

<b>Program for EMN MEETING ON QUANTUM 2016</b>		
<b>Friday Apr.8</b>		
<b>Room A</b>		
7:20-7:50AM	Breakfast	
<b>Session: Quantum Computation and Simulation I</b>		<b>Chair: Tetsuo Kodera</b>
8:00-8:25AM	A01: Quantum-Tunneling in Dopant-Atom Transistors up to Room Temperature	<b>Daniel Moraru</b> Shizuoka University, Japan
8:25-8:50AM	A02: Simulations of Optical Properties of Realistically Sized Dopant Structures: With High Performance Computing and Intel® Xeon Phi Coprocessors	<b>Hoon Ryu</b> Korea Institute of Science and Technology Information, Korea
8:50-9:15AM	A03: Nuclear quantum effects in chemical equilibria from path integral simulations	<b>Marcin Buchowiecki</b> University of Szczecin, Poland
9:15-9:40AM	A04: Tensor networks for braiding non-Abelian anyons	<b>Gavin Brennen</b> Macquarie University, Australia
9:40-10:05AM	A05: Atomic quantum simulation of U (1) lattice gauge-Higgs model: Proposal for Feasible Experiments and Real-time Dynamics of a confinement electric flux	<b>Yoshihito Kuno</b> Nagoya Institute of Technology, Japan
10:05-10:20AM	Session Break	
<b>Session: Quantum Computation and Simulation II</b>		<b>Chair: Daniel Moraru</b>
10:20 -10:45AM	A06: Spin-based quantum information devices using physically-defined silicon quantum dots	<b>Tetsuo Kodera</b> Tokyo Institute of Technology, Japan
10:45-11:10AM	A07: Defect Engineering for Low-dimensional Atomic Multiferroics	<b>Takahiro Shimada</b> Kyoto University, Japan
11:10-11:35AM	A08: Quantum Information Science with Trapped Ca+Ions	<b>Rainer Blatt</b> Universität Innsbruck, Austria
11:35-12:00PM	A09: Developing on porous solar cell	<b>Khalid Omar</b> University of Nizwa, Oman
12:00-12:25PM	A10: Random walk optimization for topological quantum computation	<b>Vesna Berc</b> University of Belgrade, Serbia
12:25-13:55PM	Lunch Break	

<b>Friday Apr.8 Room B</b>		
<b>Session: Quantum Information Processing I</b>		<b>Chair: Shuntaro Takeda</b>
13:55 -14:20PM	B01: Deterministic doping for quantum processing devices in silicon and diamond	<b>Takahiro Shinada</b> Tohoku University, Japan
14:20 -14:45PM	B02: Stoichiometric Rare Earth Ion Crystals for Quantum Information Processing	<b>Michael Hush</b> University of New South Wales, Australia
14:45 -15:10PM	B03: Coherent processes and light storage in metastable helium atoms at room temperature	<b>Fabien Bretenaker</b> Laboratoire Aimé Cotton, France
15:10 -15:35PM	B04: Temporal Imaging with Squeezed Light	<b>Mikhail Kolobov</b> Université Lille 1, France
15:35-15:50PM	Session Break	
<b>Session: Quantum Information Processing II</b>		<b>Chair: Takahiro Shinada</b>
15:50-16:15PM	B05: Continuous-variable quantum teleportation of discrete variables	<b>Shuntaro Takeda</b> Institute for Molecular Science, Japan
16:15-16:40PM	B06: Quantum gate learning in engineered qubit networks: Toffoli gate with always-on interactions	<b>Leonardo Banchi</b> University College London, UK
16:40-17:05PM	B07: Towards Quantum Optics Experiments in Space	<b>Fabian Steinlechner</b> Austrian Academy of Sciences, Austria
17:30PM	Dinner Social	

**Friday Apr.8**

**Room C**

**Session: Colloidal Nanoparticles and Clusters I**

**Chair: Jae-Seung Lee**

14:15 -14:40PM

C01: Gold and CdS nanoparticles synthesized in polyelectrolyte-modified microemulsion template phases

