EMN MEETING ON QUANTUM TECHNOLOGY
April 14-17, 2015
BEIJING XIJIAO HOTEL, BEIJING, CHINA

Tuesday April. 14 **Room A**		
7:30-8:30AM	Breakfast	
Session: Keynote Chair: Shun-Jen Cheng		
8:30-9:00AM	A01: New Approaches to the Uncertainty Principle (P19)	**Masanao Ozawa** Nagoya University Japan
9:00-9:30AM	A02: Information-theoretical principles for Quantum Theory and Quantum Field Theory (P19)	**Giacomo Mauro D'Ariano** University of Pavia Italy
9:30-10:00AM	A03: Quantum Technology of Light as a Harmonic Oscillator (P20)	**Alexander Lvovsky** University of Calgary Canada
10:00-10:20AM	Session Break	
Session: Low Dimensional Materials and Devices I Chair: Giacomo Mauro D'Ariano		
10:20 -10:45AM	A04: Enhanced Solar Energy Conversion via Photovoltaics and Photocatalysis Based on Programmed Hybrid Nanomaterials (P21)	**DongHa Kim** Ewha Womans University South Korea
10:45-11:10AM	A05: The underlying anti-ferromagnetism in paramagnetic ion doped semiconductor nanocrystals (P21)	**Shun-Jen Cheng** National Chiao Tung University Taiwan
11:10-11:35AM	A06: Second order nonlinear susceptibility in Silicon (P22)	**Joerg Schilling** Martin-Luther-Universität Halle-Wittenberg Germany
11:35-12:00PM	A07: Organic field-effect transistor made with acenes (P23)	**Tahsin J. Chow** Academia Sinica Taiwan
12:25-13:25PM	Lunch Break	
Session: Quantum Computation and Control I Chair: Su-Il In		
13:25-13:50PM	A08: Topological single electron pumping based on Majorana fermions in topological superconductors (P24)	**Xiao Hu** National Institute for Materials Science Japan
13:50 -14:15PM	A09: Semiclassical Methods for Highly Accurate and Efficient Surface Hopping Calculations of Nonadiabatic Transition Probabilities (P24)	**Michael Herman** Tulane University USA

14:15 -14:40PM	A10: Ignorance Is Bliss: General and Robust Cancellation of Decoherence via No-Knowledge Quantum Feedback (P25)	**Michael Hush** The Australian Defence Force Academy at University of New South Wales Australia
14:40 -15:05PM	A11: From Reversible Logic to Quantum Computation (P25)	**Gerhard Dueck** University of New Brunswick Canada
15:05-15:20PM	Session Break	
Session: General I Chair: Xiao Hu		
15:20-15:45PM	A12: Abundant Organic Molecules in Interstellar Space (P26)	**Takeshi Oka** The University of Chicago USA
15:45-16:10PM	A13: Cu_xO-$TiO_{2-x}Cl_x$ photocatalyst for CO_2 Reduction into Methane by Solar Irradiation (P26)	**Su-Il In** Daegu Gyeongbuk Institute of Science and Technology South Korea
16:10-16:35PM	A14: Self-calibrating quantum state estimation (P27)	**Jiangwei Shang** National University of Singapore Singapore
16:35-17:00PM	A15: Atom Lasers: Production, properties and prospects for precision inertial measurements (P27)	**John Close** The Australian National University Australia
17:30PM	Dinner Social	

Wednesday April. 15 Room B		
7:30-8:30AM	Breakfast	
Session: Electronic Structure Theories Chair: Takashi Uchihashi		
8:30-8:55AM	B01: Recent Search for New Superhard Materials: Go Nano! (P27)	**Dominik Legut** VSB Technical University of Ostrava Czech Republic
8:55-9:20AM	B02: Extreme quantum isotope effects in muonium/muon chemical reactions (P28)	**Toshiyuki Takayanagi** Saitama University Japan
9:20-9:45AM	B03: Electronic structure calculations of nanomaterials: basic theories and practical applications (P29)	**Jisoon Ihm** Seoul National University South Korea
9:45-10:10AM	B04: Electronic structure calculation using Diffusion Monte Carlo methods (P30)	**Ryo Maezono** Japan Advanced Institute of Science and Technology(JAIST) Japan
10:10-10:30AM	Session Break	
Session: General II Chair: Toshiyuki Takayanagi		
10:30 -10:55AM	B05: Atomic layer superconductors on silicon and intrinsic lateral Josephson junctions (P30)	**Takashi Uchihashi** National Institute for Materials Science Japan
10:55-11:20AM	B06: Recent progress of spintronics materials: new n-type electron-induced ferromagnetic semiconductor and its heterostructures (P31)	**Masaaki Tanaka** The University of Tokyo Japan
11:20-11:45AM	B07: A new non-destructive readout by using photo-recovered surface potential contrast (P32)	**Kuijuan Jin** Institute of Physics, Chinese Academy of Sciences China
11:45-12:10PM	B08: Linear and Non-linear spectroscopy in transition metal dichalcogenide monolayers (P33)	**Gang Wang** CNRS, University of Toulouse France
12:10-13:10PM	Lunch Break	
Session: Low Dimensional Materials and Devices II Chair: Kimberley Hall		
13:25-13:50PM	B09: Nondestructive Nanofabrication on GaAs Surface by Tribochemical Removal (P33)	**Linmao Qian** Southwest Jiaotong University China
13:50 -14:15PM	B10: Dark nanomaterials: from ultra-high absorption to black-body lasers (P34)	**Andrea Fratalocchi** King Abdullah University of Science and Technology Saudi Arabia
14:15 -14:40PM	B11: Multidimensional coherent spectroscopy of semiconductor excitons (P35)	**Alan D. Bristow** West Virginia University USA

