

Program for EMN Barcelona Meeting 2019

International Conference on Advanced Structural and Functional Materials

** Room A, Room B (Lluís lives I, Lluís lives II)*

15:00-17:30	Monday August 19 Onsite registration & Sign up	
Tuesday August 20 Room A		
08:30	Opening Ceremony	
Session: Semiconductor Chair: Marta Mikuśkiewicz		
08:30-08:55	A01: Metallic ZnO nanocrystals for Mid IR plasmonics	Bruno Masenelli Institut National des Sciences Appliquées de Lyon, France
08:55-09:20	A02: Defect characterization of GaN by SEM-CL and STEM-CL	Masanobu Yoshikawa Toray Research Center, Inc., Japan
09:20-09:45	A03: Combinatorial Sputtering of Piezoelectric Nitride Thin Films and Their Advanced Applications	Kao-Shuo Chang National Cheng Kung University, Taiwan
09:45-10:10	A04: Electronic and transport properties of 2D MX ₂ and boron based materials	Jun Ni Tsinghua University, China
10:10 -10:30	Session Break	
Session: Functional Surfaces and Coatings Chair: Bruno Masenelli		
10:30-10:55	A05: Thermal diffusivity characterization of Eu/Dy/Sm zirconate, cerate and hafnate	Marta Mikuśkiewicz Silesian University of Technology, Poland
10:55-11:20	A06: Control of nucleation and growth process of MOFs using metal ion-doped polymer substrate for constructing the continuous MOF films	Takaaki Tsuruoka Konan University, Japan
11:20-11:45	A07: Controlling Organic/Inorganic Interface via Self-Assembled Monolayers and Vapor Deposition	Hiroaki USUI Tokyo University of Agriculture and Technology, Japan
11:45-12:10	A08: One Dimensional Nanostructures with Synthesis, Characterization, Application	Soheli Farhana Universiti Kuala Lumpur (UniKL), Malaysia
12:10	Lunch Break	

Tuesday August 20

Room A

Session: Quantum Dynamics Chair: Satoshi Tanaka

13:30-13:55	A09: de Broglie Bohm double solution program reloaded: Doublon network in 1+1+2 dimensions	Ingo Steinbach Ruhr University Bochum, Germany
13:55-14:20	A10: Many-body quantum dynamics by the TDDFT-based theory of the reduced density matrix	Vladimir U. Nazarov Research Center for Applied Sciences, Academia Sinica, Taiwan
14:20-14:45	A11: Emulation of the Quantum Tight-Binding Model with Mechanical Vibrations	Rafael Méndez Universidad Nacional Autónoma de México, Mexico
14:45-15:10	A12: Implementing Quantum Mechanics Concepts in Classical Mechanics	Yehuda Roth Oranim Academic College, Israel
15:10-15:35	A13: Parallel in time dynamics with quantum annealers	Bartłomiej Gardas Jagiellonian University, Poland
15:35-16:00	Session Break	
Session: Graphene-based and Carbon-based Composite Materials Chair: Jun Ni		
16:00-16:30	A14: Unexpected predominant electrical performance of N-doped graphene thin film transistors (TFTs) based on the transfer-free, large-scale, high quality monolayer graphene synthesized below 150 oC	Soon-Gil Yoon Chungnam National University, Korea
16:30-16:55	A15: Ag doped sepiolite intercalated graphene nanostructure material based electrode for hybrid capacitive deionization system	Fawzi Banat Khalifa University, Abu Dhabi, UAE
16:55-17:20	A16: 3D-printed carbon based materials for energy applications	Cheng Zhu Lawrence Livermore National Laboratory, USA
17:20-17:45	A17: Carrier transport of thin film transistor with Nb-doped WSe ₂ channel	Eun Kyu Kim Hanyang University, Korea
17:45-18:10	A18: Towards Sensitive Terahertz Detection via Thermoelectric Manipulation in Graphene Transistors	Gang Chen Shanghai Institute of Technical Physics, CAS, China
18:10	Dinner Social	

Wednesday August 21**Room A****Session: Energy Storage Materials Chair: Cheng Zhu**

