotonics and Biophotonics**

- 10 years of single-walled carbon nanotube fluorescence. 
  **S. M. Bachilo.** Rice Univ., USA

- Optical and mechanical investigations of nanostructures. A perspective for the integration of atomic force spectroscopy and ultrafast optics. 
  **G. Ferrini.** Univ. Cattolica, Italy

- Photoreaction mechanism of a ruthenium (II) organic complex. 
  **H. Fueno, K. Tanaka.** Kyoto Univ., Japan

- Concentrated sunlight for characterization of nanostructured solar cell and synthesis of nanomaterials. 
  **E.A. Katz.** Ben-Gurion Univ. of the Negev, Israel

- New laser glassceramics. 
  **N.V. Nikonorov.** St.Petersburg National Research Univ. of ITMO, Russia

- Optical spectroscopy of different forms of nanocarbon. 
  **E.D. Obraztsova.** Prokhorov General Physics Inst., Russia
• Advance on the nanophotonics application of nanodiamonds.
  *E. Osawa*. Toyohashi Univ. of Technology, Japan

• Optical image processing with biophotonic materials.
  *D.V.G.L.N. Rao*. Univ. of Massachusetts Boston, USA

• Nonplanar graphenes in aqueous and organic media.
  *N.V. Rozhkova*. Inst. of Geology, Russia

• Nanophotonics of molecular graphene.
  *E.F. Sheka*. People's Friendship Univ., Russia

• Third-order nonlinear optical studies using nonlinear Photoacoustics.
  *Ch.S. Yelleswarapu*. Univ. of Massachusetts Boston, USA

**Lasers in Environmental Monitoring**

• Development of laser systems for environmental monitoring by JSC OPTEC.
  *H. Adam¹, M. Kozliner², V. Chelibanov³, V. Kudryavtsev³, A.Marugin⁴, P. Domnin⁴.
  1 – BOREAL laser CEO, Canada
  2 – JSC OPTEC Ltd., USA
  3 – National Research Univ. of ITMO, Russia
  4 – JSC OPTEC, Russia

• Hyperspectral LIF lidars in monitoring of water environment.
  *S.Babichenko*. AS Laser Diagnostic Instruments, Estonia

• Development of the multitask lidar system for environment monitoring.
  *A.S.Boreysho¹, A.V. Chugreev¹, D.N.Vasiliev¹, A.V. Morozov¹, S.S. Smolentsev¹, V.K. Donchenko², S.V. Viktorov².
  1 – Laser systems LTD, Russia
  2 – Res. Centre for Ecological Safety, Russia

• The lidar aircraft experience to meet challenges of Fishing.

• Application of direct absorption mid IR laser spectroscopy for isotope specific detection of greenhouse gases.
  *L.Emmenegger*. Empa, Lab. for Air Pollution & Environmental Technology, Switzerland
• Lasers for airborne environmental monitoring: special requirements and lab testing.  
  \textit{V. I. Feygels}. Optech Inc., Canada

• Estimation of technical condition of “Pemex” firm pipelines (Mexico) using the aircraft laser and linear IR scanners.  
  \textit{D.S. Gavrilov}. JSC “NEF”, Russia

• Lasers in atmospheric research.  
  \textit{V.U. Khattatov}. Central Aerological Observatory, Russia

• Handling of spectral lines and calculation of concentrations uncertainty of measurement for priority contaminants in atmosphere.  
  \textit{L.A. Konopelko, V.V. Beloborodov}. Mendeleyev Inst. for Metrology, Russia

• Infrared laser spectroscopic sensing in surgery, medical diagnostics and drug testing.  
  \textit{M. W. Sigrist}. Inst. for Quantum Electronics, Switzerland

• Modular chemical sensor technologies for environmental monitoring.  
  \textit{F.K. Tittel, R. Lewicki, L. Dong, K. Liu, Y. Ma, V. Spagnolo}. Rice Univ., USA.

• Chirped Laser Dispersion Spectroscopy – recent advances and applications in environmental monitoring.  
  \textit{G. Wysocki}. Princeton Univ., USA

\textbf{Nonlinear Photonics:}  
\textit{Fundamentals and Applications}

• Multi-wave interactions in negative index metamaterials.  
  \textit{I. Gabitov}. Univ. of Arizona, USA

• Nonlinear lasing dynamics in nanoplasmonic metamaterials.  
  \textit{O. Hess}. Imperial College London, UK

• Coherent fiber optic communication technologies for power efficient datacenter network operations.  
  \textit{V. Kamalov}. Google, UK

• Light-by-light polarization control in telecom fibers.  
  \textit{V.V. Kozlov}. St.Petersburg State Univ., Russia
• Comprehensive characterization of highly dispersive metamaterials with optical activity.
  
