

# Tentative Program

3<sup>rd</sup> International Conference on

## Quantum Optics and Quantum Computing

September 10 - 11, 2018 London, UK



Interactive  
Sessions

Keynote  
Lectures

Plenary  
Lectures

Workshops

Exhibitors

B2B  
Meetings

**\*\*\*For available speaker slots\*\*\***

[quantumoptics@annualconferences.org](mailto:quantumoptics@annualconferences.org)

# 3<sup>rd</sup> International Conference on Quantum Optics and Quantum Computing

September 10 - 11, 2018 London, UK

Program at a Glance

Day 1				
Morning Sessions	Reception/Registration	08.00-09.00		
	Least of 3 Keynote/Plenary Talks	Time	General Session	
		09.00-09.15	Inaugural Address	
		09.15-09.45	Keynote/Plenary Talk 1	
		09.45-10.15	Keynote/Plenary Talk 2	
		10.15-10.45	Keynote/Plenary Talk 3	
	Panel Discussions/Group Photo			
	Coffee/Tea Break 10.45-11.00 (Networking)			
	Evening Sessions	11.00-12.40	5 Speakers (20 Mins Each)	
		Lunch Break 12.40-13.30		
13.30-15.30		6 Speakers (20 Mins Each)		
Coffee/Tea Break 15.30-15.45 (Networking)				
	15.45-17.25	5 Speakers (20 Mins Each)		
Day 2				
Morning Sessions		Time	Session 1	Session 2
		09.00-10.40	5 Speakers (20 Mins Each)	5 Speakers (20 Mins Each)
Evening Sessions	Coffee/Tea Break 10.40-10.55 (Networking)			
		10.55-12.35	5 Speakers (20 Mins Each)	5 Speakers (20 Mins Each)
	Lunch Break 12.35-13.25			
		13.25-15.05	5 Speakers (20 Mins Each)	5 Speakers (20 Mins Each)
	Poster Sessions			
	Coffee/Tea Break 15.05-15.20 (Networking)			
		15.20-17.00	5 Speakers (20 Mins Each)	5 Speakers (20 Mins Each)
Closing Ceremony				
NOTE: Program Schedule is subject to change with final allotment of the speaker slots				

19 Speakers for Day 1

30 Speakers on Day 2

**Call for Abstract:** <http://quantumoptics.physicsmeeting.com/call-for-abstracts.php>

**Registration:** <http://quantumoptics.physicsmeeting.com/registration.php>

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# Conference Highlights

- Quantum Optics
- Quantum Mechanics
- Interpretation of Quantum Mechanics
- Quantum States
- Quantum Field Theory
- Quantum Thermodynamics
- Quantum Photonics
- Quantum Plasmonics
- Quantum Computing
- Quantum Information Science
- Quantum Cryptography
- Quantum Technology and Measurement
- Quantum Metrology and Sensing
- Quantum Error Corrections
- Quantum Nanoscience and Nano physics
- Quantum Transport and Dissipation





# Plan your trip to London



Buckingham Palace



Big Ben



St Paul's Cathedral



London Eye



The View from The Shard



Tower of London



Tower Bridge



Westminster Abbey



2<sup>nd</sup> International Conference on

# QUANTUM PHYSICS AND QUANTUM TECHNOLOGY

September 25-26, 2017 Berlin, Germany



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# Opening Ceremony

## Special Sessions

### Introduction

**Title: A new approach to quantum mechanics**

Yakir Aharonov, Chapman University, USA

**Keynote: The transition path time distribution - quantum mechanics, vanishing tunneling flight times and special relativity**

Eli Pollak, Weizmann Institute of Science, Israel

### Networking and Refreshments Break

**Keynote: Quantum master equation for Fermions and a unitary relativistic quantum theory**

Eliade Stefanescu, Center of Advanced Studies in Physics of the Romanian Academy, Romania

**Keynote: The Shell-Nodal structure of the atoms**

George P Shpenkov, USTB, Poland

**Sessions: Quantum Science | Quantum States | Quantum Field Theory | Theory of Everything: String Theory | Flow of Time | Quantum Physics and the Universe**

