

TECHNICAL CONFERENCE |
16 – 20 October 2011EXHIBIT- THE FAIRMONT SAN JOSE |
18 – 19 October 2011

ADDENDUM

■ SUNDAY, 16 OCTOBER

SHORT COURSE CANCELLATIONS

SC306 - Exploring Optical Aberrations
 SC367 - Active Silicon Photonic Devices
 SC368 - Illumination: From Solid-State Lighting to Solar Energy

■ MONDAY, 17 OCTOBER

PLENARY TITLE UPDATE

The title of Jorge Rocca's Schawlow Prize Address is **Table-top Soft X-ray Lasers: Bright Coherent Light for the Nanoworld**

PROGRAM ADDITIONS

Abstract for **FMC3, X-ray Lasers for Molecular-Resolution Time-Resolved Nanocrystallography in Biology:**

Working with groups from DESY, Upsalla, MPI Heidelberg, and the LCLS, the femtosecond pulsed hard X-ray laser at SLAC has been used to obtain still and time-resolved diffraction patterns from single viruses and protein nanoxalts. A review of this work will be given.

Author block and abstract for **FMC4, Applications of the LCLS X-ray Free Electron Laser for High-Energy Density Science:**

R. W. Lee^{1,2}, H. J. Lee², B. Nagler², J. B. Hastings², P. Audebert³, M. Gauthier³, A. Levy³, M. Cammarata², D. M. Fritz², F. Deneuville⁴, C. Fourment⁴, J. Gaudin⁵, B. I. Cho⁶, P. A. Heimann⁶, J. Dunn¹, A. Graf¹, J. Park¹, S. Moon¹, R. Shepherd¹, A. Steel¹, H. K. Chung⁷, M. Fajardo⁸, G. Williams⁸, O. Ciricosta⁹, S. Vinko⁹, J. S. Wark⁹; ¹Lawrence Livermore National Laboratory, USA; ²SLAC National Accelerator Laboratory, USA; ³Ecole Polytechnique, France; ⁴Université de Bordeaux, France; ⁵European XFEL, Germany; ⁶Lawrence Berkeley National Laboratory, USA; ⁷Atomic and Molecular Data Unit, IAEA,

Austria; ⁸Instituto Superior Técnico, Portugal; ⁹University of Oxford, UK. LCLS, the first x-ray FEL has been operational since late 2009. The facility provides x-ray from 600 eV to 10 keV in the fundamental. The LCLS operates at 120 Hz, with pulses from ≤ 10 fs to 300fs containing up to 3mJ of energy. We will discuss the implementation of early High Energy density Science experiments that have been performed. These experiments cover LCLS-solid interaction which measured the spectral response, high pressure warm dense matter creation, self-Thomson scattering from solid and liquid jet samples, scattering from shocks, and x-ray generated cluster explosions. These experiments were performed in the extant end station, while the MEC -Matter in Extreme Conditions- end station is being constructed. A brief discussion of the MEC, which will be commissioning in autumn of 2011 and ready for users in January 2012, will be presented.

Abstract for **LMC4, Nonlinear Optical Microscope: A History of Interplay between Technology Developments and Biomedical Sciences:**

The field of nonlinear optical (NLO) microscopy has enjoyed vibrant development over the past two decades. Advances in NLO microscopy offers more sensitive, deeper and faster imaging. More importantly, NLO has grown from its root in fluorescence to a broad range of contrast mechanisms. These technological advances have broad impact on biology and medicine. Using the area of neurobiology as an example, this presentation seeks to highlight key technical advances and their biomedical impact.

Abstract for **FMN3, Towards Nanostructured Optical Fibres: New Properties and Applications:** Optical fibres with micro and nanoscale structures and optical fibres made out of hybrid glass-nanoparticle materials are opening up the potential for a broad range of new physical effects and devices. Recent examples from The University of Adelaide include the development of optical fibres with sub-wavelength features for light enhancement and the development of diamond nanoparticle-doped tellurite glass fibres that enable the realisation of single photon devices.

