Proposals are invited for organizing Symposia/Workshops at OMICS Group Conferences or OMICS Group will sponsor small events at your universities in related areas under the title of your own. These proposals can be sent to respective conference mail ids or to symposia@omicsonline.org.
Day 1  
September 08, 2014

Independence A

Opening Ceremony

08:30-09:00

Keynote Forum

09:00-09:05  Introduction
Chandra Kumar Naranbhai Patel
Pranalytica Inc., USA

09:05-09:30  Chandra Kumar Naranbhai Patel
Pranalytica Inc., USA

09:30-09:55  Anthony Krier
Lancaster University, United Kingdom

09:55-10:20  Mahi R Singh
The University of Western Ontario, Canada

09:00-09:30  Track 1: Advanced Science and Technology for Laser Systems
Session Chair: Sergey Mirov, University of Alabama at Birmingham, USA
Session Co-Chair: Shivadeo Bapat, Maharashtra Medical Foundation, India

10:35-10:55  Mid-infrared lasers based on transition metal doped II-VI semiconductors
Sergey Mirov, University of Alabama at Birmingham, USA

Mahmoud Fallahi, University of Arizona, USA

11:15-11:35  Mechanical effects of light: Radiation pressure, photon momentum, and the torzent force law
Masud Mansuripur, The University of Arizona, USA

11:35-11:55  Quantum cascade lasers in bio-medical applications the reality check
Igor E Trofimov, PTAC Inc. Princeton, USA

11:55-12:15  Integrated silicon photonic chips for highly multiplexed early cancer biomarker detection
Ray T Chen, University of Texas at Austin, USA

12:15-12:35  High-efficiency interband cascade lasers
Igor Vurgaftman, Naval Research Laboratory, USA

12:35-12:55  Force-induced regulation of epigenetic state in cancer cells
Arash Tajik, University of Illinois, Urbana

12:55-13:15  Application of laser light to treat prostatic proliferative diseases in the ageing man
Simone Chevalier, McGill University, Canada

13:45-14:05  Application of multiphoton microscopy in diagnosis and therapy of early cancer
Jianxin Chen, Fujian Normal University, China

14:05-14:25  The ABCs of mid-infrared quantum-well lasers
Yves Rouillard, Universite Montpellier 2, France

14:25-14:45  Thermalization and condensation dynamics of a photon Bose-Einstein condensate
Jan Klaers, University of Bonn, Germany

14:45-15:05  Recent advances in optically-injected Q-cascade lasers
Frederic Grillot, Ecole Nationale Superieure des Telecommunications, France

15:05-15:25  Ultrafast dynamics explaining pH probe mechanism in borondipyrromethene-benzimidazole compound
Halime Gul Yaglioglu, Ankara University Engineering Faculty, Turkey

15:25-15:45  Compact solutions in room temperature operating terahertz imaging systems
Mintaras Valusis, Center for Physical Sciences and Technology, Lithuania

15:45-16:05  Development of a high power coherent quantum cascade laser array mounted in extended-cavity system
Raphael Vallon, Université de Reims, France

09:30-10:00  Track 2: Optics and Lasers in Medicine
Session Chair: Sergey Mirov, University of Alabama at Birmingham, USA
Session Co-Chair: Shivadeo Bapat, Maharashtra Medical Foundation, India

10:35-10:55  New wavelengths generation in T-cavity vertical-external-cavity surface-emitting lasers
Mahmoud Fallahi, University of Arizona, USA

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Lunch Break 13:15-13:45 @ Benjamin's

16:20-16:40  Extreme confinement and propagation regimes of terahertz surface waves on planar metallic waveguides
Juliette Mangeney, UPMC University, France

16:40-17:00  Injection locking of mid-infrared quantum cascade laser by direct microwave modulation
Marica Amanti, Université Paris Diderot, France

17:00-17:20  High performance, low dissipation QCL across the Mid-IR range
Alfredo Bismuto, Alpes Laser SA, Switzerland

17:20-17:40  Lasers and optics in clinical urology
Shivadeo Bapat, Maharashtra Medical Foundation, India

17:40-18:00  Sensitive detection of aerosols and gases using Raman scattering
Roshan L Aggarwal, MIT Lincoln Laboratory, USA

18:00-18:20  New functionalities in optical fibers using “Lab on Fiber” technology
Andrea Cusano, University of Sannio, Italy