**Joachim Koetz**  
Universitat Potsdam, Germany

14:40 -15:05PM

C02: Silicon nanomaterials produced from silicon nanocolloids

**Seichi Sato**  
University of Hyogo, Japan

15:30-15:45PM

Session Break

**Session: Colloidal Nanoparticles and Clusters II**

**Chair: Joachim Koetz**

15:45-16:10PM

C03: Controlled Assembly Properties of Functional Plasmonic Nanoparticles for Bioanalytical Applications

**Jae-Seung Lee**  
Korea University, South Korea

16:10-16:35PM

C04: Fabrication of Periodic Nanoparticle Clusters Using Sublimable Liquid Crystal Materials

**Dong Ki Yoon**  
KAIST, Korea

16:35-17:00PM

C05: Engineering colloidal nanoparticles with unconventional morphology

**Mona Treguer-Delapierre**  
Université de Bordeaux, France

17:30PM

Dinner Social

<b>Saturday Apr.9 Room B</b>		
7:30-7:55A M	Breakfast	
<b>Session: Keynote    Chair: Christopher Baker</b>		
7:50-8:25AM	B08: Ultrastability due to electron delocalization in aromatic silicon clusters	<b>Holger Vach</b> CNRS, France
<b>Session: Quantum Engineering and Quantum Metrology I    Chair: Christopher Baker</b>		
8:25-8:50AM	B09: Fast gate schemes for scalable trapped ion architectures	<b>Joseph Hope</b> Australian National University, Australia
8:50-9:15AM	B10: Systems and control theory for quantum information	<b>Naoki Yamamoto</b> Keio University, Japan
9:15-9:40AM	B11: Ignorance is bliss: general and robust cancellation of decoherence via no-knowledge quantum feedback	<b>André Ricardo Ribeiro de Carvalho</b> Australian National University, Australia
9:40-10:05AM	B12: Three electrical quantities and their quantum mechanical representation	<b>Shuji Nakamura</b> National Institute of Advanced Industrial Science and Technology (AIST), Japan
10:05-10:20AM	Session Break	
<b>Session: Quantum Engineering and Quantum Metrology II    Chair: Joseph Hope</b>		
10:20 -10:45AM	B13: Thin film superfluid optomechanics	<b>Christopher Baker</b> University of Queensland, Australia
10:45-11:10AM	B14: If you can build a SU (1,1) interferometer, then you should probably build something else	<b>Stuart Szigeti</b> University of Queensland, Australia
11:10-11:35AM	B15: Toward Scalable Implementation of Quantum Information Processing with Atoms and Photons	<b>Yuuki Tokunaga</b> NTT Secure Platform Laboratories, Japan
11:35-12:00PM	B16: Towards spin squeezing of an atomic ensemble with $10^{11}$ atoms	<b>Yanhong Xiao</b> Fudan University, China
12:00-12:25PM	B17: Active decoherence prevention in the service of metrology	<b>Roe Ozeri</b> Weizmann Institute of Science, Israel
12:25-13:55PM	Lunch Break	

<b>Session: General I    Chair: Xifeng Ren</b>		
13:30-13:55PM	B18: Probing condensed many particle quantum states in the quantum Hall effect regime	<b>Josef Oswald</b> Institut für Physik, Montanuniversität Leoben, Austria
13:55 -14:20PM	B19: Entangled Photon Spectroscopy of Organic Molecules	<b>Theodore Goodson</b> University of Michigan, USA
14:20 -14:45PM	B20: Quantum key distribution protocol without monitoring signal disturbance	<b>Toshihiko Sasaki</b> Photon Science Center of the University of Tokyo, Japan
14:45 -15:10PM	B21: Stability of two interacting entangled spins interacting with a thermal environment	<b>Shahram Dehdashti</b> Zhejiang University, China
15:10-15:40PM	Poster Session	
<b>Session: Plasmonic Nanostructures    Chair: Josef Oswald</b>		
15:40-16:05PM	B22: Propagation of quantum signals in plasmonic waveguide	<b>Xifeng Ren</b> University of science and technology of China, China
16:05-16:30PM	B23: Plasmonics of opalic surface: Influence of mesoscopic disorder	<b>Agnès Maître</b> Université Pierre et Marie Curie, France
16:30-16:55PM	B24: cQED-like description of quantum emitter coupling to plasmonics nanostructures	<b>G. Colas des Francs</b> Université de Bourgogne, France
16:55-17:20PM	B25: Quantum Cellular Automata, Quantum Fields and deformed Special Relativity	<b>Alessandro Bisio</b> Università di Pavia, Italy
17:30PM	Dinner Social	