08:30-08:55	A19: Interface modifications for perovskite solar cells	Zhong-Sheng Wang Fudan University, China
08:55-09:20	A20: Zn ₂ GeO ₄ , a novel wide band gap semiconductor for application in the UV range and for energy storage	Pedro Hidalgo Alcalde UCM-Universidad Complutense de Madrid, Spain
09:20-09:45	A21: Regular perovskite solar cells based on low temperature TiO ₂ /fullerene composites	Chun-Guey Wu National Central University, Taiwan
09:45-10:10	A22: Piezo/Triboelectric Potential Modulated Semiconductor Devices	Qijun Sun Beijing Institute of Nanoenergy and Nanosystems, CAS, China
10:10 -10:30	Session Break	
Session: Advanced Functionalized Composite I Chair: Zhong-Sheng Wang		
10:30-10:55	A23: Design, growth, optical and scintillation properties of eutectic scintillator	Akira Yoshikawa Tohoku University, Japan
10:55-11:20	A24: Design and Development of Persistent Phosphors Based on Electronic Structure	Jumpei Ueda Kyoto University, Japan
11:20-11:45	A25: Charge recombination dynamics in III-V semiconductor nanowires	Arkady Yartsev Lund University, Sweden
11:45-12:10	A26: To be presented	Guoying Feng Sichuan University, China
12:10	Lunch Break	

Wednesday August 21**Room A****Session: Polymer Matrix Materials****Chair: Chun-Guey Wu**

13:30-13:55	A27: Production of conductive composite electrodes for extracellular recording and stimulation	David Cheneler Lancaster University, UK
13:55-14:20	A28: Water purification using sponge like behaviour of poly(N-isopropylacrylamide) ferrogels	Wojciech Hyk University of Warsaw, Poland
14:20-14:45	A29: Structure and properties of gels and soft solvent-free nanocomposites based on polyacrylates crosslinked by clay	Beata Strachota Institute of Macromolecular Chemistry, Academy of Sciences of the Czech Republic, Czech Republic
14:45-15:10	A30: From 3D to 4D printing: first approaches	Ana Catarina Pinho University of Coimbra, Portugal
15:10-15:25	A31: Electronic Structure and Magnetic Moment of Polymer Based on FeZwitterionic Quinone and the Adsorbed Polymer on Different Metallic Substrates	Hassan DENAWI Aix-Marseille Université France
15:25-16:10	Poster Session	
Session: Application of Functional Materials I		Chair: David Cheneler
16:10-16:35	A32: Displacement current measurement using a combined waveform for organic devices	Yuya TANAKA Chiba University, Japan
16:35-17:00	A33: Influence of Mg ₂ Si content on the microstructure and mechanical properties of In-situ Mg ₂ Si/Al-Cu composites	Shulin Lü Huazhong University of Science and Technology, China
17:00-17:25	A34: Investigation of Potential Enhancement of Fracture Toughness of Functionalized Alumina by Application of External Microwave Field	Daniel Shreiber US Army Research Laboratory, USA
17:25-17:50	A35: Infrared Supercontinuum Generation in Solid-core Photonic Crystal Fibers with Different Materials	Wei Li Sichuan University, China
17:50-18:15	A36: Terahertz Near-field Tailoring Photoelectric Effect in Graphene-based Transistor	Lin Wang Shanghai Institute of Technical Physics, CAS, China
18:20	Dinner Social	

Wednesday August 21**Room B****Session: Quantum Computation Chair: Niels Tas**

08:30-08:55	B01: Finite-entanglement scaling properties of the one-dimensional fermion Hubbard model	Min-Chul Cha Hanyang University, Korea
08:55-09:20	B02: Fabrication Concepts and Realization of Nanomaterial for Sustainable Development Goals	Yamato Hayashi Tohoku University, Japan
09:20-09:45	B03: Collective aggregates, complex quaternions and quantum entanglement	Lidia Obojska Siedlce University of Natural Sciences and Humanities, Poland
09:45-10:10	B04: Tomography of Bell states of superconducting qubits by fluxon pulses	Marina Bastrakova Lobachevsky State University of Nizhny Novgorod, Russia
10:10 -10:30	Session Break	
Session: Quantum General Chair: Lidia Obojska		
10:30-10:55	B05: Quantumness redefined: Achilles and the tortoise, and Arnold's cat revisited	Héctor A. Munera International Centre for Physics (CIF), Colombia
10:55-11:20	B06: Wafer scale fabrication of laterally confined and strongly curved tunnel junctions	Niels Tas University of Twente, The Netherlands
11:20-11:45	B07: General protocol leading to understanding, on a fundamental level, reaction mechanisms. The catalytic properties of S-proline conformers as a case study.	Ignacy Cukrowski University of Pretoria, South Africa
11:45-12:10	B08: Torsion Effects on Some Quantum Phenomenae	Mamdouh Wanas Cairo University, Egypt
12:10	Lunch Break	