PRESIDER UPDATES

Kartik Srinivasan; NIST, USA will preside over session **FMD**
 Brooke Hester; Appalachian State University, USA will preside over session **FMF**
 Myun-Sik Kim, Ecole Polytechnique Fédérale de Lausanne, Switzerland will preside over session **FMI**
 Debashis Chanda; Univ. of Illinois at Urbana-Champaign, USA will preside over session **FMK**
 Alfredo Dubra; Univ. of Rochester, USA will preside over session **FML**

■ TUESDAY, 18 OCTOBER

PROGRAM ADDITIONS

Corrected abstract for **FTuE1, Optical Explorations of Single Biomolecules and Enzymes in Solution with an Anti-Brownian Electrokinetic Trap:**
 The Anti-Brownian Electrokinetic (ABEL) trap enables study of single nanoscale objects in solution. New optimal trap designs as well as applications to a variety of proteins and enzymes will be described.

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Presenter information for FiO Tutorial
FTuG1, Recent Progresses in Optical Metamaterials:



Xiang Zhang is the Ernest S. Kuh Chaired Professor at University of California, Berkeley and the Director of NSF Nano-scale Science and Engineering Center (SINAM). He is a member of US National Academy of Engineering (NAE)

and fellow of APS, OSA, AAAS and SPIE. He has authored more than 180 publications including ones in Science, Nature. His group's research in optical metamaterials was selected by Times Magazine as "Top 10 Scientific Discoveries in 2008". Xiang Zhang was a recipient of NSF CAREER Award; SME Dell K. Allen Outstanding Young Engineer Award, ONR Young Investigator Award, MIT's Rohsenow Lecturer and MRS Fred Kavli Distinguished Lecturer. He received his BS/MS in physics in Nanjing University, China, and Ph.D from UC Berkeley in 1996 and was on faculty at Pennsylvania State University and University of California, Los Angeles (UCLA) prior joining the Berkeley faculty in 2004.

Abstract and author block for **FTuI1, Parametric Generation of Mid-IR Light:**

F. Gholami, S. Zlatanovic, S. Radic; University of California, San Diego, USA. We discuss the potential of four-wave mixing in a cascaded silica-silicon platform for generation of light in the mid-IR spectral domain. FWM allows for continuous tunability across a wide frequency range, preserves the source linewidth and supports the translation of advanced modulation formats.

Abstract for **LTuC3, Compressive Imaging and the 1-Pixel Camera: Extracting Information from Multiplexed Photons** follows:

This talk will review the framework of compressive sensing, spotlighting its implementation in optical imaging and spectroscopy systems. The basis of these systems is a well-established body of work which asserts that one can exploit sparsity or compressibility when acquiring signals of general interest, and that one can design nonadaptive sampling techniques that condense the information in a compressible signal using far fewer data points than were thought necessary. Comparisons between various system designs and

specific implementations will be discussed. Examples will include implementation in infrared, hyperspectral, and terahertz imaging systems. The implementation of model-based imaging strategies will also be discussed.

Abstract for **LTuF3, Quantum Optics on Photonic Chips:**

This talk will describe controlling light matter interaction in photonic nanostructures aids the construction of basic components for quantum information science, and how complex optical functions can be translated from bulk optical setups into the photonic integrated chip (PIC) architecture.

New paper sessioned as **JTuA41, Light-Assisted Templated Self-Assembly Using Photonic Crystal Slabs.**

Camilo A. Mejia¹, Avik Dutt², Michelle L. Povinelli³; ¹Physics and Astronomy, University of Southern California, USA; ²Indian Institute of Technology, India; ³Ming Hsieh Department of Electrical Engineering, University of Southern California, USA. We calculate optical forces on particles over a photonic crystal with Maxwell Stress Tensor. Exciting guided resonances yields an enhanced attractive force. Lateral forces produce periodic trapping locations dependent on wavelength and polarization.

Corrected abstract and title for **FTuP3, FROG at High NA: Quantifying the Excitation Fields for Multiphoton Microscopy:**

Optimized viewing in multiphoton microscopy requires that the spatio-temporal characteristics of the excitation field be well characterized. We present linear and nonlinear techniques for characterizing the focal intensity, which when used in conjunction with new imaging methods such as multifocal photon-counting, can effectively improve image quality.