14:40 -15:05PM	B12: Group IV semiconductor nanocolloids produced by bandgap-controlled etching: Influence of quantum size effect on the etching and optical properties (P36)	**Seiichi Sato** University of Hyogo Japan
15:05-15:35PM	Poster Session	
Session: General III Chair: Andrea Fratalocchi		
15:35-16:00PM	B13: Femtosecond Pulse Shaping for Semiconductor Qubit Manipulation (P37)	**Kimberley Hall** Dalhousie University Canada
16:25-16:50PM	B14: Practical applications for photonic quantum technologies (P37)	**Anthony Laing** University of Bristol UK
16:50-17:15PM	B15: Rational design of flourene-based light photoactive molecules for the application of DSSCs: A DFT study (P38)	**Feng Wang** Swinburne University of Technology Australia
17:30PM	Dinner Social	

Wednesday April. 15 Room C		
7:30-8:30AM	Breakfast	
Session: Geometry and Topology Chair: Markus Pollnau		
8:55-9:20AM	C01: 4-dimensional Lefschetz fibration invariants from the quantum representations (P39)	**Takefumi Nosaka** RIMS, Kyoto University Japan
9:20-9:45AM	C02: Braids and quantum symmetry (P39)	**Toshitake Kohno** The University of Tokyo Japan
9:45-10:10AM	C03: The topology of ideal conduction (P39)	**Balazs Het ényi** Bilkent University Turkey
10:10-10:30AM	Session Break	
Session: Lasers Chair: Takefumi Nosaka		
10:30-11:00AM	C04: Quantum and coherence aspects of continuous-wave lasers near and below laser threshold (P40)	**Keynote Speaker:** **Markus Pollnau** KTH - Royal Institute of Technology Sweden
11:00-11:25AM	C05: Comprehensive and Fully Self-Consistent Simulation of Modern Semiconductor Lasers (P41)	**Wlodzimierz Nakwaski** Lodz University of Technology Poland
11:25-11:50AM	C06: Control on high-order interference through phase modulation on coherent lasers (P41)	**Guoquan Zhang** Nankai University China
11:50-12:15PM	C07: Coherent and Squeezed Light Generation by Three-Level Laser (P42)	**Fesseha Kassahun** Addis Ababa University Ethiopia
12:15-13:15PM	Lunch Break	
Session: Quantum Computation and Control II Chair: Holger Vach		
13:25-13:50PM	C08: Reversing Quantum Chaos (P43)	**Boris Fine** Skolkovo Institute of Science and Technology Russia
13:50 -14:15PM	C09: Quantum state remote preparation and quantum control remote implemention (P43)	**Ping Zhou** Guangxi University for Nationalities China
14:15 -14:40PM	C10: Holographic imaging of quantum states and efficient decoherence decoupling in a single Si quantum dot (P44)	**Vesna Berec** University of Belgrade Serbia
14:40 -15:05PM	C11: Atomistic Modeling of Si:P devices for Si-based quantum computing (P44)	**Hoon Ryu** Korea Institute of Science and Technology Information Korea

15:05-15:35PM	Poster Session	
Session: Low Dimensional Materials and Devices III Chair: Boris Fine		
15:35-16:00PM	C12: Aromatic Silicon Nanocrystals – outstanding properties and future applications (P45)	**Holger Vach** CNRS France
16:00-16:25PM	C13: Measurement of photo-induced dark fraction and photo-darkening probability in aqueous CdTe quantum dots (P46)	**Shivprasad Patil** Indian Institute of Science Education and Research India
16:25-16:50PM	C14: Polarimetric determination of CdSe/cdS nanocrystal dipole orientation (P46)	**Agnes Maitre** Université Pierreet Marie Curie France
17:30PM	Dinner Social	