**Session Chair: Ozhigov Yuri Igorevich, Moscow State University, Russia**

**Session Co-chair: Eli Pollak, Weizmann Institute of Science, Israel**

### Session Introduction

**Title: Electromagnetically induced transparency in circuit quantum electrodynamics with nested polariton states**

David Pappas, NIST, USA

**Title: Correlated motion in atomic and molecular three-particle systems**

Hazel Cox, University of Sussex, UK

### Lunch Break

**Title: On some unknown features of the Bose-Einstein statistics**

Aleksey Ilyin, Moscow Institute of Physics and Technology, Russia

**Title: Weak and strong non-linear effects in Josephson junction chains**

Wiebke Guichard, Institut NEEL CNRS, France

**Title: Finite dimensional models of QED**

Ozhigov Yuri Igorevich, Moscow State University, Russia

**Title: Quantum wave mixing and resolving photonic classical and non-classical coherent states**

Vladimir Antonov, Royal Holloway University of London, UK

### Networking and Refreshments Break

**Title: Experimental probing of quantum criticality at the superconductor-insulator quantum phase transition**

Aviad Frydman, Bar-Ilan University, Israel

**Title: 3025 - Science in fiction**

Tina Matzat, CEO and Founder of Qbit Films, Germany

**Title: Proposed link between the periodic table and the standard model**

John Roberts, University of Liverpool, UK

**Title: Excited S states of two electron atoms**

Adam Baskerville, University of Sussex, UK

### Panel Discussion

## Special Sessions

### Introduction

**Keynote: Quantum electronic transport and conductance anomaly in quasi-1D systems**

Mukunda Das, Australian National University, Australia

**Title: Universal quantum laws, health and well-being**

Menas Kafatos, Chapman University, USA

### Networking and Refreshments Break

**Title: Revision of abstract quantum computer: Why do we need and how to build it?**

Ozhigov Yuri Igorevich, Moscow State University, Russia

**Sessions: Quantum Information and Quantum Computing | Quantum Optics | In Depth Quantum Mechanics | Quantum Mechanics Interpretations | Quantum Transport and Dissipation | Physical Mathematics | Quantum Technology**

**Session Chair: Eliade Stefanescu**, Center of Advanced Studies in Physics of the Romanian Academy, Romania

**Session Co-Chair: Hazel Cox**, University of Sussex, UK

### Session Introduction

**Title: New principles of solving the problem of combining the gravitational and electromagnetic fields**

V A Nastasenko, Kherson State Maritime Academy, Ukraine

**Title: Quantum key distribution networks and their applications for blockchain-based technologies**

Aleksey Fedorov, Russian Quantum Center, Russia

### Lunch Break

**Title: Vibrational state control of BECs using stochastic webs**

Nathan Welch, University of Nottingham, UK

**Title: On the motion of macroscopic bodies in quantum theory**

Alexey Kryukov, University of Wisconsin Colleges, USA

**Title: Unified quantum metric**

Eugene A Machusky, NTU University, Ukraine

**Title: Information entropy of quantum dynamics**

Dmytro Progonov, NTU University, Ukraine

**Title: X-ray quantum optics**

Adriana Palffy, Max Planck Institute for Nuclear Physics, Germany

### Networking and Refreshments Break

**Title: Iterative generation of non-classical states of light**

Rosa TUALLE-BROURI, Université Paris Sud, France

**Title: Many particle interactions in the integer quantum Hall effect regime**

Josef Oswald, Montanuniversität Leoben, Austria

**Title: Coherent observers for linear quantum systems**

Nina H Amini, Laboratoire des Signaux et Systèmes (L2S), France

### Panel Discussion

### Awards & Closing Ceremony



Proceedings of

5<sup>th</sup> International Conference and Exhibition on

# **Lasers, Optics & Photonics**

November 28-30, 2016 | Atlanta, USA



Hosting Organizations: **Conference Series LLC**  
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## Opening Ceremony

## Keynote Forum

## Introduction

**Title: Wide band-gap semiconductor materials with low defect density for future high-power nanophotonics and electronics**

**Vladislav E Bougrov**, ITMO University, Russia

**Title: Dynamics of plasmonic nanolasing: From strong coupling to stopped-light lasing and surface-plasmon polariton condensation**

**Ortwin Hess**, Imperial College London, UK

**Title: Visible from invisible: Second harmonic generation with infrared laser diodes**

**G S Sokolovskii**, Ioffe Institute, Russia

**Title: Plasmonic materials/metamaterials by crystal growth**

**Dorota A Pawlak**, Institute of Electronic Materials Technology, Poland

## Panel Discussion

## Group Photo

## Networking &amp; Refreshment Break

## Workshop on Understanding Silicon for Optics

by

**Douglas R McCarter**, McCarter Machine & Technology Inc., USA

## Session Introduction

## Session I

## Lunch Break

## Session II

## Networking &amp; Refreshment Break

## Session III

## Panel Discussion

## Young Researchers Forum

## Session Introduction

## Session Judges:

**Masayoshi Tonouchi**, Osaka University, Japan

**Karim D Mynbaev**, ITMO University, Russia

**Title: Tandem modulation for W-band OCDMA radio-over-fiber system**

**Morad Eghbal**, University of Texas, USA

**Title: Spectroscopic analysis of calcite and dolomite marble using laser induced breakdown spectroscopy**

**S Saleem**, COMSATS Institute of Information Technology, Pakistan

**Title: Demonstration of local teleportation using classical entanglement**

**Marco Ornigotti**, Friedrich-Schiller-Universität Jena, Germany

**Title: Visualization and tracking of tumor exosomes using single molecule localization based super resolution microscope**

**Chen Chen**, Southeast University, China

**Title: Functionalized carbon nanotubes for monitoring dual-drug release in tumor cells using SERS and fluorescence techniques**

