

EMN Lyon Meeting

August 8th to 12th, 2017
Mercure Lyon Charpennes Hotel, Lyon, France

Wednesday, August 9th

ROOM A

7:50-8:00AM

Opening

Session: 2D Materials and devices I Chair: Kevin Chung-Che Huang

8:00-8:30AM

01: Electron/Hole Transformation between Two Atomic Layers (**Keynote**)

Junrong Zheng
Peking University, China

8:30-8:55AM

02: Theoretical insights into magnetic insulator proximity effects in graphene

Mairbek Chshiev
Univ. Grenoble Alpes, France

8:55-9:20AM

03: 2D crystalline superconductors based on transition metal dichalcogenide

Yu Saito
The University of Tokyo, Japan

9:20-9:45AM

04: Graphene formation through spontaneous exfoliation of graphite by chlorosulfonic acid: A DFT study

Nicolas A. Cordero
University of Burgos, Spain

9:45-10:10AM

05: Heterostructure fabrication of chemical vapor deposited graphene and conventional semiconductors

Golap Kalita
Nagoya Institute of Technology, Japan

10:10-10:25AM

Session Break

Session: Synthesis and Characterization of Titanium oxides Chair: Leslie Felicia Petrik

10:25-10:50AM

06: Solution-Processed TiO₂ on Semiconductors and Device Applications

Kuan-Wei Lee
I-Shou University, Taiwan

10:50-11:15AM

07: Growth of ultrathin titanium oxide films on Ag surfaces

Kazuyuki Edamoto
Rikkyo University, Japan

11:15-11:40AM

08: Atomic layer deposition of TiO₂ thin films for memory applications

Seong Keun Kim
Korea Institute of Science and Technology (KIST), Korea/
Peter Grünberg Institut-7,
Jülich Research Centre,
Germany

Session: Titanium Oxides Applications in Biomedical and Healthcare Chair: Leslie Felicia Petrik

11:40AM-12:05PM	09: Polyelectrolyte and enzyme functionalization of titania nanosheets: towards processable nanocarriers for bioapplications	Paul Rouster University of Geneva, Switzerland
12:05-12:30PM	10: Toward novel bioinspired nanostructured surfaces for medical applications	Ita Junkar Jožef Stefan Institute, Slovenia
Lunch Break		
Session: Magnetic Nanomaterials Chair: Yuko Ichiyanagi		
14:00-14:25PM	11: Diversification in Nanotechnology for Biological Application: A new dawn for Magnetic Nanoparticles	Doğa Kavaz Cyprus International University, North Cyprus
14:25-14:50PM	12: Electron Paramagnetic Resonance for Nanostructure Characterization	Adrien Savoyant Avenue Escadrille Normandie Niemen, France
14:50-15:15PM	13: Study of magnetoresistance and microstructure in a Cu ₇₅ -Ni ₂₀ -Co ₅ alloy	Hibiki Sakakura Yokohama National University, Japan
15:15-15:40PM	14: Metamagnetic Shape Memory Alloys	Merivan Sasmaz Adiyaman University, Turkey
15:40-16:05PM	15: Structural and magnetic properties of single phase and core@shell iron oxide nanoparticles with controlled size and shape	Vincenzo Iannotti University of Naples "Federico II", Italy
16:05-16:20PM	Session Break	
Session: 2D Materials and devices II Chair: Mairbek Chshiev		
16:20-16:45PM	16: Synthesis and oxygen permselectivity of 2D parts-containing polymer membranes	Toshiki Aoki Niigata University, Japan
16:45-17:10PM	17: Evolution in Emerging 2D Functional Chalcogenides with CVD and Van der Waals Epitaxy	Kevin Chung-Che Huang Optoelectronics Research Centre, UK
17:10-17:35PM	18: Fabrication and characterization of graphene/silicon heterojunctions	Antonio Di Bartolomeo Universita' degli Studi di Salerno, Italy
17:35-18:00PM	19: All source/drain graphene electrode for amorphous indium-gallium-zinc-oxide thin-film transistors	Jaewook Jeong Chungbuk National University, Korea