Abstract for **FTuT3, Toward New Class of Fiber Communications Infrastructure: EXAT Initiatives:**

Increase of optical power in fiber marches toward critical limit, hence new class of fiber and transmission technologies are indispensable for sustainable growth of fiber network. Multi-core fiber centric R&D initiatives started in Japan on 2008.

Title, author block and abstract for **LTuH1, Compressive Sensing in the Quantum Domain:**

John Howell, Gregory Howland, Petros Zerom, P. Benjamin Dixon, Robert W. Boyd; University of Rochester, USA. An introduction to compressive sensing and quantum imaging will be given. I will then show that compressive sensing can solve important problems in some applications of quantum imaging.

Abstract for **FTuAA1, Three-Dimensional Fabrication below the Diffraction Limit via Two-Color Photo-Inhibition/Initiation Lithography:**

The optical diffraction limit is typically taken as the driver of feature size in optical lithography. Inspired by super-resolution microscopy techniques, we show that the limit can be significantly violated by the use of two one-photon processes acting in opposition. Direct write lithography below 100 nm will be discussed as well as the transition to commercial resists and two-dimensional mask projection.

TITLE UPDATES

LTuG1 should read **Plasmonic Materials and Devices**

PRESENTER UPDATES

Sebastian Randel; Bell Labs, USA to present **FTuBB2, Information Theory and Digital Signal Processing in Optical Communications: Scaling Beyond the Imminent Single-Mode Fiber Capacity Limit**

Jonathan Ward; Quantum Optics Group, Ireland will present **FTuN3, Single-input Spherical Microbubble Resonator**
Jonathan Ward; Quantum Optics Group, Ireland will present **FTuN5, Mechanical Motion of a Microspherical Pendulum**
David Winters; Colorado State Univ., USA will present **FTuZ1, Extracting Information from Optical Fields Through Spatial and Temporal Modulation**

AUTHOR CHANGES

The author block for **FTuU5, Tunable Coupling Between Magnetic Plasmon Polaritons and Bloch Surface Waves:** Xiudong Sun¹, Hai Liu¹, Feng Huang¹, Haiming Yuan¹, Yanbo Pei¹, Fengfeng Yao¹; ¹Harbin Institute of Technology, China.

WITHDRAWALS

LTuG2, Complex Plasmonic Oligomers and Metamaterials and their Applications (Harald Giessen)

LTuG5, Resonantly-Coupled Atoms – Opto-Bistable Nano-Elements (Alex Kaplan)

JTuA23, Image-Based Wavefront Sensing and Calibration of a Deformable Mirror in Remote Sensing Adaptive Optics (Norihide Miyamura)

JTuA29, A Simple Method for Measuring The Cleave Angle of Optical Fiber Facets Using a Cylindrical Lens (Victor Manuel Duran-Ramirez)

FTuX1, Micro-Optical Sectioning Tomography System for High Resolution Connectivity of the Mouse Brain (Qingming Luo)

PRESIDER UPDATES

Randy Bartels; Colorado State Univ., USA will preside over session **FTuB**

Curtis J. Broadbent; University of Rochester, USA will preside over session **FTuC**
Wenshan Cai; Stanford Univ., USA will preside over session **FTuG**

John Howell; Univ. of Rochester, USA will preside over session **LTuC**

Sapna Shroff; Ricoh Innovations, Inc., USA will preside over session **FTuL**

Robert McLeod, Univ. of Colorado, USA will preside over session **FTuM**

Gaurav Bahl; Univ. of Michigan Ann Arbor, USA will preside over session **FTuN**
Jennifer Herek; Univ. of Twente, Netherlands will preside over session **LTuE**

Christine Silberhorn; Max Planck Institute for the Science of Light, Germany will preside over session **LTuF**

Giovanni Volpe; Max-Planck Inst. für Intelligente Systeme, Germany will preside over session **FTuU**

Adam Zysk; Illinois Institute of Technology, USA will preside over session **FTuZ**
James Parsons; Photonic Materials Group, FOM, Institute AMOLF, Netherlands will preside over session **LTuJ**