**Peng Chen**, Southeast University, China

**Title: Upconversion Brillouin optical-time domain reflectometry**

**Mingjia Shangguan**, University of Science and Technology of China, China

**Title: Temperature sensitivity enhancement of the gold thin film-coated long-period fiber grating**

**Li Jian**, Harbin Engineering University, China

## Panel Discussion

## Chattahoochee-B

## Keynote Forum

**Title: Single-mode terahertz lasing in current injection graphene channel transistor**

**Taiichi Otsuji**, RIEC - Tohoku University, Japan

**Title: Optics and photonics research programs funded by the USA National Science Foundation**

**Dominique M Dagenais**, National Science Foundation, USA

## Panel Discussion

## Workshop on SHNP - Semiconductor and Hybrid Nanophotonics

## Session Introduction

**Session Chair: Vladislav E. Bougrov**, ITMO University, Russia

**Session Co-Chair: Roberto Morandotti**, Institut national de la recherche scientifique (INRS-EMT), Canada

**Title: Integrated III-V semiconductor components for all-optical analog-to-digital conversion**

**Vladislav E Bougrov**, ITMO University, Russia

**Title: Flexible optoelectronic devices based on inorganic nanowires**

**Maria Tchernycheva**, Université Paris Sud XI, France

**Title: On-chip quantum frequency combs for scalable quantum state generation**

**Roberto Morandotti**, INRS-EMT, Canada

**Title: Recent progress in III-V and II-VI semiconductor nanostructures for mid-infrared optoelectronics**

**Karim D Mynbaev**, ITMO University, Russia

**Title: Monolithic integration of III-V nanowires with silicon**

**Vladimir G Dubrovskii**, ITMO University, Russia

## Panel Discussion

## Networking &amp; Refreshment Break

## Sessions On

## Optics and Lasers in Medicine | Laser Systems

## Session Introduction

**Session Chair: Mahmoud Fallahi**, University of Arizona, USA

**Session Co-Chair: Haiyan Fu**, South-Central University for Nationalities, China

**Title: Prevention of abdominal adhesions and healing skin after peritonectomy using low level laser**

**Mara Duffles**, Federal University of Minas Gerais, Brazil

**Title: Comparison of the Alendronate and irradiation with a light-emitting diode (LED) on murine osteoclastogenesis**

**Won Bong Lim**, Chosun University, South Korea

**Title: "Turn-off" fluorescent data array sensor based on double quantum dots coupled with chemometrics for highly sensitive and selective detection of multicomponent pesticides**

**Haiyan Fu**, South-Central University for Nationalities, China

**Title: Super wide luminescence and super radiance of  $\text{Al}_x\text{Ga}_{1-x}\text{N}$  under optical and e-beam pumping**

**Peter A Bokhan**, A V Rzhanov Institute of Semiconductor Physics, Russia

**Title: High-power, high-brightness, tunable two color VECSELs**

**Mahmoud Fallahi**, University of Arizona, USA

## Lunch Break

**Title: Recent advances in high power optically pumped semiconductor lasers**

**Yanbo Bai**, Coherent Inc., USA

**Title: Optical parametric generation in photonic crystal fibers**

**Sigang Yang**, Tsinghua University, China

**Title: Generation of high power pulses with high repetition rate with subnanosecond pulse front for pumping different lasers**

**Peter A Bokhan**, A V Rzhanov Institute of Semiconductor Physics, Russia

## Session Discussion

## Sessions On

## Applications and Trends in Optics | Quantum Science and Technology

## Session Introduction

**Session Chair: Luis Gustavo Marcassa**, University of São Paulo, Brazil



**Session Co-Chair: Zhe Wang**, Tsinghua University, China

**Title: Detection of diseases in citrus plants using fluorescence spectroscopy**

**Luis Gustavo Marcassa**, University of São Paulo, Brazil

**Title: Optical phased array propagation in atmospheric channels and coherent beam combining**

**Itay Naeh**, Tel Aviv University, Israel

**Title: Laser beam shaping by manipulating spatial coherence**

**Milo W Hyde IV**, Air Force Institute of Technology, USA

**Title: Laser terahertz emission microscope**

**Masayoshi Tonouchi**, Osaka University, Japan

**Networking & Refreshment Break**

**Title: LIBS in China and its quantification development laser-induced breakdown spectroscopy**

**Zhe Wang**, Tsinghua University, China

**Title: High efficient generation of IR beam by SRS of high pressure H<sub>2</sub>, D<sub>2</sub> and CH<sub>4</sub>**

**Jinbo Liu**, Dalian Institute of Chemical Physics - CAS, China

**Title: Multiple period states in superfluid Fermi gases in an optical lattice**

**Gentaro Watanabe**, Zhejiang University, China

**Title: Some communication protocols using entangled quantum states as channels**

**Binayak S Choudhury**, Indian Institute of Engineering Science and Technology, India

**Session Discussion**

**Day 3**

**November 30, 2016**

**Chattahoochee-B**

**Sessions On**

**Optoelectronics | Optical Communications and Networking**

**Session Introduction**

**Session Chair: Ishwara Bhat**, Rensselaer Polytechnic Institute, USA

**Session Co-Chair: Shiva Kumar**, McMaster University, Canada

**Title: On-glass/flexible GaN light-emitting diodes and blue light enhancement in CdS/ZnS quantum dots by surface plasmon resonance**

**Jun Hee Choi**, Samsung Advanced Institute of Technology, South Korea

**Title: Properties of hexagonal boron nitride grown on sapphire and silicon substrates for application in deep UV photonics**

**Ishwara Bhat**, Rensselaer Polytechnic Institute, USA

**Title: Digital alloy growth of AlInAsSb for low noise avalanche photodetectors**

**Seth Bank**, University of Texas, USA

**Title: The radio frequency photomultiplier tube and optical frequency comb: High resolution, high rate and highly stable timing technique for single photons**