<b>Saturday Apr.9</b>		
<b>Room C</b>		
7:30-8:00AM	Breakfast	
<b>Session: Electronic Structure and Dynamics    Chair: Robert Minasian</b>		
8:00-8:25AM	C06: Surface Photochemistry from First Principles	<b>Thorsten Klüner</b> Carl von Ossietzky Universität Oldenburg, Germany
8:25-8:50AM	C07: Novel application of the charge pumping process for charge and spin control	<b>Masahiro Hori</b> University of Toyama, Japan
8:50-9:15AM	C08: Electric spin generation using a double quantum well based on the interband Rashba effect	<b>Takaaki Koga</b> Hokkaido University, Japan
9:15-9:40AM	C09: Quantum confinement-induced bandgap opening in graphene nanoribbons	<b>Maya Narayanan Nair</b> Synchrotron SOLEIL, L'Orme des Merisiers, France
9:40-10:05AM	C10: Advanced characterization from the nanoscale to the single atom through (S)TEM-EELS	<b>Giuseppe Nicotra</b> Electron Microscopist @ CNR-IMM, Italy
10:05-10:20AM	Session Break	
<b>Session: General II    Chair: Thorsten Klüner</b>		
10:20 -10:45AM	C11: Microwave photonic frequency conversion	<b>Robert Minasian</b> University of Sydney, Australia
10:45-11:10AM	C12: Visualizing Quantum State	<b>Yutaka Shikano</b> Institute for Molecular Science, Japan
11:10-11:35AM	C13: Device application of exciton condensates in layered materials	<b>Xuehao Mou</b> University of Texas at Austin, USA
11:35-12:00PM	C14: Fermions on quasiperiodically modulated lattices: pairing, localization, and topology	<b>Masaki Tezuka</b> Kyoto University, Japan
12:00-13:30PM	Lunch Break	
<b>Session: Many Body Quantum Theory I    Chair: Siegfried Selberherr</b>		
13:30-13:55PM	C15: A quantum resonance catastrophe for transport through an AC driven impurity	<b>Sebastian Eggert</b> University Kaiserslautern, Germany

13:55 -14:20PM	C16: Real-time dynamics in low-dimensional quantum magnets: Progress by quantum typicality	<b>Robin Steinigeweg</b> University of Osnabrueck, Germany
14:20 -14:45PM	C17: Exact ground states for quantum mechanical non-integrable many-body systems	<b>Zsolt Gulacsi</b> University of Debrecen, Hungary
14:45 -15:10PM	C18: Momentum space reflection symmetry breaking in quasifree fermion systems	<b>Zoltan Kadar</b> University of Leeds, UK
15:10-15:40PM	Poster Session	
<b>Session: General III    Chair: Sebastian Eggert</b>		
15:40-16:15PM	C19: The Description of Carrier Transport for Quantum Systems	<b>Siegfried Selberherr</b> Technische Universität Wien, Austria
16:15-16:40PM	C20: Electrical control and detection of magnetic states in magnetic molecules	<b>Jonas Fransson</b> Uppsala University, Sweden
16:40-17:05PM	C21: Near- and mid- infrared group IV photonics	<b>Callum Littlejohns</b> Nanyang Technological University, Singapore
17:05-17:30PM	C22: Optical pulling force through surface plasmon generation	<b>Mihail Petrov</b> ITMO University, Russia
17:30PM	Dinner Social	

