

Program for EMN Mauritius Conference 2016

Wednesday November 30

14:00-18:00 **Onsite registration & Sign up**

Thursday December 1

Room A

08:20-08:30 **Opening Ceremony**

Session: Quantum Nanostructures & Low Dimensional Systems I

Chair: Yoshihisa Yamamoto

08:30-08:55	A01: Novel quantum nanostructures based on sp ² -bonded carbon and boron nitride	Alex Zettl University of California at Berkeley, USA P1
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08:55-09:20	A02: Quantum Nano-Structures for Quantum Metamaterials and for Ultra high Efficiency Photovoltaics	Chris Phillips Imperial College London, UK P1
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09:20-09:45	A03: Strongly-correlated electrons in two dimensions	Sergey Kravchenko Northeastern University, USA P2
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09:45-10:10	A04: Localized states in double quantum wells from first principles and nanometric chemical bonds	Rafael M Gutierrez Universidad Antonio Nariño, Colombia P2
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10:10-10:30 **Session Break**

Session: Quantum Information Processing & Quantum Transport and Dissipation I

Chair: Chris Phillips

10:30-10:55	A05: Minimum-error discrimination of mixed N qubit states given with arbitrary a priori probabilities	Young Kwon Hanyang University, South Korea P3
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10:55-11:20	A06: Quantum Neural Network for Combinational Optimization	Yoshihisa Yamamoto Stanford University, USA P3
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11:20-11:45	A07: Quantum Uncertainty Relations and Related	Shaoming Fei Capital Normal University, China P4
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12:00 **Lunch Break**

Session: Quantum Dynamics I Chair: Thorsten Klüner

13:30-13:55	A08: Coherent and nonequilibrium phenomena in hybrid Josephson structures	Valery Ryazanov National Research University, Russia P5
13:55-14:20	A09: Thermodynamic cost of shortcuts to adiabaticity	Ken Funo Peking University, China P5
14:20-14:45	A10: TBA	Gwendal Fève l'Université Pierre et Marie Curie, France P6
14:45-15:10	A11: Isomorphism Between the Measurement Problem and Bio-psychological Reflection and Perception	Franz Klaus Jansen Independent researcher, Montpellier, France P6
15:10-15:35	A12: The mesoscopic dynamics of thermodynamic systems	J. Miguel Rubi University of Barcelona, Spain P7
15:35-15:50	Session Break	
Session: General I Chair: Ken Funo		
15:50-16:15	A13: Flat Gold Nanotriangles: Synthesis, Characterization and Application	Joachim Koetz Universität Potsdam, Germany P8
16:15-16:40	A14: Light to Hydrogen: a quantum approach to solar fuels	Thorsten Klüner University of Oldenburg, Germany P8
16:40-17:05	A15: Growth of Au Quantum Dots Embedded in Cladding Region of the Germano-silicate Optical Fiber by Gamma-ray Irradiation and its Surface Plasmon Resonance Response	Seongmin Ju Gwangju Institute of Science and Technology, South Korea P9
17:05-17:30	A16: Ultrafast Demagnetization after Laser Excitation of Ni: A Density-Matrix	Manfred Faehle Max-Planck-Institute for Intelligent Systems, Germany P10
18:00	Dinner Social	

Friday December 2

Room A

Session: Quantum Theory I Chair: Yasushi Iwata

08:00-08:25	A17: Spectrum, radial wavefunctions, and hyperfine splittings of highly excited heavy alkali-metal atoms	Nils Schopohl Universitaet Tuebingen, Germany P11
08:25-08:50	A18: Quantum Electrodynamics in a Laser and γ -ray laser generation	Chunyuan Gao Peking University, China P11
08:50-09:15	A19: Self-acceleration in Quantum Theory	Cem YÜCE Anadolu University, Turkey P12
09:15-09:40	A20: Maxwell-Schrödinger approach to light-nanomatter interaction	Tokuei SAKO Nihon University, Japan P13
09:40-10:05	A21: An Information-Theoretic Approach to Quantum Contextuality	Dagomir Kaszlikowski National University of Singapore, Singapore P14
10:05-10:30	Session Break	
Session: Quantum Nanostructures & Low Dimensional Systems II Chair: Chunyuan Gao		
10:30-10:55	A22: Indirect excitons and dipolaritons in planar heterostructures in external electric and magnetic fields	Joe Wilkes Cardiff University, UK P14
10:55-11:20	A23: Endogenous Quantum Surface States Characteristic of the Silicon Cluster Superlattice	Yasushi Iwata National Institute of Advanced Industrial Science and Technology (AIST), Japan P15
11:20-11:45	A24: Spin-orbit control of spin-transistor operation in semiconductor nanowires	Janusz Adamowski AGH University of Science and Technology, Poland P16
12:00	Lunch Break	