**Amur Margaryan**, Yerevan Physics Institute, Armenia

**Title: Light assisted low temperature sintering for the high-performance flexible dye-sensitized and perovskite solar cells**

**Min Jae Ko**, Korea Institute of Science and Technology, Republic of Korea

**Title: Optical back propagation for mitigation of linear and nonlinear impairments in optical networks**

**Shiva Kumar**, McMaster University, Canada

**Title: Stabilizing Raman crosstalk in massive WDM transmission networks by frequency dependent gain and loss**

**Avner Peleg**, Afeka College of Engineering, Israel

**Session Discussion**

**Networking & Refreshment Break**

**Sessions On**

**Nanophotonics and Biophotonics | Optical Physics | Surface Enhanced Spectroscopy (SES)**

**Session Introduction**

**Session Chair: P Boolchand**, University of Cincinnati, USA

**Session Co-Chair: Shu-Wei Huang**, University of California, USA

**Title: Numerical simulation of Raman scattering in biological tissues**

**A Seteikin**, Amur State University, Russia

**Title: Surface enhanced optical processes and regularities of their spectra in symmetrical molecules**

**A M Polubotko**, Ioffe Institute, Russia

**Title: Crystal growth-based methods used for manufacturing volumetric novel photonic materials as plasmonic nanomaterials and metamaterials**

**Dorota A Pawlak**, Institute of Electronic Materials Technology, Poland

**Title: Flat and conformal optics with dielectric metasurfaces**

**Amir Arbabi**, California Institute of Technology, USA

**Title: A new paradigm: Metamaterial and upconversion effects in natural materials**

**Michelle R Stem**, Complete Consulting Services, LLC, USA

**Lunch Break**

**Title: Chip-scale optical frequency combs: Advances in precision metrology**

**Shu-Wei Huang**, University of California, USA

**Title: Experimental challenges in observation of topological phases in chalcogenide and modified oxide glasses and amorphous materials**

**P Boolchand**, University of Cincinnati, USA

**Title: Producing, characterizing and modeling nanostructured surfaces with complex visual**

**Renee Charriere**, National Institute of Standards and Technology, USA

**Title: Pulsed-laser Raman scattering for measurement of junction temperature of white-LED**

**Yukihiko Yamagata**, Kyushu University, Japan

**Title: Optical properties of 3C-SiC/Si (001) defect microstructures by exploiting Raman scattering and X-ray absorption fine structure measurements**

**Devki N Talwar**, Indiana University of Pennsylvania, USA

**Title: Mitigating transmitter non-linearity and fiber impairments in radio over fiber technology**

**Dhananjay Manohar Patel**, Sardar Vallabhbhai National Institute of Technology, India

**Title: Laser frequency locking with 46 GHz offset by using an electro-optic modulator for magneto-optical trapping of francium atoms**