18:20-18:40  Polarization evolution: a method to measure nonlinear interaction in light filaments
Shivadeo Bapat, Maharashtra Medical Foundation, India

18:40-19:00  Antimonide-based short period superlattices for long wavelength infrared photodetection applications
Devki N Talwar, Indiana University of Pennsylvania, USA

Cocktails sponsored by Journal of Lasers, Optics & Photonics @ Ball Room Foyer

Coffee Break 16:05-16:20 @ Ball Room Foyer

Keynote Forum

Coffee Break 10:20-10:35 @ Ball Room Foyer
Day 2  September 09, 2014
Independence A

**Keynote Forum**

08:35-09:00  **Sven Hofling**
University of St Andrews, United Kingdom

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<th>Track 3: Optoelectronics Engineering</th>
<th>Track 4: Optical Communications and Networking</th>
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<tr>
<td><strong>Session Chair:</strong> Ian Ferguson, UNC Charlotte, USA</td>
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<td><strong>Session Co-Chair:</strong> Hiroshi Ito, Kitasato University, Japan</td>
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<tr>
<td>09:00-09:20</td>
<td>Optical and optoelectronic properties of hexagonal boron nitride epilayers</td>
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<td>Jingyu Lin, Texas Tech University, USA</td>
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<td>09:20-09:40</td>
<td>Annie get your ‘GaN’: III-Nitrides for energy applications</td>
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<td>Ian Ferguson, UNC Charlotte, USA</td>
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<td>09:40-10:00</td>
<td>Widely tunable terahertz-wave photomixer based on uni-traveling-carrier photodiode</td>
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<td>Hiroshi Ito, Kitasato University, Japan</td>
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<td>10:00-10:20</td>
<td>Manufacturing and performance of quantum cascade lasers for industrial applications</td>
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<td>Mariano Troccoli, AdTech Optics Inc., USA</td>
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<td>10:20-10:40</td>
<td>Magnetic and electronic materials in optical fibers</td>
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<td>Daniel Homa, Virginia Tech, USA</td>
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**Coffee Break 10:40-10:55 @ Ball Room Foyer**

10:55-11:15  Hybrid switching for scalable and efficient data delivery in the big data era  
Weiqiang Sun, Shanghai Jiao Tong University, China

11:15-11:35  Gallium nitride compound semiconductors for ultraviolet, visible, and terahertz photonics  
Can Bayram, IBM Research, USA

11:35-11:55  Continuous visible-light emission at room temperature in Mn-doped Si light-emitting diodes  
Masaaki Tanaka, The University of Tokyo, Japan

11:55-12:15  thermo converters  
Viktor A Nikirin, NAS, Ukraine

An optical fiber based sensing system for label-free real-time biomedical/environmental diagnosis by using Surface Plasmon Polaritons  
Heongkyu Ju, Gachon University, Korea

Control of coherence in a Ξ system and its utility in optical switching  
Ayan Ray, Variable Energy Cyclotron Centre, India

**Track 5: Advancements in Photonics**

| **Session Chair:** Leonas Valkunas, Vilnius University, Lithuania |
| **Session Co-Chair:** Gianluca Gagliardi, Nazionale di Ottica (INO), Italy |
| 12:55-13:15  Fluoride glasses and fibers for mid-infrared applications  |
| Mohammed Saad, Thorlab Inc, USA |

**Lunch Break 13:15-14:00 @ Benjamin's**

14:00-14:20  Landau level excitation using photoconductive THz antennas  
Mayer A Landau, US Air Force Research Laboratory, USA

14:20-14:40  Spectral response analysis of ZnO nanowire photoconductors and metal-oxide-semiconductor photodiodes  
Jose Luis Pau, Univ. Autónoma de Madrid, Spain

14:40-15:00  Challenges and new breakthroughs in infrared imaging  
Hooman Mohseni, Northwestern University, USA

15:00-15:20  Efficiency of excitation dynamics and regulation ability in photosynthetic light-harvesting  
Leonas Valkunas, Vilnius University, Lithuania

15:20-15:40  Liquid droplet whispering-gallery mode optical resonators  
Gianluca Gagliardi, Nazionale di Ottica (INO), Italy

15:40-16:00  Analytic theory of low threshold lasing in photonic spiral media  
Vladimir Belyakov, Landau Institute for Theoretical Physics, Russia