Session: Quantum Information Processing & Quantum Transport and Dissipation II Chair: Oleg Yazyev		
13:30-13:55	A25: Dualities in multi-channel Luttinger liquids	Igor Yurkevich Aston University, UK P17
13:55-14:20	A26: Quasi-particle approach to quantum transport and quantum dissipation	YiJing Yan University of Science and Technology of China, China P18
14:20-14:45	A27: Exact and Explicit Constructions of Unitary Operators for Universal Quantum Computation	Mitsuru Hamada Tamagawa University, Japan P19
14:45-15:10	A28: Correlated lasing and quantum switch in superconducting flux qubit circuits	Yuxi Liu Tsinghua University, China P19
15:10-15:30	Session Break	
Session: Topological States of Matter I & Study of Matter through Scanning Tunneling Microscope Chair: YiJing Yan		
15:30-15:55	A29: High-throughput search for novel topological insulators and semimetals	Oleg Yazyev Ecole Polytechnique Federale de Lausanne (EPFL), Switzerland P20
15:55-16:20	A30: Interplay between symmetry and topology in topological semimetals	Shuichi Murakami Tokyo Institute of Technology, Japan P21
16:20-16:45	A31: Insulator to 2D metal transition at the surface of SrTiO ₃ with negative charge compressibility and Kondo effect	Isao H. INOUE National Institute of Advanced Industrial Science and Technology (AIST), Japan P22
16:45-17:10	A32: Atomic Force Microscopy Manipulation of Magnetic Atoms on a Surface	Ivan Stich Slovak Academy of Sciences, Bratislava, Slovak Republic P23
17:10-17:35	A33: Proposal to Identify the Majorana Bound States by Scanning Tunneling Spectroscopy	Takuto Kawakami National Institute for Materials Science, Japan P24
18:00PM	Dinner Social	

Saturday December 3

Room A

Session: General II Chair: Nosipho Moloto

08:00-08:25	A34: Abstract Tunable circular dichroism due to the chiral anomaly in Weyl semimetals	Pavan Hosur Stanford University, USA P25
08:25-08:50	A35: Quantum Phase Transitions in Strongly Correlated Electron Systems	Hilbert v. Löhneysen Karlsruhe Institute of Technology, Germany P26
08:50-09:15	A36: Metal and Semiconductor Nanoparticles and their Polymer Fibres	Makwena Moloto Vaal University of Technology, South Africa P26
09:15-09:40	A37: Lasing modes in chaotic microcavity laser diodes	Takehiro Fukushima Okayama Prefectural University, Japan P27
09:40-09:55	Session Break	
Session: General III Chair: Hilbert v. Löhneysen		
09:55-10:20	A38: Quantum matter and invariants in General Relativity, Black Holes and generalized Kummer-surfaces	Carsten Gallus Fachbereich Medien, Germany P28
10:20-10:45	A39: Syntheses and characterization of metal chalcogenide nanocrystals for application in solution processed solar cells	Nosipho Moloto University of the Witwatersrand, South Africa P28
10:45-11:10	A40: InGaN-based hot electron light emitting and lasing in semiconductor heterostructure (HELLISH) LED's	Engin Tiras Anadolu University, Turkey P29
11:10-11:35	A41: The Intensity of Optical Emission Spectra Lines Changes with Time	Murat TANIŞLI Anadolu University, Turkey P30
11:35-12:00	A42: New achievements in laser scanning microscopy based on near field	George Stanciu Politehnica University of Bucharest, Romania P31
12:00	Lunch Break	

Sunday, December 4

One day Academic exchange & Excursion