**Ken-ichi Harada**, Tohoku University, Japan

**Session Discussion**

**Networking & Refreshment Break**

### Poster Presentations

**OP1**

**Title: A new chipset for generating computer-generated hologram**

**Young-Ho Seo**, Kwangwoon University, South Korea

**OP2**

**Title: Electron localizations in binary InAs/GaAs quantum systems and their optical detection**

**I Filikhin**, North Carolina Central University, USA

**OP3**

**Title: Inexpensive method for wafer size laser scribing of arbitrary patterns**

**Goran Rasic**, North Carolina Central University, USA

### Video Presentation

**Title: Incapability of laser drilling affected by interfacial transport processes across the induced keyhole**

**Peng-Sheng Wei**, National Sun Yat-Sen University, Taiwan (ROC)

### Awards and Closing Ceremony



## Scientific Program

International Conference on

# Quantum Physics and Nuclear Engineering

March 14-16, 2016 London, UK



**OMICS International Conferences**

2360 Corporate Circle, Suite 400 Henderson, NV 89074-7722, USA

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# Scientific Program

Day 1

Monday March 14, 2016

Registrations

Guggenheim



## Opening Ceremony

### Keynote Forum

#### Introduction

**Yukio Tomozawa**

University of Michigan, USA

**Manijeh Razeghi**

Northwestern University, USA

**Kazuhisa Kakurai**

QuBS, JAEA & CEMS, RIKEN, Japan

### Group Photo

Networking & Refreshments Break

#### Track 1: Quantum Science

**Session Chair: Manijeh Razeghi**, Northwestern University, USA

**Session Co-chair: Ian O' Driscoll**, Cork Institute of Technology and Tyndall National Institute, Ireland

Session Introduction

**Title: Evidence for a dark matter particle**

**Yukio Tomozawa**, University of Michigan, USA

**Title: Silicon photonics: generation of entangled photon pairs**

**Labonté Laurent**, University of Nice Sophia Antipolis, France

**Title: Gaussian quantum discord and the entangling power of a beamsplitter**

**Natalia Korolkova**, University of St. Andrews, UK

**Title: StarDriver: A highly flexible laser driver for inertial confinement fusion**

**David Eimerl**, EIMEX, USA

Networking & Lunch Break

**Title: Cavity-mediated collective heating in opaque sonoluminescing bubbles**

**Almut Beige**, University of Leeds, UK

**Title: High performance InAs-based type-II superlattice infrared photo-detectors**

**Jianxin Chen**, Chinese Academy of Sciences, China

**Title: Protocols for concentration of entanglement in multipartite quantum states**

**Binayak S Choudhury**, Indian Institute of Engineering Science and Technology, India

**Title: NV centers in diamond - quantum coherence, noise and nanoscale MRI**

**Nir Bar-Gill**, Hebrew University, Israel

**Title: Blue-green luminescence of Ce-doped ZnO thin films**

**Manuel García-Méndez**, CICFIM de la FCFM-UANL, México

Networking & Refreshments Break

#### Track 1: Quantum Science

#### Track 2: In Depth Quantum Mechanics

**Session Chair: Yukio Tomozawa**, University of Michigan, USA

**Session Co-chair: Waseem Bakr**, Princeton University, USA



**Title: Photo-induced topological phase transitions in ultracold fermions**

**Norio Kawakami**, Kyoto University, Japan

**Title: Ultrashort optical pulse generation in quantum dot lasers**

**Ian O' Driscoll**, Cork Institute of Technology and Tyndall National Institute, Ireland

**Title: Logical stochastic resonance with a coulomb-coupled quantum dot rectifier**

**Fabian Hartmann**, Universität Würzburg, Germany

**Title: Pair condensation in a spin-imbalanced two-dimensional Fermi gas**

**Waseem Bakr**, Princeton University, United States

### Panel Discussion

## Day 2

Tuesday March 15, 2016

### Guggenheim

**Track 3: Quantum States**

**Track 4: Quantum Mechanics Interpretation**

**Track 5: Strings in Quantum Physics**

**Session Chair: Kazuhisa Kakurai**, QuBS, JAEA & CEMS, RIKEN, Japan

**Session Co-chair: Alexander Kubanek**, Ulm University, Germany

### Session Introduction

**Title: Importance and applications of infinite dimensional non-orthogonal quantum state**

**Osamu Hirota**, Tamagawa University, Japan

**Title: Generation of non-classical states of light using photonic crystal fibres**

**N Y Joly**, University of Erlangen-Nürnberg, Germany

**Title: Fundamental phenomena of quantum mechanics studied in matter-wave optics: Quantum Cheshire-cat and uncertainty relations**

**Yuji Hasegawa**, TU-Wien Atominstitut der Österreichischen Universitäten, Austria

### Networking & Refreshments Break

**Title: Neutron scattering investigations on quantum spin systems**

**Kazuhisa Kakurai**, QuBS, JAEA & CEMS, RIKEN, Japan

**Title: Towards an optimal quantum SWAP gate**

**Colin Wilmott**, Nottingham Trent University, UK

**Title: Nonlinear interferometer for shaping the spectrum of bright squeezed vacuum**

**Maria Chekhova**, Max-Planck Institute for the Science of Light, Germany

**Title: A consistent account of brain function reinterprets the evidence on which quantum mechanics is based**

**Michael T Deans**, Freelance Scientist, United Kingdom

**Title: Applications of induced coherence without induced emission**

**Gabriela Barreto Lemos**, Institut für Quantenoptik und Quanten information, Austria

### Networking & Lunch Break

**Track 9: Nuclear Science**

**Track 10: Interaction and Maintenance**

### Session Introduction

**Session Chair: Ekmel Ozbay**, Bilkent University, Turkey

**Session Co-chair: Colin Wilmott**, Nottingham Trent University, UK

**Title: Quantum Optics with color center in diamond**

**Alexander Kubanek**, Ulm University, Germany

**Title: Metamaterial based nanobiosensors and nanophotodetectors**

**Ekmel Ozbay**, Bilkent University, Turkey

**Title: Alignment of atomic inner shell vacancies-A detailed study**

**Ajay Sharma**, Chitkara University, India

### Panel Discussion

### Networking & Refreshments Break

### Poster presentations

- QP101 **Title: High-power hybrid fiber amplifiers with pumping power recycling mechanism**  
Shien-Kuei Liaw, National Taiwan University of Science and Technology, Taiwan
- QP102 **Title: Berry curvature in topologically non-trivial quantum systems**  
Georgios Konstantinou, University of Cyprus, Cyprus
- QP103 **Title: Topological electric currents in nonadiabatic quantum systems**  
Kyriakos Kyriakou, University of Cyprus, Cyprus
- QP104 **Title: Exploring the scaling of graphene for radiation detection**  
Zachary Shollar, Purdue University, United States

### Day 3

Wednesday March 16, 2016

### Guggenheim

- Track 6: Quantum Physics Formulation  
Track 7: Quantum Field Theory  
Track 8: Quantum Transport and Dissipation  
Track 11: Latest Technologies, Innovations and Instruments

### Keynote Forum

- Shien-Kuei Liaw**  
National Taiwan University of Science and Technology, Taiwan
- C Wei Xu**  
Virtumanity, USA