WEDNESDAY, 19 OCTOBER

SCHEDULE UPDATES

The presentation times in session **FWA**, **Special Symposium on 50 Years of Measuring the Eye's Aberrations I** have been modified:

08:00 FWA1, An Historical Understanding of the Normal Eye's Monochromatic Aberrations [Tutorial]

08:30 FWA2, Factors Affecting Visual Performance after Customized Wavefront Manipulation

09:00 FWA3, Customized Clinical Correction of the Eye's Aberrations

09:30 FWA4, Adaptive Optics Techniques Used for in vivo Examination of the Retina and Visual System

FThR2, Orthonormal Aberration Polynomials for Anamorphic Imaging Systems with Circular Pupils will be presented Wednesday, 19 October at 16:45 in the California Room as **LWJ5**.

LThD3, A Local View of Slow Light will be presented Wednesday, 19 October at 17:30 in the Sacramento Room as new **FWZ4**.

PROGRAM ADDITIONS

Presenter information for FIO Tutorial **FWA1**, **An Historical Understanding of the Normal Eye's Monochromatic Aberrations**:



Professor Howard C. Howland graduated with a BA degree from the University of Chicago in 1952. After serving in the US Army in Korea and Japan he entered graduate

school and obtained a MS degree in Zoology under Kenneth Roeder at Tufts University. He subsequently studied at the University of Pennsylvania and Abteilung Mittelstaedt at the Max Planck Institute für Verhaltensphysiologie at Seewiesen, Germany. After serving as an instructor and assistant professor at the State University of New York at Oyster Bay and Stony Brook, he completed his PhD research at Cornell University with Professor William T. Keeton in 1968, on the vestibular reflexes of fishes. He then joined the faculty of Neurobiology and Behavior at Cornell where he has served for 43 years. For most of his career he has worked on the developmental optics of human and animal eyes using methods that he developed with his brother, Bradford Howland.

Notable results of this work were the findings that: 1. anisometropia is in all probability not a cause of amblyopia, but rather the result of amblyopia. 2. Vertebrate eyes have a feedback mechanism for adjusting the length of the eye so that the image falls on the retina. (This latter result was generated in an experiment in which chickens were raised with variable power lenses). And 3. The

most significant high order monochromatic aberration of the eye (HOMA) is coma, and that the root mean square of HOMA as measured by the average deviation from a perfect spherocylinder in a normal population is approximately: $rms_{avg} = r^3/100$, where r is the pupil diameter in mm and rms_{avg} is in micro meters. 95% of the population is contained in the interval $rms_{avg}/3 < rms < 3*rms_{avg}$. Professor Howland's approx. 190 reprints may be found by searching Google Scholar with the text: author:"HC Howland".

Abstract for **FWJ1, Doppler Phase-Shifting Digital Holography**:

A novel reconstruction method utilizing optical Doppler effect for digital holography is proposed. Phase modulation is performed by moving a reference mirror. The object phase is obtained by the phase of a peak in Fourier spectra of time-varying fringe data. Its applications to interferometry are described, including two-wavelength contouring.

Abstract for **FWO1, The Guinea Pig as a Model of Myopia**:

An animal model which explores the underlying basis of myopia will be described together with new optical treatments and findings suggesting that the optics of the eye are modified by blur experienced during development.

Abstract for **LWI3, X-rays with Orbital Angular Momentum** follows:

Research into phase singularities and orbital angular momentum states of light now extends across a tremendous spectral reach, from terahertz frequencies to the hard x-ray regime. X-ray experiments on OAM have yielded intriguing results unique to this part of the spectrum. We have generated x-ray vortices with coherent beams using both refractive and diffractive optics and are exploring their application to x-ray magnetic dichroism, phase contrast microscopy, and coherent diffraction. Recently, we found that Laguerre-Gauss modes are present in the harmonics radiated by circularly polarized undulators, opening the door to generation of intense OAM states with free-electron lasers. This talk discusses theoretical and experimental results, including new avenues for exploiting x-ray beams carrying OAM.