Wednesday August 21**Room B****Session: Quantum Dots I Chair: Ingo Steinbach**

13:30-13:55	B09: Kondo effect in quantum dot interferometer in multiterminal geometry	Mikio Eto Keio University, Japan
13:55-14:20	B10: Carbon Quantum Dots: An Emerging Material for Optoelectronic Applications	Louzhen Fan Beijing Normal University, China
14:20-14:45	B11: Optoelectronic Biointerfaces Using Quantum Dots	Sedat Nizamoglu Koç University, Turkey
14:45-15:10	B12: The mechanisms of large Stokes shifts in ternary I-III-VI quantum dots	Stanislav Kruchinin University of Vienna, Austria
15:10-16:10	Poster Session	
Session: Quantum Dots/ Quantum Dynamics II Chair: Louzhen Fan		
16:10-16:35	B13: Adiabatic almost-topological pumping of fractional charges in non-interacting quantum dot	Masahiro Hasegawa University of Tokyo, Japan
16:35-17:00	B14: Bell-state correlation in current through a quantum dot with three terminals	Rui Sakano University of Tokyo, Japan
17:00-17:25	B15: Towards a Silicon-based Quantum Cascade Laser	Luca Persichetti Roma Tre University, Italy
17:25-17:50	B16: Reproducing fractional quantum Hall resistivity and energy gaps via non-equilibrium quantum dynamics	Jongbae Hong Incheon National University, Korea
18:20	Dinner Social	

Thursday August 22

Room A

Session: Application of Functional Materials II

Chair: Masayoshi UNO

08:30-08:55	A37: Nano silica synthesized by green method: a novel environmental remedy for oily and metal contaminated water	Doğa KAVAZ Cyprus International University, Turkey
08:55-09:20	A38: Application of metamaterial nano-engineering for increasing the superconducting critical temperature	Mike Osofsky Naval Research Laboratory, USA
09:20-09:45	A39: Study on the combustion characteristic of SiO ₂ aerogel thermal insulation material prepared under ambient drying condition	Xudong Cheng University of Science and Technology of China, Hefei, China
09:45-10:10	A40: A self-healing hydrogel with pressure sensitive photoluminescence for remote force measurement and healing assessment	Quan Xu China University of Petroleum, Beijing, China
10:10 -10:30	Session Break	
Session: Quantum Optics, Quantum Dynamics		
Chair: Mikio Eto		
10:30-10:55	A41: Parametric amplification of quantum vacuum fluctuation with dissipation in terms of complex spectral analysis of Floquet-Liouvilian	Satoshi Tanaka Osaka Prefecture University, Japan
10:55-11:20	A42: Quantum-based Voltage Metrology with Superconductive Electronics	Sam Benz National Institute of Standards and Technology, USA
11:20-11:45	A43: Quantum-path interference in the electronic states driven by intense laser field	Yosuke Kayanuma Tokyo Institute of Technology, Japan
11:45-12:10	A44: X-ray Molecular Orbital Analysis of diformohydrazide	Kiyooki Tanaka Nagoya Industrial Science Research Institute, Japan
12:10	Lunch Break	