### Networking & Refreshments Break

### Session Introduction

- Session Chair: Shien-Kuei Liaw**, National Taiwan University of Science and Technology, Taiwan  
**Session Co-chair: Yuji Hasegawa**, TU-Wien Atominstut der Österreichischen Universitäten, Austria
- Title: Quantum and classical dynamics in hilbert spaces of states**  
**Alexey Kryukov**, University of Wisconsin Colleges, USA
- Title: Optical signatures of states bound to vacancy defects in monolayer transition metal dichalcogenides**  
**Michael Leuenberger**, University of Central Florida, USA
- Title: Plasmonic response of partially gated field effect transistors**  
**G Rupper**, Army Research Laboratory, USA
- Title: On coupled wave scattering of structures involving flexible boundaries**  
**Rab Nawaz**, COMSATS Institute of Information Technology Islamabad, Pakistan
- Title: Unified theory for all physics and beyond**  
**C Wei Xu**, Verizon Communications, USA

### Panel Discussion

### Networking & Lunch Break

### Closing Ceremony

2<sup>nd</sup> International Conference on

# Quantum Physics and Nuclear Engineering

March 27-29, 2017 Berlin, Germany

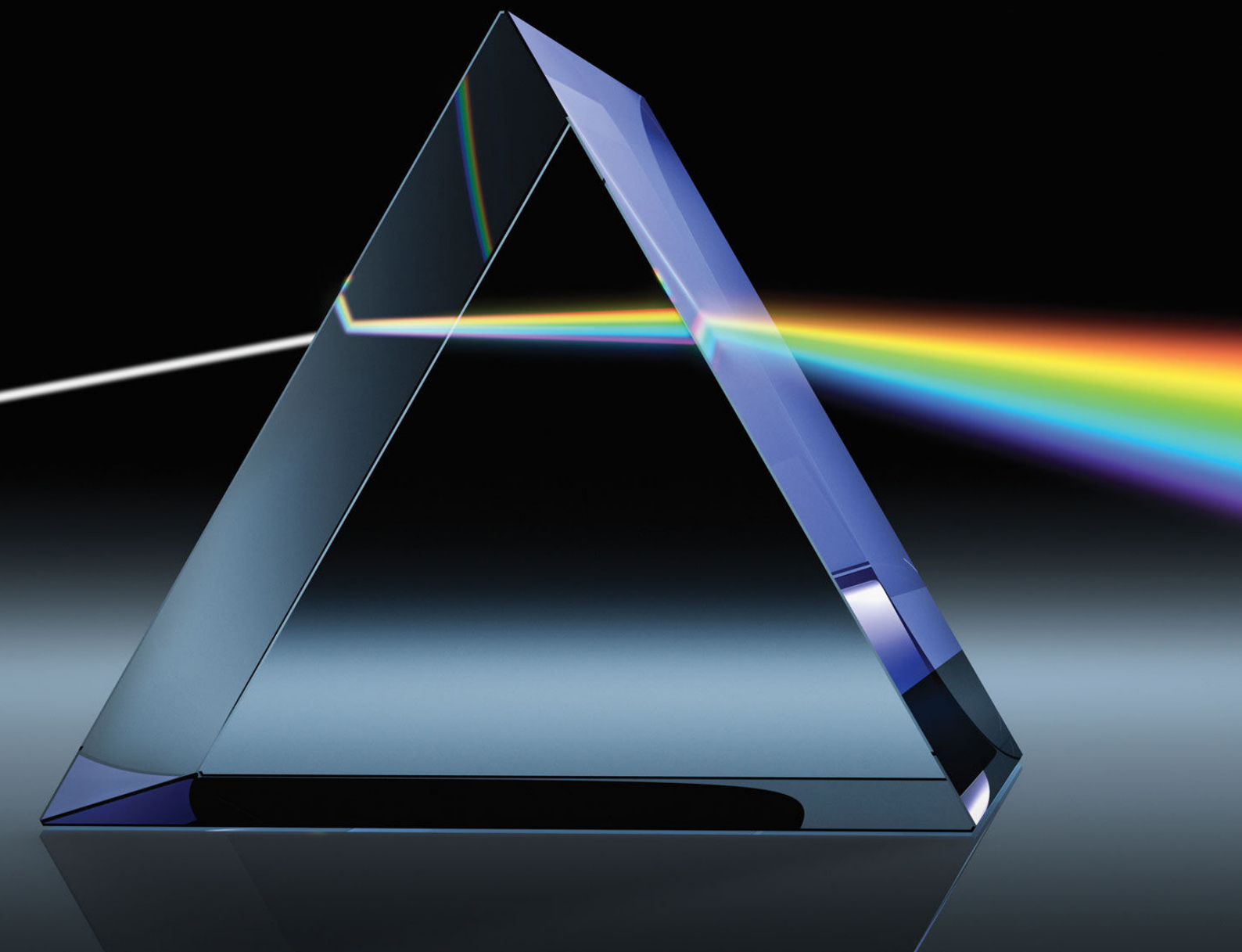
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# Scientific Program

## 3<sup>rd</sup> International Conference and Exhibition on Lasers, Optics and Photonics

September 01-03, 2015 Valencia, Spain



**OMICS International Conferences**

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# Scientific Program

Day 1

September 01, 2015

Registrations

Valentia B



## Opening Ceremony

### Keynote Forum

#### Introduction

**Manijeh Razeghi**, Northwestern University, USA

**Anthony Krier**, Lancaster University, UK

**Michael A Fiddy**, University of North Carolina (Charlotte), USA

**John Michael Dallesasse**, University of Illinois, USA

Coffee Break

Track 1: Advanced Science and Technology for Laser Systems

**Session Chair: Anthony Krier**, Lancaster University, UK

**Session Co-Chair: Joachim Wagner**, Fraunhofer Institute for Applied Solid State Physics (IAF), Germany

Session Introduction

**Title: Optical feedback interferometry in quantum cascade lasers**

**Gaetano Scamarcio**, Università degli Studi di Bari "Aldo Moro", Italy

**Title: Influence of the InAs/GaSb super lattice period composition on the electro-optical performances of T2SL infrared photodiode**