  **T. Pertsch**, Friedrich Schiller Univ. Jena, Germany

• Polariton-solitons in microcavities and plasmonic structures.
  
  **D.V. Skryabin.** Univ. of Bath, UK

• Generation and shaping of photon pairs in nonlinear waveguide arrays.
  
  **A.A. Sukhorukov.** Australian National Univ., Australia

• Interaction of pulsed beams in nonlinear optics.
  
  **A.P. Sukhorukov.** Moscow State Univ., Russia

2nd International Symposium on Lasers in Medicine

• The heavy path of optical biopsy.
  
  **L. Avramov.** Inst. of electronics of Bulgarian Academy of sciences, Bulgaria

• Autofluorescence spectroscopy in early stage cancer diagnosis.
  
  **N. N. Bulgakova et al.** Prokhorov General Physics Inst., Russia

• Photodynamic therapy in oncology.
  
  **E.V. Filonenko.** P.A.Hertzen Moscow Research Oncological Inst., Russia

• Diode and fibre laser for surgery and therapy.
  
  **N. Gruzdev.** AZOR Ltd, Russia

• Laser photo therapy – does it have to be a laser?
  
  **L. Hode.** Swedish Laser-Medical Society, Sweden

• Equipment, light delivery systems and methods for fluorescent diagnosis and photodynamic therapy.
  
  **V.B. Loschenov.** Prokhorov General Physics Inst., Russia

• Life-time imaging of enzymatic activity in vivo.
  
  **P. Savitsky.** Inst. of Biochemistry, Russia

• High sensitive laser based analysis of endogenous CO in breath: New approach to lung diffusion capacity diagnostics.
  
  **E.V. Stepanov.** Prokhorov General Physics Inst., Russia

• Small animal fluorescence imaging in vivo.
  
  **I.V. Turchin.** Inst. of Applied Physics, Russia
Modern laser technologies in urology.  
O.V. Teodorovich\textsuperscript{1,2}, D.G. Kochiev, S.A. Naryshkin\textsuperscript{1,2}, G.G. Borisenko\textsuperscript{1,2}.  
1 – Russian medical academy of postgraduate education, Russia  
2 – Central Clinical Hospital №1 JSC “Russian Railways”, Russia  

Smart medical laser systems for cardiology and oncology.  
V. Uliyanov. Inst. on Laser and Information Technologies of the RAS, Russia  

Modern lasers for microsurgery of cornea.  
S.K. Vartapetov\textsuperscript{1}, K. P. Takhchidi, I. A. Shcherbakov.  
1 – Prokhorov General Physics Inst., Russia  
2 – Fyodorov Eye Microsurgery State Inst., Russia  

Clinical experience and perspectives of optical biopsy in surgery of spinal tumors.  
P.V. Zelenkov\textsuperscript{1}, T.A. Savelieva\textsuperscript{2}, I.N. Shevelev, A.A. Potapov\textsuperscript{1}, N.A. Konovalov\textsuperscript{1}, Yu. V. Kushel\textsuperscript{1}, A.G. Nazarenko\textsuperscript{1}, D.A. Golbin\textsuperscript{1}, S.A. Goraynov\textsuperscript{1}, O.A. Shekhtman\textsuperscript{1}, D.A. Rotin\textsuperscript{1}, L.V. Shishkina\textsuperscript{1}, S.G. Kuzmin\textsuperscript{1}, P.V. Grachev\textsuperscript{2}, M.N. Kholodtsova\textsuperscript{2}, V.B. Loshenov\textsuperscript{2}  
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2nd International Symposium on Light in Conservation of Artworks (L’ICONA 2012)  

Scanning multi-spectral infrared reflectography unveils new secrets of old masters.  
L. Pezatti. Istituto Nazionale di Ottica, Italy  

The joined use of XRF and visible reflectance spectrometry as a preliminary quick and versatile analysis for pigments, inks and dyes in situ.  
G. Poldi. Univ. degli studi di Bergamo, Italy  

The fluorescence hyperspectral lidar for the diagnostics and documentation of the cultural heritage.  
V. Raimondi, G. Cecchi, D. Lognoli, L. Palombi. Fisica Applicata, Consiglio Nazionale delle Ricerche, Italy  

Optical coherent techniques for Cultural Heritage diagnostics.  
V. Tornari. Inst. of Electronic Structure and Laser, Greece
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6th INTERNATIONAL SYMPOSIUM ON HIGH-POWER FIBER LASERS AND THEIR APPLICATIONS

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6th LASER OPTICS FOR YOUNG SCIENTISTS (LOYS’2012)

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EXHIBITION

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