<b>Sunday Apr.10 Room B</b>		
7:30-8:00AM	Breakfast	
<b>Session: General IV    Chair: Shao-Ming Fei</b>		
8:00-8:25AM	B26: The study of InGaN-based light-emitting diodes grown on volcano-shaped patterned sapphire substrates with embedded SiO <sub>2</sub>	<b>Ray-Ming Lin</b> Chang Gung University, Taiwan
8:25-8:50AM	B27: Evolutionary Photonics technologies and nanomaterials for energy harvesting and lasing	<b>Andrea Fratolocchi</b> King Abdullah University of Science and Technology (KAUST), Kingdom of Saudi Arabia
8:50-9:15AM	B28: On the importance of the indistinguishability in quantum molecular scattering	<b>Pascal Honvault</b> Université de Bourgogne Franche-Comté, France
9:15-9:40AM	B29: High-long lasting luminescent SrAl <sub>2</sub> O <sub>4</sub> : Eu,Dy nanostructured platelets: designing core-shell	<b>Rocío Estefanía Rojas Hernández</b> Instituto de Cerámica y Vidrio, CSIC, Spain
9:40-10:05AM	B30: Topological insulator and quantum spin Hall state in TlBiSe <sub>2</sub> class of ternary semiconductors	<b>Bahadur Singh</b> National University of Singapore, Singapore
10:05-10:20AM	Session Break	
<b>Session: Simulations of Quantum Effects in Materials    Chair: Ray-Ming Lin</b>		
10:20 -10:45AM	B31: On Non-locality, Quantum Correlations and Uncertainty Relations	<b>Shao-Ming Fei</b> Capital Normal University, China
10:45-11:10AM	B32: An Approximate Semiclassical Method that Uses Real Valued Trajectories for Time Dependent Tunneling Calculations	<b>Michael Herman</b> Tulane University, USA
11:10-11:35AM	B33: Group-IV material waveguides, spectrometers and modulators for mid-infrared wavelengths	<b>Milos Nedeljkovic</b> University of Durham, UK
11:35-12:00PM	B34: Magnetism in Carbon Nanotubes	<b>Frank Hagelberg</b> East Tennessee State University, USA
12:00-13:30PM	Lunch Break	
<b>Session: Applications of Plasmonics and Metamaterials I    Chair: Alexander Shalin</b>		



13:55 -14:20PM	B35: A simple and unique model of the Purcell effect, Fano resonance, Rabi oscillations and fluorescence quenching in a tandem “quantum emitter-nanoantenna.”	<b>Constantin Simovski</b> Aalto University, Finland
14:20 -14:45PM	B36: Analog Simulation of Light-Matter Interactions with Plasmonic and Metamaterial Structures	<b>Pavel Ginzburg</b> Tel Aviv University, Israel
14:45 -15:10PM	B37: Generation of entangled quantum states in nonlinear plasmonic structures and metamaterials	<b>Andrey A. Sukhorukov</b> The Australian National University, Australia
15:10 -15:35PM	B38: Nanofabrication and application of 3D metamaterials	<b>Changzhi Gu</b> Institute of Physics, CAS, China
15:35-15:50PM	Session Break	
<b>Session: Applications of Plasmonics and Metamaterials II    Chair: Pavel Ginzburg</b>		
15:50-16:15PM	B39: Nonlinear optical response of 2D plasmonic nanoparticle arrays: spectral and dichroism effects	<b>Tiziana Cesca</b> University of Padova, Italy
16:15-16:40PM	B40: Optical Forces inside Hyperbolic Metamaterials	<b>Alexander Shalin</b> ITMO University, Russia
16:40-17:05PM	B41: Tunable liquid metamaterials	<b>Ilya Shadrivov</b> The Australian National University, Australia
17:30PM	Dinner Social	