Wednesday April. 15 Room D		
7:30-8:30AM	Breakfast	
Session: Nanophotonics I Chair: Raul C. Munoz		
8:30-8:55AM	D01: One photon wave packet propagation in a 1D waveguide: role of virtual photons (P47)	**Mohamed A. Bouchene** Paul Sabatier University France
8:55-9:20AM	D02: High speed silicon photonic devices (P48)	**David John Thomson** University of Southampton UK
9:20-9:45AM	D03: Phonons in low dimensional sp^2 carbon systems (P49)	**Nedjma Bendiab** Institut Nǽl-CNRS France
9:45-10:10AM	D04: Nanostructure design for device performance improvement：Absorption and quantum efficiency enhancement of thin-film InGaAs photodetectors (P49)	**Xin Wei** Institute of Semiconductors, Chinese Academy of Sciences China
10:10-10:30AM	Session Break	
Session: Low Dimensional Materials and Devices IV Chair: M. A. Bouchene		
10:30 -10:55AM	D05: Size effects and the resistivity induced by electron-surface and electron-grain boundary scattering in gold nanostructures, as revealed by measuring the magnetoresistance and the Hall effect at 4K: The end of the road for circuit miniaturization? (P50)	**Raul C. Munoz** University of Chile Chile
10:55-11:20AM	D06: Photoluminescence blinking and spectral diffusion in single semiconductor nanocrystals (P51)	**Toshiyuki Ihara** Kyoto University Japan
11:20-11:45AM	D07: Observation of optical second harmonic generation from suspended monolayer and bilayer graphene sheets (P52)	**Kung-Hsuan Lin** Institute of Physics, Academia Sinica Taiwan
12:10-13:10PM	Lunch Break	
Session: Modeling and Simulation of Quantum Devices Chair: Martin Lukac		
13:25-13:50PM	D08: Quantum Free Energies from Non-Equilibrium Processes: A Path Integral Approach (P53)	**Lisandro Hernandez de la Pena** Kettering University USA
13:50 -14:15PM	D09: Coherent Charge and Spin Transport in Quantum Devices (P53)	**Chi-Shung Tang** National United University Taiwan
14:15 -14:40PM	D10: Bistability and chaos at low levels of quanta (P54)	**Lock Yue Chew** Nanyang Technological University Singapore

14:40 -15:05PM	D11: Modeling and Simulations for Ultrafast Optic Switches with Quantum Photonic Theory and Submicron-Scale Silicon-Photonic Technology (P55)	**DeGui Sun** University of Ottawa Canada
15:05-15:35PM	Poster Session	
Session: General IV Chair: Lisandro Hernandez de la Pena		
15:35-16:00PM	D12: Principles of Clifford-T circuit synthesis (P55)	**Martin Lukac** Tohoku University Japan
16:00-16:25PM	D13: Multifunctional block copolymers for sensing, imaging, and drug delivery (P56)	**Yanqing Tian** South University of Science and Technology of China China
17:30PM	Dinner Social	

Thursday April. 16 Room B		
7:30-8:30AM	Breakfast	
Session: General V Chair: Rosa Tualle-Brouri		
8:30-8:55AM	B16: Semiconductor Nanowires for Optoelectronics and Energy Applications (P56)	**Chennupati Jagadish** Australian National University Australia
8:55-9:20AM	B17: Back-reaction Effects in Optomechanical Cavities (P57)	**Eyal Buks** Technion-Israel Institute of Technology Israel
9:20-9:45AM	B18: Controlling the dynamics of Bose-Einstein condensate under external confinements: A new analytical perspective (P57)	**Utpal Roy** Indian Institute of Technology Patna India
9:45-10:10AM	B19: Matter-wave interferometry near the surface of an Atom-Chip (P58)	**Ron Folman** Ben Gurion University of the Negev Israel
10:10-10:30AM	Session Break	
Session: Measurement and Communication Chair: Chennupati Jagadish		
10:30 -10:55AM	B20: Microwave photonic advances in measurement and communication signal processing (P59)	**Robert Minasian** The University of Sydney Australia
10:55-11:20AM	B21: Mesoscopic quantum states of light for quantum information processing (P60)	**Rosa Tualle-Brouri** CNRS, University of Paris-Sud France
11:20-11:45AM	B22: Opto-acoustic interaction in a subwavelength-diameter optical fibre (P61)	**Jean-Charles Beugnot** CNRS, University of Franche-Comté France
11:45-12:10AM	B23: Continuous-variable Hyper-entanglement in an Optical Parametric Oscillator (P61)	**Jiangrui Gao** Shanxi University China
12:10-13:10PM	Lunch Break	
Session: Low Dimensional Materials and Devices V Chair: Haifeng Hu		
13:50 -14:15PM	B24: Tunneling via Single and Coupled Dopant Atoms in Si Nanodevices (P62)	**Daniel Moraru** Shizuoka University Japan
14:15 -14:40PM	B25: Study of charge balance for quantum dot light emitting diode (P62)	**Jing Chen** Southeast University China
14:40 -15:05PM	B26: Electronic, magnetic and transport properties of quantum dots (P63)	**Ashok Chatterjee** University of Hyderabad India
15:05-15:20PM	Session Break	