Thursday, August 10th

ROOM A

Session: Application of 2D materials Chair: Fabien Silly

8:30-8:55AM	20: Broadband terahertz light emission and lasing in graphene-based van der Waals heterostructures	Taiichi Otsuji Tohoku University, Japan
8:55-9:20AM	21: Highly Mismatched Quantum Well Semiconductor Alloys for GaAs-based Near and Mid-Infrared Photonics	Judy Rorison University of Bristol, UK
9:20-9:45AM	22: Nanocatalysis Supported on Graphene and Metal-Organic Frameworks for Clean Energy and Environmental Applications	Samy El-Shall Virginia Commonwealth University, USA
9:45-10:10AM	23: Hierarchical engineering of 2D self-assembled porous organic-based nanoarchitectures on metal surfaces : on-surface synthesis of porous organic covalent-structures and self-assembled hybrid organic-ionic architectures	Fabien Silly CEA Saclay, France
10:10-10:25AM	Session Break	

Session: Transition metal dichalcogenides Chair: Taiichi Otsuji

10:25-10:50AM	24: Self-assembled hetero-structure based on two-dimensional transition metal dichalcogenides	Kazuhito Tsukagoshi National Institute for Materials Science, Japan
10:50-11:15AM	25: Optical and Magneto-Optical properties of 2D semiconductor transition metal dichalcogenides	Yara Galvão Gobato Federal University of São Carlos, Brazil
11:15-11:40AM	26: Electronic and magnetic properties of 2D transition-metal thiophosphates (MPX ₃)	Euyheon Hwang Sungkyunkwan University, Korea
11:40AM-12:05PM	27: Performance Improvement of Photo-sensitive Inverters for Multi-layered MoS ₂ by using Light Shielding Layers	Sung Hun Jin Incheon National University, Korea

Lunch Break

Session: Titanium Oxides- General Chair: Yasuhiro Sugawara

13:30-13:55PM	28: Photocatalytic activity of supported carbon doped TiO ₂ nanocomposites	Leslie Felicia Petrik University of Western Cape, South Africa
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13:55-14:20PM	29: Anticorrosive, antimicrobial and bioactive titanium dioxide coating for surface-modified purpose on biomedical material	Hsi-Kai Tsou Taichung Veterans General Hospital, Taiwan
14:20-14:45PM	30: Na Insertion into TiO ₂ based Ternary Oxides	Mark ěa Zukalov ě J.Heyrovsk ý Institute of Physical Chemistry, ASCR, Czech Republic
14:45-15:10PM	31: The use of Titanium oxide in treating drug resistance infections	Farzan Modaresi Jahrom University of Medical Sciences, Iran
Session: Titanium Oxide Catalysis Chair: Yasuhiro Sugawara		
15:10-15:35PM	32: Photocatalytic Hydrogen Generation under Visible Light on Nanostructured TiO ₂ -II	Hadi Razavi Khosroshahi Nagoya Institute of Technology, Japan
15:35-16:00PM	33: Photoelectrochemical water splitting using modified TiO ₂ nanowires	Talal Awad Aljohani Kind Abdulaziz City for Science and Technology (KACST), Saudi Arabia
16:00-16:25PM	Poster Session & Session Break	
Session: Technology for 2D materials Chair: Kazuhito Tsukagoshi		
16:25-16:50PM	34: Application of low-voltage TEM at atomic resolution	Felix Boernert Ulm University, Germany
16:50-17:15PM	35: A Novel Technique for Fabricating Large-area Monolayer of MoSe ₂	Philip I K Sou Hong Kong University of Science and Technology, Hong Kong
17:15-17:40PM	36: Epitaxial silicene on ZrB ₂ (0001): a 2D allotrope of silicon	Antoine Fleurence Japan Advanced Institute of Science and Technology, Japan
17:40-18:05PM	37: Continuous and catalyst free synthesis of carbon nanotubes and graphene in plasma jets	Ravil Amirov Joint Institute for High Temperatures, Russia