**Philippe Christol**, University of Montpellier, France

**Title: Recent advances in widely tunable quantum cascade lasers and their use in spectroscopic sensing**

**Joachim Wagner**, Fraunhofer Institute for Applied Solid State Physics (IAF), Germany

**Title: Coherency for a better detection**

**Besnard Pascal**, University of Rennes 1, France

**Title: Linear-cavity fiber lasers investigation and application**

**Shien-Kuei Liaw**, National Taiwan University of Science and Technology, Taiwan

**Title: 16  $\mu\text{m}$  InP-related quantum cascade laser**

**Anna Szerling**, Institute of Electron Technology, Poland

Group Photo & Lunch Break

**Title: Photonic engineering and micro-cavity tuning of THz quantum cascade laser resonators**

**Miriam S Vitiello**, NEST, CNR -Istituto Nanoscienze and Scuola Normale Superiore, Italy

**Title: In-situ study on optical properties and continuous laser tuning in cholesteric liquid crystal laser array**

**Mi-Yun Jeong**, Gyeongsang National University, Korea

**Title: Type-II quantum wells for InP-based surface and edge emitting lasers**

**Stephan Sprengel**, Technische Universitaet Muenchen, Germany

Track 5: Advancements in Photonics

**Session Chair:** Dan Botez, University of Wisconsin, USA

**Session Co-Chair:** Weidong Chen, Université du Littoral Côte d'Opale, France

Session Introduction

**Title:** BaTiO<sub>3</sub> Photonic crystal electro-optic devices for 50 GHz applications

**Bruce Wessels**, Northwestern University, USA

**Title:** High-index-contrast photonic-crystal quantum cascade lasers: Watt-range coherent mid-infrared power sources

**Dan Botez**, University of Wisconsin, USA

**Title:** Advanced photonic technologies for atmospheric measurements

**Weidong Chen**, Université du Littoral Côte d'Opale, France

Coffee Break

**Title:** Frequency doubling in AlGaAs microdisks at 1.55 μm

**Giuseppe Leo**, University Paris Diderot, France

**Title:** Can OLED light-quality be good enough to justify lighting renaissance?

**Jwo-Huei Jou**, National Tsing Hua University, Taiwan

**Keynote Talk**

**Nasser Peyghambarian**, University of Arizona, USA

**Title:** Photon management assisted by surface waves on an all-dielectric platform

**Angelo Angelini**, Polytechnic of Turin, Italy

Panel Discussion

Day 2 September 02, 2015

Valentia B

Track 3: Optoelectronics

**Session Chair:** Michael A Fiddy, University of North Carolina (Charlotte), USA

**Session Co-Chair:** Nicholas Kioussis, California State University Northridge, USA

Session Introduction

**Title:** Low index optical materials

**Michael A Fiddy**, University of North Carolina (Charlotte), USA

**Title:** Identification of point defect candidates in strained-layer type-II super lattices for infrared detectors: *Ab initio* electronic structure studies

**Nicholas Kioussis**, California State University Northridge, USA

**Title:** InP-based antimony-free lasers and photodetectors in 2-3 μm band

**Zhang Yong-Gang**, Chinese Academy of Sciences, China

**Title:** Telluride glass fibers for mid-infrared sensing: From medical diagnosis to the detection of exo-planet

**Bruno Bureau**, Université de Rennes 1, France

**Title: Optical design and analysis of inorganic and organic nano/microscale structures for light harvesting and sensing applications**

**Jae Su Yu**, Kyung Hee University, Republic of Korea

Coffee Break

**Title: Unconventional thiophene materials for optoelectronics**

**Ewa Schab-Balcerzak**, University of Silesia, Poland

**Title: ZnO-based plasmonics**

**Sergey Sadofev**, Humboldt-Universität zu Berlin, Germany

**Title: Optical fibre chemical sensors: Bio-medical application**

**Sergiy Korposh**, The University of Nottingham, UK

Track 4: Optical Communications and Networking

Track 7: Quantum Science and Technology

Track 9: Applications and Trends in Optics and Photonics

**Session Chair: Dan Sporea**, National Institute for Laser, Plasma and Radiation Physics, Romania

Session Introduction

**Title: Ionizing radiation dosimetry with optical fibers**

**Dan Sporea**, National Institute for Laser, Plasma and Radiation Physics, Romania

**Title: Photonics technologies for 100 Gbps wireless communications**

**Juan Sebastián Rodríguez Páez**, Technical University of Denmark, Denmark

**Title: Polybinary modulation for bandwidth limited optical links**

**J J Vegas Olmos**, Technical University of Denmark, Denmark

Lunch Break

**Title: Málaga statistical distribution: The new universal analytical propagation model for atmospheric optical communications**