Session: Plasmonic Nanostructures and Metamaterials	Chair: Daniel Moraru	
15:20-15:45PM	B27: Broadband absorption engineering of hyperbolic metasurface (P63)	**Haifeng Hu** Northeastern University China
15:45-16:10PM	B28: Coherent control of electromagnetic fields with plasmonic meta-surface (P64)	**Xiangang Luo** Institute of Optics and Electronics, Chinese Academy of Science China
17:30PM	Dinner Social	

Thursday April. 16 Room C		
7:30-8:30AM	Breakfast	
Session: Low Dimensional Materials and Devices VI Chair: Ashok Chatterjee		
8:55-9:20AM	C15: Symmetry breaking and optical applications at oxide quantum heterostructures (P65)	**Hiroaki Matsui** The University of Tokyo Japan
9:20-9:45AM	C16: Theoretical probing of excitonic effects in transition dichalcogenides monolayers: a true numerical experience (P65)	**Iann Gerber** CNRS, University of Toulouse France
9:45-10:10AM	C17: Spin- and valley-dependent transport properties for metal-silicene-metal junctions (P66)	**Guanghui Zhou** Hunan Normal University China
10:10-10:30AM	Session Break	
Session: Quantum Computation and Control III Chair: Iann Gerber		
10:30 -11:00AM	C18: Steering many-body quantum dynamics (P66)	**Keynote Speaker:** **Tommaso Calarco** Ulm University Germany
11:00-11:25AM	C19: Chromophore Excited States – Towards Predictive Theoretical Studies (P67)	**Yavuz Dede** Gazi University Turkey
11:25-11:50AM	C20: Invariant Numerical Algorithms for the Nonlinear Schrödinger Equation (P68)	**Ravi C. Venkatesan** Systems Research Corporation India
12:15-13:15PM	Lunch Break	
Session: General VI Chair: Susumu Fukatsu		
13:25 -13:50PM	C21: Hidden spin polarization in inversion-symmetric bulk crystals (P68)	**Jun-Wei Luo** Institute of Semiconductors, Chinese Academy of Sciences China
13:50 -14:15PM	C22: Modulation of Condensation and Charge Inversion of DNA by Ethanol (P69)	**Guangcan Yang** Wenzhou University China
14:15 -14:40PM	C23: Deterioration of performance of shortwave Quantum Cascade lasers (QCLs) due to carrier leakage (P69)	**Abdullah Aldukhayel** Majmaah University Saudi Arabia
14:40 -15:05PM	C24: Quantum cellular automata and the theory of light (P70)	**Paolo Perinotti** University of Pavia Italy
15:05-15:20PM	Session Break	
Session: Nanophotonics II Chair: Jun-Wei Luo		

15:20-15:45PM	C25: Valleytronic photonics in Ge-based structures (P70)	**Susumu Fukatsu** University of Tokyo Japan
15:45-16:10PM	C26: Silicon-graphene heterogeneous photonic integrated devices (P71)	**Daoxin Dai** Zhejiang University China
16:10-16:35PM	C27: Photonic crystal microcavity with single Ge quantum dot (P71)	**Jinsong Xia** Huazhong University of Science and Technology China
16:35-17:00PM	C28: Graphene oxide nanophotonic devices (P72)	**Baohua Jia** Swinburne University of Technology Australia
17:30PM	Dinner Social	

Wednesday April. 15 15:05-15:35PM		
Poster Session		
P1	Superposition of Squeezed Laser Light Beams (P73)	**Tizazu Masresha** Addis Ababa University Ethiopia
P2	The Effect of Spontaneous Emission on the Dynamics of Three-level Laser (P73)	**Derribie Hirpo** Addis Ababa University Ethiopia
P3	Enhanced Photoluminescence property for Quantum Dot-gold nanoparticle hyb rid (P74)	**Qianqian Huang** Southeast University China