Thursday, August 10th

ROOM B

Session: Magnetic Nanoparticles Chair: Guiyun Tian

8:30-8:55AM	38: Stability and magnetic properties of bimetallic FePt nanoparticles	J.L. Morán-López Instituto Potosino de Investigación Científica y Tecnológica A.C., Mexico
8:55-9:20AM	39: Defects and magnetism of oxides nanoparticle	D. Darminto Institut Teknologi Sepuluh Nopember, Indonesia
9:20-9:45AM	40: Development of PdPt and AuPd Bimetallic Alloy Nanoparticles on Fe ₃ O ₄ as Magnetically Recyclable Catalysts for Nitro reduction and Cascade Reductive Amination Reactions	B. Moon Kim Seoul National University, Korea
9:45-10:10AM	41: Preparation and Chemical Doping of Magnetic Nanoparticles	M. Grazia Francesconi University of Hull, UK

10:10-10:25AM

Session Break

Session: Magnetic Nanomaterials Chair: Amos Bardea

10:25-10:50AM	42: Toward Printable RFID Sensors for Structural Health Monitoring	Guiyun Tian UESTC, China
10:50-11:15AM	43: Organic spintronic devices: transport regimes and applications to neuromorphic computing	Alberto Riminucci Istituto per lo Studio dei Materiali Nanostrutturati, Consiglio Nazionale delle Ricerche, Italy
11:15-11:40AM	44: Functional Responsive superparamagnetic core/shell Nanoparticles and their drug release properties	Zied Ferjaoui ENSIC, Université de Lorraine, Institut Jean Lamour, France
11:40AM-12:05PM	45: Unified model of hyperthermia via hysteresis heating in systems of interacting magnetic nanoparticles	Sergiu Ruta University of York, UK
12:05-12:30PM	46: Magnetic Nanoparticles as Building Blocks in Complex Hybrid Nanostructures for Advanced Imaging and Theranostic Applications	Manuel Bañobre-López International Nanotechnology Laboratory, Portugal

Lunch Break

Session: Magnetic Nanoparticles Chair: J.L. Morán-López

13:30-13:55PM	47: Hybrid functional magnetic nanoparticles for future theranostics	Yuko Ichiyanagi Yokohama National University, Japan
13:55-14:20PM	48: Dynamic magnetization process of magnetic nanoparticles for hyperthermia and magnetic particle imaging	Yasushi Takemura Yokohama National University, Japan
14:20-14:45PM	49: Preparation and Characterization of Magnetic Nanoparticles Promising in Various Applications	Samia Saafan Tanta University, Egypt
14:45-15:10PM	50: Magneto Lithography (ML) a new technique for high throughput patterning via harnessing magnetic nanoparticles	Amos Bardea Holon Institute of Technology, Israel
15:10-15:35PM	51: Immobilized magnetic proteins and enzymes in bioanalysis	Marcela Slovakova University of Pardubice, Czech Republic
15:35-16:00PM	52: Applications of Magnetic Nanomedicine for Theranostic MR molecular Imaging	Chia-Hao Su Kaohsiung Chang Gung Memorial Hospital, Taiwan
16:00-16:25PM	Poster Session & Session Break	
Session: 2D materials-General I Chair: Judy Rorison		
16:25-16:50PM	53: Pillaring Graphene Oxide with Rigid 3D Organic Molecules	Francisco Ramon Morales Lara FondazioneIstituto Italiano di Tecnologia, Italy
16:50-17:15PM	54: Nanotechnology in Hepatoma Treatment	Ning Zhang Tianjin Medical University, China
17:15-17:40PM	55: Theoretical study on charge carrier trapping at surface defects of perovskite solar cell absorbers	Koichi Yamashita University of Tokyo, Japan
17:40-18:05PM	56: Structural Analysis of Engineered Nano Doubly-curved Panels	Hamidreza Yazdani Sarvestani McGill University, Canada