New paper sessioned as **FWAA4, Quantum Electrostatics in Disordered Photonic Crystals**, Peter Lodahl; Niels Bohr Institute, University of Copenhagen, Denmark. We review recent experiments on the use of disordered photonic crystals for enhancing light-matter interaction. Coupling single quantum dots to Anderson-localized modes enables cavity quantum electrostatics with random cavity modes.

PRESENTER UPDATE

Thomas Koschny; Ames Lab and Iowa State University, USA will present **LWA2, Metamaterials with Gain and Interpretation of Transmission in Pump-Probe Experiments**

WITHDRAWALS

LWE2, HIPER: The European Path to Inertial Fusion Energy (Chris Edwards)
FWT2, Enhanced Rotation Sensing in the Slow-light Resonator by a Tunable Add-drop Structure (Yundong Zhang)
PDPC4, Radially Polarized Beam Induced Plasmonic Hybrid Mode for Surface-enhanced Raman Spectroscopy (Luping Du)

PRESIDER UPDATES

Alexey Yamilov; Missouri University of Science and Technology, USA will preside over session **FWF**
Pierre Agostini; The Ohio State Univ., USA will preside over session **LWC**
Martin Fischer; Duke University, USA will preside over session **FWL**
Alfred U'Ren; Instituto de Ciencias Nucleares, Mexico will preside over session **FWN**
Ortwin Hess; Imperial College London, UK will preside over session **LWD**
Lukas Gallmann; ETH Zurich, Switzerland will preside over session **LWF**
Peng Zhang; Univ. of California Berkeley, USA will preside over session **FWQ**
Bryan D. Stone; Synopsis, Inc., USA will preside over session **FWR**
Sam Bergweger; Univ. of Colorado, USA to preside over session **LWG**
Aydogan Ozcan; Univ. of California Los Angeles, USA will preside over session **FWX**
Matthew Bolcar; NASA Goddard Space Flight Center, USA will preside over session **FWZ**
Kartik Srinivasan; NIST, USA will preside over session **FWAA**

THURSDAY, 20 OCTOBER

PROGRAM ADDITIONS

Corrected title and abstract for **FThC1, Polarization Correlations for Sensing and Measurements:**

The interaction between light and randomly inhomogeneous media is a complicated process that is usually examined upon ensemble averaging. We will review several situations where the spatial and temporal variations of polarization can be quantified and structural information not apparent in ensemble averages can be obtained.

FI0 Tutorial **FThN1, Monolithic Silicon Microphotonics: Devices, Process Integration and Circuits** will be presented by Jurgen Michel; MIT, USA.



Jurgen Michel is a Senior Research Scientist in the Microphotonics Center and the Department of Materials Science and Engineering at the Massachusetts

Institute of Technology. He leads research projects in silicon-based photonic materials and devices as well as advanced solar cell designs. His main focus is currently on on-chip WDM devices, Ge-based high performance detectors and modulators, and Ge-based lasers with the goal to implement active photonics devices in CMOS based chips. Prior to joining MIT in 1991 he was Postdoctoral Member of Technical Staff at AT&T Bell Laboratories, studying defect reactions and defect properties in semiconductor materials. He was educated in Germany and earned his diploma in Physics at the University of Cologne and his doctorate and habilitation in Applied Physics at the University of Paderborn. He has co-authored more than 200 refereed scientific papers, 4 book chapters, 18 awarded patents, and more than 20 pending patents.

Abstract for **FThK1, Commissioning and Optical Control for JWST:**

The paper will describe the multi-step Wavefront Sensing and Controls process that will be used to align and commission the James Webb Space Telescope in flight. We will also show results from a recent experiment on a 1/6th scale functional

model of JWST, demonstrating the end-to-end commissioning of the telescope.