<b>Sunday Apr.10</b>		
<b>Room C</b>		
7:30-8:00AM	Breakfast	
<b>Session: Quantum Engineering and Quantum Metrology III</b> <b>Chair: Jeffrey McCallum</b>		
8:00-8:25AM	C23: Quantum-Limited Heat Conduction over Macroscopic Distances	<b>Mikko Möttönen</b> Aalto University, Finland
8:25-8:50AM	C24: Fractional quasiparticle tunneling through a local quantum Hall system	<b>Masayuki Hashisaka</b> Tokyo Institute of Technology, Japan
8:50-9:15AM	C25: Experimental Generation of Multiple Quantum Correlated Beams from four-wave mixing	<b>Jietai Jing</b> East China Normal University, China
9:15-9:40AM	C26: Realization of sub-picosecond clock synchronization based on Second-Order Quantum Coherence	<b>Ruifang Dong</b> National Time Service Center (NTSC), CAS, China
10:05-10:20AM	Session Break	
<b>Session: Quantum Engineering and Quantum Metrology IV</b> <b>Chair: Mikko Möttönen</b>		
10:20 -10:45AM	C27: An Electrically Driven Single Photon Source in SiC	<b>Jeffrey McCallum</b> The University of Melbourne, Australia
10:45-11:10AM	C28: Detection of single microwave photons using impedance-matched Lambda system	<b>Kazuki Koshino</b> Tokyo Medical & Dental University, Japan
11:10-11:35AM	C29: Controlling the von Neumann entropy of quantum systems	<b>Jinhui Zhao</b> China Jiliang University, China
11:35-12:00PM	C30: A silica integrated optical platform for quantum information processing: demonstrating sources, circuits and detectors	<b>Peter G.R. Smith</b> University of Southampton, UK
12:00-13:55PM	Lunch Break	
<b>Session: Many Body Quantum Theory II</b> <b>Chair: Yoshihiro Shimazu</b>		
13:55-14:20PM	C31: Molecules in Momentum Space: The role of Vibrational Effects	<b>Filippo Morini</b> Universiteit Hasselt, Belgium
14:20 -14:45PM	C32: Transport properties of strongly correlated Hubbard chains	<b>Jun'ichi Ozaki</b> Research Center for Computational Design of Advanced Functional Materials

		(CD-FMat), AIST, Japan
14:45 -15:10PM	C33: Negative Differential Conductivity and Transport in the Bose-Hubbard Model	<b>Murray Olsen</b> University of Queensland, Australia
15:10 -15:35PM	C34: Mesoscopic thermalization with few-mode Bose-Hubbard models: Hidden timescale in the response of driven chaotic systems	<b>Amichay Vardi</b> Ben-Gurion University of the Negev, Israel
15:35-15:50PM	Session Break	
<b>Session: General V Chair: Filippo Morini</b>		
15:50-16:15PM	C35: Raman-like transitions in a superconducting quantum circuit and incorporation of a switch made of novel 2D materials	<b>Yoshihiro Shimazu</b> Yokohama National University, Japan
16:15-16:40PM	C36: The studies of molecular photoassociation and photodissociation dynamics with quantum wavepacket method	<b>Yong-Chang Han</b> Dalian University of Technology, China
16:40-17:05PM	C37: Anisotropic plasmonic metasurface: theory and experiment	<b>Andrey Bogdanov</b> ITMO University, Russia
17:30PM	Dinner Social	

**Saturday Apr.9**

15:10-15:40PM

**Poster Session**

P1	Investigation of the Cupric Ion-Induced Reversible Assembly Properties of DNA-Nanoparticle Conjugates	<b>Jangho Joo</b>	Korea University, Republic of Korea
P2	Controlling the Binding Properties of DNA-Gold Nanoparticles Using Diluent Sequences	<b>Sohyun Seo</b>	Korea University, Republic of Korea
P3	Tight-binding theory in effect of defect on band gap energy of graphene quantum dot	<b>Lanchakorn Kittiratanawasin</b>	Kasetsart University, Thailand
P4	Atomistic tight-binding theory in exciton and biexciton of ZnTe/ZnS type-I and ZnTe/ZnSe type-II core/shell nanocrystals	<b>Worasak Sukkabet</b>	Ubon Ratchathani University, Thailand