Friday, August 11th

ROOM A

Session: 2D Materials and devices III Chair: Tianbao Ma

8:55-9:20AM	57: Thermoelectric properties of ultrathin films of 3D Topological insulators	Katsumi Tanigaki (Stephane Yu Matsushita) Tohoku University, Japan
9:20-9:45AM	58: First-principles study of graphene-based transistors and barristors	Yong-Hoon Kim Korea Advanced Institute of Science and Technology, Korea
9:45-10:10AM	59: Smart colorful supercapcitors	Liqin Ge Southeast University, China
10:10-10:35AM	60: Electrical and thermal transport calculations at the atomistic level	Nobuhiko Kobayashi Institute of Applied Physics University of Tsukuba, Japan

10: 35-10:50AM

Session Break

Session: 2D materials-General II Chair: Yong-Hoon Kim

10:50-11:15AM	61: Water desanilation through nanoporous graphene: Ab-initio molecular dynamics simulation	Walter Orellana Universidad Andr ́es Bello, Chile
11:15-11:40AM	62: Tribology of 2D Materials	Tianbao Ma Tsinghua University, China
11:40AM-12:05PM	63: Contact effect of TMDc/metal interface	Seong Chan Jun Yonsei University, Kroea

Lunch Break

Session: Fundamental properties investigation of Titanium Oxides Chair: Kazuyuki Edamoto

13:30-13:55PM	64: Simultaneous Characterization of Tunneling Current and Local Contact Potential Difference on Rutile TiO ₂ (110) surface	Yasuhiro Sugawara Osaka University, Japan
13:55-14:20PM	65: Thermally stimulated currents in nanocrystalline TiO ₂	Mara Bruzzi University of Florence, Italy

14:20-14:45PM	66: The study of local dipole moment and contact potential difference on TiO ₂ (110) surface by AFM	Yanjun Li Osaka University, Japan
Session: Titanium Oxides Applications in Solar Cells Chair: Kazuyuki Edamoto		
14:45-15:10PM	67: Application of TiO ₂ as Photoelectrodes to the Solar Cells Based on Sb-Based Chalcogenides (Sb-Chs): Development Story on Solution-Processed Sb-Chs Photovoltaic Devices	Yong Chan Choi Daegu Gyeongbuk Institute of Science & Technology (DGIST), Korea
15:10-15:35PM	68: Graphene-based titanium dioxide as efficient electron transporting layer for perovskite solar cell and module	Antonio Agresti University of Rome Tor Vergata, Italy
15:35-16:00PM	69: Composites based on TiO ₂ and carbon nanostructures synthesized by laser pyrolysis: properties and applications in 3 rd generation solar cells	Raphaële Belchi CEA Saclay, France
16:00-16:15PM	Session Break	
Session: 2D materials-General III Chair: Walter Orellana		
16:15-16:40PM	70: Electronic structure of 2D materials: from single layer to bulk	Anderson Janotti University of Delaware, USA
16:40-17:05PM	71: Synthesis and Electrocatalytic Evaluation of Some Graphene -Transition Metal Selenide Nanocomposites	G.K.Mehrotra Motilal Nehru National Institute of Technology(MNMIT), India

Poster Session

Thursday, August 10th, 16:00-16:25PM

P-01	Atrazine photocatalytic degradation in TiO ₂ nanoparticles	Ana Carolina Ribeiro Aguiar Instituto Federal Goiano, Campus Rio Verde, Brazil
P-02	A Sandwich Structure of Flexible Graphene-based Films for Active Infrared Camouflage	Lin Xiao China Academy of Space Technology, China