SCHEDULE CHANGES

FThR2, Orthonormal Aberration Polynomials for Anamorphic Imaging Systems with Circular Pupils will be presented Wednesday, 19 October at 16:45 in the California Room
LThD3, A Local View of Slow Light will be presented Wednesday, 19 October at 17:30 in the Sacramento Room

WITHDRAWALS

LThC4, On the Use of Photon Orbital Angular Momentum in Studies of Space (Bo Thidé)
FThG4, Experimental Realization of 3D Clustered Speckle Field Simulation: An Approach to Optical Trapping (Juan Pablo Staforelli)
FThI1, Complex Plasmonic Oligomers and Metamaterials and their Applications (Harald Giessen)
FThV7, Two Wave Mixing Analysis in Rb:BaTiO₃ using Optical Activity of Bi₁₂TiO₂₀ (CS Narayanamurthy)

PRESENTER UPDATES

Laura Russell; Univ. College Cork, Ireland will present **FThA3, 1- and 2-Photon Absorption With Cold Rubidium Using An Optical Nanofiber**
Erman Engin; Univ. of Bristol, UK will present **FThL1, Integrated Quantum Photonics**
Jurgen Michel; MIT, USA will present **FThN1, Monolithic Silicon Microphotonics: Devices, Process Integration and Circuits** (see Program Additions above for presenter photo and bio)

AUTHOR CHANGES

The author block for **LThE1, Multi Photon Physics at the LCLS:**

C. Roedig¹, G. Doumy^{1,2}, S.-K. Son³, C. I. Blaga¹, A. D. DiChiara¹, R. Santra^{3,4}, N. Berrah⁵, C. Bostedt⁶, J. D. Bozek⁶, P. H. Bucksbaum⁷, J. P. Cryan⁷, L. Fang⁵, S. Ghimire⁷, J. M. Glownia⁷, M. Hoener⁵, E. P. Kanter², B. Krassig², M. Kuebel⁸, M. Messerschmidt⁶, G. G. Paulus⁸, D. A. Reis⁷, N. Rohringer⁹, L. Young², P. Agostini¹, L. F. DiMauro¹; ¹The Ohio State University, USA; ²Argonne National Laboratory, USA; ³Center for Free-Electron Laser Science, Germany; ⁴University of Hamburg, Germany; ⁵Western Michigan University, USA; ⁶Linac Coherent Light Source, SLAC National Accelerator

Laboratory, USA; ⁷Stanford PULSE Institute, SLAC National Accelerator Laboratory, USA; ⁸Institute of Optics and Quantum Electronics, Germany; ⁹Lawrence Livermore National Laboratory, USA.

PRESIDER UPDATES

Laszlo Veisz; Max Planck Institute for Quantum Optics, Germany to preside over session **FThB**
Markus B. Raschke; Univ. of Colorado, USA to preside over session **LThA**
Bora Ung; Ecole Polytechnique de Montreal, Canada to preside over session **FThF**
Uday Chettiar, University of Pennsylvania, USA will preside over session **FThP**
Aristide Dogariu; CREOL, University of Central Florida, USA will preside over session **FThQ**
Laura Waller; MIT, USA will preside over session **FThV**
P. Scott Carney; Univ. of Illinois at Urbana-Champaign will preside over **FThY**
Daniel Marks; Duke University, USA will preside over session **FThZ**
Karen Volke-Sepulveda; Universidad Nacional Autonoma de Mexico, Mexico will preside over session **LThF**

FI O PROGRAM CORPORATE SUPPORT

A special thanks to Blake Industries and Coastline Optics for their support to FIO 2011.



MODIFICATIONS TO THE SUBJECT INDEX:

FTuAA1 invited speaker under FIO1 should be listed as **Three-Dimensional Fabrication below the Diffraction Limit via Two-Color Photo-Inhibition/Initiation Lithography**; Robert McLeod, *Univ. of Colorado, USA*
Session **FMN**, Novel Fibers and Applications II and **FMN3** invited talk (Tanya Monro) should be under FIO5
Session **FTuG**, Plasmonic Metamaterials and **FTuG1** tutorial (Xiang Zhang) should be under FIO6
FWAA4 invited talk (Peter Lodahl) should be added under FIO7

CAPTURED SESSION CONTENT:

More than 40% of the sessions at this year's conference are being digitally captured for on-demand viewing. All captured session content will be live for viewing within twenty four hours of being recorded. An updated list of sessions being recorded follows:
What's Hot in Optics Today?
Plenary Session
FMA: Special Symposium on Integrated Optofluidics for the Life Sciences
FMC: Special Symposium on Novel X-ray and EUV Light Sources and Sciences; Accelerator-based X-ray Free-Electron Lasers and Science
FMD: Optomechanics I
FME: Phase
FMH: Special Symposium on Integrated Optofluidics for the Life Sciences II
FMI: Novel Metamaterials and Plasmonic structures
FMJ: Special Symposium on Novel X-ray and EUV Light Sources and Sciences; Extreme Ultraviolet and Soft X-Ray Small-Scale Sources: Science and Applications
FML: Fluorescence and Other Imaging Techniques
FTuB: Ultrashort Pulses: 20th Anniversary of Frequency-Resolved Optical Gating Symposium I
FTuD: Nonlinear Optics in Micro/Nano Optical Structures I
FTuF: Digital Holographic Interferometry and Microscopy I
FTuG: Plasmonic Metamaterials
FTuI: Fiber Sources in Non-Telecom Windows I
FTuJ: Optofluidics for Enhanced Sensing
FTuM: Three-Dimensional Structure Design, Fabrication, and Nanopatterning II
FTuN: Optomechanics II
FTuP: Ultrashort Pulses: 20th Anniversary of Frequency-Resolved Optical Gating Symposium II
FTuR: Lasers and Photoemission for Accelerator Science
FTuT: Optical Communications I
FTuU: Tunable and Active Plasmonics
FTuV: Photonics for Switching and Interconnects
FTuW: Fiber Sources in Non-Telecom Windows II
FTuAA: Three-Dimensional Structure Design, Fabrication, and Nanopatterning III
FTuBB: Information Theory in Optics I: Classical Information Theory
FWA: Special Symposium on 50 Years of Measuring the Eye's Aberrations I
FWB: Frequency Combs-I-Sources
FWC: Plasmonic Waveguides and Cavities
FWF: Order, Disorder and Symmetry in Photonic Structures I
FWH: Special Symposium of 50 Years of Measuring the Eye's Aberrations II
FWI: Electron Dynamics in Intense Fields
FWL: Bioplasmonics
FWN: Information Theory in Optics II: Quantum Information Theory
FWO: Looking into the Eyes of Animal Models of Disease
FWP: High Fields and Plasmas
FWR: Beam Shaping and Propagation, Laser Cavity Design III
FWT: Novel Sensors and Applications I
FWW: Novel Photonic and Plasmonic Nanostructures
FWY: Quantum Computation and Communication I
FWBB: Hybrid-Organic Integrated Photonics
FThA: Nonlinear Optics in Micro/Nano Optical Structures II
FThB: Laser-Based Radiation Therapy and Enabling Sources
FThE: Quantum Computation and Communication II
FThG: Progress in Digital Holography I
FThH: Frequency Combs-II-Applications
FThI: Metamaterials
FThJ: Optical Design with Unconventional Polarization II
FThK: Image-Based Wavefront Sensing and Adaptive Optics II
FThO: Hybrid and III-V Integrated Optics
FThP: Nonlinearities in Metamaterials
FThQ: Optical Design with Unconventional Polarization III
FThS: Quantum Computation and Communication IV
FThW: Nonlinear Optics in Micro/Nano Optical Structures III

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SVC is the global source for learning, applying and advancing vacuum coating, surface engineering and related technologies. SVC will host its Annual TechCon in Santa Clara, California on April 28 – May 3, 2011, featuring a rich Technical Program, two-day Technology Exhibit, comprehensive Education program and a variety of valuable networking events.

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MEDIA PARTNERS



BOOTH MOVES

Laser Focus World is now exhibiting in Tabletop 11.

Please Note: A number of PDF Summaries do not appear in Technical Digest CD Rom but are either included with the Addendum and Postdeadline Papers (FThF6, JTuA41, LThB4) or appended to this update sheet (FTuE2, FTu1, FTu3, FWJ1, FWAA4, LTuH1). All papers, however, will be archived as part of the Technical Digest in OSA's Optics InfoBase.