16:00-16:20  Light-matter coupling in imperfect superlattice of coupled microresonators  
Vladimir V Rumyantsev, A.A. Galitsin Donetsk Physico-Technical Institute of NASU, Ukraine

**Coffee Break 16:20-16:35 @ Ball Room Foyer**

16:35-16:55  Maximizing the bandwidth while minimizing the spectral fluctuations using supercontinuum generation in photonic crystal chalcogenide fibers  
Curtis R Menyuk, University of Maryland Baltimore County, USA

16:30-17:30  Poster Presentations @ Ball Room Foyer

17:35-17:55  Overview of optical fiber and fiber laser R&D at Lawrence Livermore Laboratory  
Jay W Dawson, Lawrence Livermore National Laboratory, USA

17:55-18:15  Linear optical methods as ultrashort pulse diagnostics  
Adam Borzsnyi, University of Szeged, Hungary

**Coffee Break 18:15-18:35 @ Ball Room Foyer**

18:45-19:45  Cocktails sponsored by Journal of Lasers, Optics & Photonics @ Ball Room Foyer
Day 3
September 10, 2014
Independence A
Keynote Forum

08:35-09:00  Belkacem Meziane
University d’Artois, France

09:00-09:25  Mehdi Anwar
University of Connecticut, USA

Track 6: Nanophotonics and Biophotonics

Session Chair: Edik U Rafailov, Aston University, United Kingdom
Session Co-Chair: Ting Mei, Northwestern Polytechnical University, China

09:25-09:45  Compact quantum dot based ultrafast lasers for biophotonics application
Edik U Rafailov, Aston University, United Kingdom

09:45-10:05  A Novel CMOS-compatible hybrid material and device platform for reconfigurable integrated nanophotonics
Ali Adibi, Georgia Institute of Technology, Atlanta

10:05-10:25  Gold nanorods in biological imaging and sensing
Yu Chen, Strathclyde University, United Kingdom

10:25-10:45  Characterizing and imaging nanoparticles with surface plasmon polaritons
Angela Demetriadou, Imperial College London, United Kingdom

Coffee Break 10:45-11:00 @ Ball Room Foyer

11:00-11:20  From superhydrophobicity for SERS/TERS-like applications to hot-electrons based nanoscopy (to say nothing of the adiabaticity)
Remo Proietti Zaccaria, Istituto Italiano di Tecnologia (IIT), Italy

11:20-11:40  A meshless k∙p method for analyzing electronic structures of quantum dots
Ting Mei, Northwestern Polytechnical University, China

Track 7: Quantum Science and Technology
Track 9: Applications and Trends in Optics and Photonics

Session Chair: Michael A Stroscio, University of Illinois at Chicago, USA
Session Co-Chair: Branislav Vlahovic, North Carolina Central University, USA

11:40-12:00  Charge transfer in nanostructures for solar energy and biochemical detector applications
Bransislav Vlahovic, North Carolina Central University, USA

12:00-12:20  Nonlinear energy transfer in metallic nanocomposites
Mahi R Singh, The University of Western Ontario, Canada

12:20-12:40  Design of a novel heterostructure photodetectors with dramatically enhance signal-to-noise based on resonant interface-phonon-assisted transitions and engineering of energy states to enhance transition rates
Michael A Stroscio, University of Illinois at Chicago, USA

12:40-13:00  p x n Transverse thermoelectrics: A new class of materials with possible optoelectronic applications
Matthew Grayson, Northwestern University, USA

Lunch Break 13:00-13:45 @ Benjamin’s

13:45-14:05  Mid-infrared semiconductor laser based trace gas analyzers: advances, applications and future outlook
Stephen So, Sentinel Photonics, USA

14:05-14:25  Characterization of new type-I quantum well cascade Lasers
Sherrie S Bowman, Army Research Lab, USA

14:25-14:45  Suppression of phonon-mediated dephasing in adiabatic rapid passage on a single semiconductor quantum dot
Kimberley C Hall, Dalhousie University, Canada

14:45-15:05  Quantum interference effects and molecular electronics
Philippe Lafarge, Université Paris Diderot, France

15:05-15:25  Photorefractive surface solitons due to quadratic electro-optic effect
Kaiyun Zhan, China University of Petroleum, China

15:25-15:45  Multi-level authentication platform using electronic nano-signatures
Mehdi Anwar, University of Connecticut, USA

15:45-16:10  Closing Ceremony

Coffee Break 16:10-16:25 @ Ball Room Foyer