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Scientific Program

International Conference on
Quantum Physics and Nuclear Engineering

March 14-16, 2016 London, UK



OMICS International Conferences

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Scientific Program

Day 1

Monday March 14, 2016

08:30-09:00 Registrations

Guggenheim

OMICS International conferenceseries.com **09:00-09:25**

Opening Ceremony

Keynote Forum

09:25-09:30	**Introduction**
09:30-10:00	**Yukio Tomozawa** University of Michigan, USA
10:00-10:30	**Manijeh Razeghi** Northwestern University, USA
10:30-11:00	**Kazuhisa Kakurai** QuBS, JAEA & CEMS, RIKEN, Japan

Group Photo

Networking & Refreshments Break 11:00-11:20

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

11:20-11:45	**Title: Evidence for a dark matter particle** **Yukio Tomozawa,** University of Michigan, USA
11:45-12:10	**Title: Silicon photonics: generation of entangled photon pairs** **Labonté Laurent,** University of Nice Sophia Antipolis, France
12:10-12:35	**Title: Gaussian quantum discord and the entangling power of a beamsplitter** **Natalia Korolkova,** University of St. Andrews, UK
12:35-13:00	**Title: StarDriver: A highly flexible laser driver for inertial confinement fusion** **David Eimerl,** EIMEX, USA

Networking & Lunch Break 13:00-13:45

13:45-14:10	**Title: Cavity-mediated collective heating in opaque sonoluminescing bubbles** **Almut Beige,** University of Leeds, UK
14:10-14:35	**Title: High performance InAs-based type-II superlattice infrared photo-detectors** **Jianxin Chen,** Chinese Academy of Sciences, China
14:35-15:00	**Title: Protocols for concentration of entanglement in multipartite quantum states** **Binayak S Choudhury,** Indian Institute of Engineering Science and Technology, India
15:00-15:25	**Title: NV centers in diamond - quantum coherence, noise and nanoscale MRI** **Nir Bar-Gill,** Hebrew University, Israel
15:25-15:50	**Title: Blue-green luminescence of Ce-doped ZnO thin films** **Manuel García-Méndez,** CICFIM de la FCFM-UANL, México

Networking & Refreshments Break 15:50-16:10

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

16:10-16:35	**Title: Photo-induced topological phase transitions in ultracold fermions** **Norio Kawakami,** Kyoto University, Japan

16:35-17:00	**Title: Ultrashort optical pulse generation in quantum dot lasers** **Ian O' Driscoll,** Cork Institute of Technology and Tyndall National Institute, Ireland
17:00-17:25	**Title: Logical stochastic resonance with a coulomb-coupled quantum dot rectifier** **Fabian Hartmann,** Universität Würzburg, Germany
17:25-17:50	**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

09:30-09:55	**Title: Importance and applications of infinite dimensional non-orthogonal quantum state** **Osamu Hirota,** Tamagawa University, Japan
09:55-10:20	**Title: Generation of non-classical states of light using photonic crystal fibres** **N Y Joly,** University of Erlangen-Nürnberg, Germany
10:20-10:45	**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 10:45-11:05
11:05-11:30	**Title: Neutron scattering investigations on quantum spin systems** **Kazuhisa Kakurai,** QuBS, JAEA & CEMS, RIKEN, Japan
11:30-11:55	**Title: Towards an optimal quantum SWAP gate** **Colin Wilmott,** Nottingham Trent University, UK
11:55-12:20	**Title: Nonlinear interferometer for shaping the spectrum of bright squeezed vacuum** **Maria Chekhova,** Max-Planck Institute for the Science of Light, Germany
12:20-12:45	**Title: A consistent account of brain function reinterprets the evidence on which quantum mechanics is based** **Michael T Deans,** Freelance Scientist, United Kingdom
12:45-13:10	**Title: Applications of induced coherence without induced emission** **Gabriela Barreto Lemos,** Institut für Quantenoptik und Quanten information, Austria
	Networking & Lunch Break 13:10-13:55

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

13:55-14:20	**Title: Quantum Optics with color center in diamond** **Alexander Kubanek,** Ulm University, Germany
14:20-14:45	**Title: Metamaterial based nanobiosensors and nanophotodetectors** **Ekmel Ozbay,** Bilkent University, Turkey
14:45-15:10	**Title: Alignment of atomic inner shell vacancies-A detailed study** **Ajay Sharma,** Chitkara University, India
	Panel Discussion
	Networking & Refreshments Break 15:10-15:30

Poster presentations	15:30-16:00
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

09:30-10:00	**Shien-Kuei Liaw** National Taiwan University of Science and Technology, Taiwan
10:00-10:30	**C Wei Xu** Virtumanity, USA

Networking & Refreshments Break 10:30-10:50

Session Introduction

Session Chair: Shien-Kuei Liaw, National Taiwan University of Science and Technology, Taiwan
Session Co-chair: Yuji Hasegawa, TU-Wien Atominstitut der Österreichischen Universitäten, Austria

10:50-11:15	**Title: Quantum and classical dynamics in hilbert spaces of states** **Alexey Kryukov,** University of Wisconsin Colleges, USA
11:15-11:40	**Title: Optical signatures of states bound to vacancy defects in monolayer transition metal dichalcogenides** **Michael Leuenberger,** University of Central Florida, USA
11:40-12:05	**Title: Plasmonic response of partially gated field effect transistors** **G Rupper,** Army Research Laboratory, USA
12:05-12:30	**Title: On coupled wave scattering of structures involving flexible boundaries** **Rab Nawaz,** COMSATS Institute of Information Technology Islamabad, Pakistan
12:30-12:55	**Title: Unified theory for all physics and beyond** **C Wei Xu,** Verizon Communications, USA

Panel Discussion

Networking & Lunch Break 12:55-13:30

Closing Ceremony