Thursday August 22

Room A

Session: Application of Functional Materials III

Chair: Paul Catalin Balaure

13:30-13:55	A45: Thermal Conductivity Estimation of Fully Ceramic Microencapsulated (FCM) Pellets with ZrO ₂ as Simulated Particle	Masayoshi UNO University of Fukui, Japan
13:55-14:20	A46: Design of UV-curable liquids for application with functional coating	Kyoung-Mo Jeong Kangwon National University, South Korea
14:20-14:45	A47: GaN Piezo-phototronic devices	Weiguo Hu Beijing Institute of Nanoenergy and Nanosystems, CAS, China
14:45-15:10	A48: Piezotronic materials and applications	Junyi Zhai Beijing Institute of Nanoenergy and Nanosystems, CAS, China
15:10-15:35	A49: Microstructure, mechanical property and oxidation resistance of MoSiB-based high-temperature alloys	Mi Zhao Huazhong University of Science and Technology, China
15:35-16:00	A40: Development of Zr-based metallic glass matrix composites with hybrid reinforcing structure	Wei Guo Huazhong University of Science and Technology, China
16:00-16:25	Session Break	
Session: Bio-transistors/Crystal Chair: Doğa KAVAZ		
16:25-16:50	A51: Innovative and effective alternatives to the classical antimicrobial and anti-biofilm therapies	Paul Catalin Balaure Polytechnic University of Bucharest, Romania
16:50-17:15	A52: Detection of biomolecular recognition and cell function using bio-transistors	Yuji Miyahara Tokyo Medical and Dental University, Japan
17:15-17:40	A53: Thermal spectroscopy defect analysis in micro-crystalline and single crystal CsPbBr ₃	Mara Bruzzi Università degli Studi di Firenze, Italy
17:40-18:05	A54: Influence of crystalline defects on the properties of InAlN/GaN heterostructures and their spontaneous degradation	Ranim Mohamad University of Caen Normandy, France
18:05-18:30	A55: Electrical/Electrochemical detection of small nucleic acids for liquid biopsy	Miyuki Tabata Tokyo Medical and Dental University, Japan
18:30	Dinner Social	
Friday Aug. 23	One-Day Excursion: Nature, Culture, and Collaboration	

Wednesday August 21

15:25-16:10

Poster Session Chair: Daniel Shreiber

P01	Nanotube sodium titanate as electrode material in energy storage systems	Antonia Stoyanova Bulgarian Academy of Sciences, Bulgaria
P02	Intercalation Properties of Nanosized Mg-doped NaMnPO ₄ Phospho-Olivine as Positive Electrode in Lithium- and Sodium-ion Batteries	Violeta Koleva Bulgarian Academy of Sciences, Bulgaria
P03	Enhanced Photoelectrochemical Performances of ZnS-Bi ₂ S ₃ /TiO ₂ /WO ₃ Composite Film for Photocathodic Protection	Ronggui Du Xiamen University, China
P04	Analysis of polyurethane foam for building sealant	Kisoo Kim Ulsan Technopark, Korea
P05	Effect of different cellulose nanofillers on the structural, thermal and mechanical properties of PLLA/PHB biocomposites	Adriana Nicoleta Frone National Institute for Research & Development in Chemistry and Petrochemistry ICECHIM, Romania
P06	Surface Characteristics of Polyurethane Gel Coats in marine environments	Dong Hyup Park Korea Conformity Laboratories, South Korea
P07	Surface Control and Degradability of Carbon Dioxide-reducible Biodegradable Polymers	Won-Ki Lee Pukyong National University, South Korea
P08	Surface and Adhesion Properties of Injection Parts by Surface Treatment	Jae Hwan Chun Korea Institute of Footwear & Leather Technology, South Korea
P09	Synthesis and characterization of terpolymers containing carbazole, coumarin and Alq ₃ complexes	Dariusz Bogdal Cracow University of Technology, Poland

P10	5-Fluoro-2,1,3-Benzothiadiazole-Containing Regio-Isomeric Polymers for Organic Field-Effect Transistors	Changduk Yang Ulsan National Institute of Science and Technology, South Korea
P11	High efficient photocatalytic activity of photonic crystal structural-induced Cu ₃ SnS ₄ /Ti ₃₊ -TiO ₂ p-n coaxial heterojunction arrays for pollutant degradation and H ₂ production	Yan Li Northwest Normal University, China
P12	Characteristics of Titanium Oxide Thin Films grown by Chemical Vapor Deposition Method with Large Surface Area graphene oxide	Soon-Won Jung Techplus, Korea
P13	Modeling of quartz bursting test at high temperature	Aissa kefaifi Centre de Recherche en Technologie des Semiconducteurs pour l'Énergie CRTSE, Algeria
P14	To be presented	Taiming Zhang Tsinghua University, China