**Antonio Jurado-Navas**, University of Malaga, Spain

**Title: A transmission of Ethernet signals via VLC link based on using LEDs in a double role**

**Marcin Kowalczyk**, Warsaw University of Technology, Poland

**Title: Nonlinear pulse dynamics in passive and active optical fibers**

**Mousumi Basu**, Indian Institute of Engineering Science & Technology, India

**Title: QEPAS- New developments in quartz enhanced photoacoustic gas sensing**

**Vincenzo Spagnolo**, Università e Politecnico di Bari, Italy

Coffee Break

**Title: Single Mode Interband Cascade Lasers**

**Sven Höfling**, Universität Würzburg, Germany

**Title: Observation the exciton and Urbach band tail in low-temperature-grown GaAs using coherent ultrafast spectroscopy**

**Kimberley C Hall**, Dalhousie University, Canada



**Title: Optical applications of single crystals and transparent ceramics fabricated by high pressure process**  
**Mythili Prakasam**, Institut de Chimie de la Matière Condensée de Bordeaux (ICMCB), France  
**Title: Generation of triangular optical pulses through a normally dispersive highly nonlinear fiber**  
**Debasruti Chowdhury**, Indian Institute of Engineering Science & Technology, India  
**Title: Shipbuilding application of laser equipment and technologies**  
**Nikolay A Nosyrev**, JSC Shipbuilding and Shiprepair Technology Center, Russia

### Poster Session

OP-001	<b>Title: Testing of ZnSe, CaF<sub>2</sub>, BaF<sub>2</sub>, and sapphire windows under alpha particles irradiation</b>
	<b>Dan Sporea</b> , National Institute for Laser, Plasma and Radiation Physics, Romania
OP-002	<b>Title: Semiconductor-integrated-Fiber-Bragg-Gratings for multi-parameter network sensing</b>
	<b>Shien-Kuei Liaw</b> , National Taiwan University of Science and Technology, Taiwan
OP-003	<b>Title: Integration of metal nano-particles in organic waveguides</b>
	<b>Mattia Signoretto</b> , University of Valencia, Spain
OP-004	<b>Title: 10 GHz orthogonally polarized dual frequency VECSEL at 1550 nm</b>
	<b>Lea Chaccour</b> , IFSTTAR, France
OP-005	<b>Title: Photonic-assisted systems for the generation, modulation and measurement of microwave signals</b>
	<b>Danqi Feng</b> , Huazhong University of Science and Technology, China
OP-006	<b>Title: Simultaneous experimental observation of the quantization and interference of a nano-confined plasmonic near-field</b>
	<b>Aziz N Mina</b> , Beni-Suef University, Egypt

### Panel Discussion

**Day 3      September 03, 2015**

### Valentia B

Track 2: Optics and Lasers in Medicine

Track 6: Nanophotonics and Biophotonics

Track 8: Featured Technologies in Lasers, Optics and Photonics

**Session Chair: Ching-Fuh Lin**, National Taiwan University, Taiwan

**Session Co-Chair: Edik U Rafailov**, Aston University, UK

### Session Introduction

**Title: Organic bio-electronic sensors for ultra-sensitive chiral differential detection**

**Luisa Torsi**, Università degli Studi di Bari "Aldo Moro", Italy

**Title: Environmentally affordable fluorescent nanotechnology for efficient lighting**

**Ching-Fuh Lin**, National Taiwan University, Taiwan

**Title: Sub-wavelength optical propagation in passive and active 1D-nanostructures**

**Nolwenn Huby**, University of Rennes 1, France

**Title: Growth of semiconductor nanoparticles in polymer matrices by nanosecond laser**

**Damian C Onwudiwe**, North-West University (Mafikeng Campus), South Africa

**Title: Novel compact laser sources for biomedical photonics: Diagnostics and treatment**

**Edik U Rafailov**, Aston University, UK

Coffee Break

**Title: Advanced fiber grating devices fabricated for all-optical signal processing**

**Xuewen Shu**, Huazhong University of Science and Technology, China

**Title: Optics on nano-structured surfaces**

**Valerio Pruneri**, The Institute of Photonic Sciences, Spain

**Title: Transport at spin-orbit and exchange-split interfaces: Giant universal asymmetry**

**Drouhin Henri-Jean**, University Paris Saclay, France

**Title: Ultra high resolution spectroscopy and ultra-fast THz measurements using coherent synchrotron radiation**

**Pascale Roy**, Synchrotron SOLEIL, France

**Title: Dye-sensitized solar cells using ethynyl-linked porphyrin trimers for NIR photoelectric conversion**

**Tomofumi Hamamura**, University of Bordeaux, France

**Title: Polarization-tuned dynamic color filters exploiting a dielectric-loaded one dimensional aluminum grating**

**Vivek Raj Shrestha**, Kwangwoon University, South Korea

**Title: Fabrication of homogenous microstructures by femtosecond laser micromachining**

**K M Tanvir Ahmed**, McGill University, Canada

Lunch Break

Panel Discussion

Best Poster Award

Closing Ceremony

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Fax: +1-650-618-1417  
[contact@omicsgroup.com](mailto:contact@omicsgroup.com)

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Ph: +1-650-268-9744  
Fax: +1-650-618-1414  
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[contact.asiapacific@omicsonline.org](mailto:contact.asiapacific@omicsonline.org)

**Toll free**

USA & Canada: +1-800-216-6499  
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Europe: 0805-080048