

EMN/CC Barcelona Meeting		
September 11-15, 2017		
14:00-18:00	Monday Afternoon, 11th September, Onsite Registration & Sign up	
Tuesday Morning, 12th September		
Room A		
Keynote Address Chair: Iman S. Roqan		
08: 25-09:00	A01: MOCVD epitaxial growth of GaN on large-area silicon: from basic research to devices	Colin Humphreys University of Cambridge, UK
Session: Epitaxy General I Chair: Iman S. Roqan		
09:00-09:25	A02: On the Use of Epitaxial Thin Films in Electrocatalysis	Daniel Guay INRS Énergie Matériaux Télécommunication, Canada
09:25-09:50	A03: Growth of high-quality InGaN/GaN nanowires for nano-energy applications	Martina Morassi Université Paris-Saclay, France
09: 50-10:15	A04: Epitaxial growth of GeSn and GeSiSn by sputter epitaxy method	Takahiro Tsukamoto Tokyo University of Agriculture and Technology, Japan
10:15-10:40	A05: Effect of aperture time, number of cycles and time of coverage: Atomic Layer Deposition analysis and characterization	Pierre Giovanni Mani-González Universidad Autónoma de Ciudad Juárez, México
10:40-10:55	Session Break	
Session: Epitaxy Nanomaterials Chair: Martina Morassi		
10:55-11:20	A06: Selective-area VLS growth of single InAs quantum dots in wurtzite InP nanowires	Sofiane Haffouz National Research Council Canada, Canada
11:20-11:45	A07: Structural and optical properties in InGaN/GaN nanocolumns fabricated by selective-area growth	Takao Oto Sophia University, Japan
11:45-12:10	A08: High brightness Blue-Light-Emitting Diode based on high optical and structural quality Gd doped ZnO-nanotube array grown on p-GaN	Iman S. Roqan King Abdullah University of Science and Technology, Saudia Arabia
12:10-12:35	A09: Epitaxial yttrium iron garnet thin films for spin wave spectroscopy	Hubert Glowinski Institute of Molecular Physics, PAS, Poland
12:35-14:00	Lunch Break	

**Tuesday Afternoon, 12th September
Room A**

Session: Intelligent Systems and Materials I

Chair: Rahul Gore

14:00-14:25	A10: Proposal of a new concept process for next generation semiconductors —Design, prototyping and Process Characteristics of “Plasma Fusion CMP Machine”	Doi Toshiro Kyushu University, Japan
14:25-14:50	A11: Temperature sensitive modification function of SCCBC to polyethylene	Shigeru Yao Fukuoka University, Japan
14:50-15:05	Session Break	

Session: Information and Communication Technology

Chair: M. Isabel Alonso

15:05-15:30	A12: Smart Grid Applications in Intelligent Secondary Substations	Stephan Cejka Siemens Aktiengesellschaft Oesterreich, Austria
15:30-15:55	A13: Precise Times of Smart Grid: A Role of Synchronization in the Smart Grid	Rahul Gore ABB Corporate Research Center, India
15:55-16: 20	A14: Internet of Energy as Energy on Demand System	Saher Javaid Kyoto University, Japan
16:20-16: 45	A15: Concept and particularities of a DC-microgrid used for a residential house	Petre Teodosescu Technical University of Cluj-Napoca, Romana

Session: MBE I

Chair: Shigeru Yao

16:45-17:10	A16: Photonic crystal laser with quantum dots as active material grown by MBE	Masahiko Kondow Osaka University, Japan
17:10-17:35	A17: Polar and non-polar ZnO MBE layers doped with group-V impurities	Ewa Przeździecka Institute of Physics, PAS, Poland
17:35-18:00	A18: MBE growth and properties of in-plane SiGe nanowires on Si(001)	M. Isabel Alonso ICMAB-CSIC, Spain
18:00-18:25	A19: Nanoscale characterization of (Al,Ga)N/GaN nanowire LEDs grown by PAMBE	Anna Reszka Institute of Physics, PAS, Poland
18:30	Dinner Social	

Wednesday Morning, 13th September Room A		
Keynote Address Chair: Nikolay Sibirev		
08: 25-09:00	A20: Memristors: Physics, Materials and Systems	Mehdi Anwar University of Connecticut, USA
Session: Epitaxy General II Chair: Nikolay Sibirev		
09:00-09:25	A21: Electrochemical characterization of epitaxially grown metallic adlayers	Juan Feliu University of Alicante, Spain
09:25-09:50	A22: Electronic structure study of Magnetite (Fe ₃ O ₄) for thin films and bulk crystal by hard x-ray photoemission spectroscopy	Munetaka Taguchi Nara Institute of Science and Technology, Japan
09: 50-10:15	A23: Hydride Vapor Phase Epitaxy (HVPE) growth of III-V and III-Nitrides nanowires on silicon	Yamina Andre Universit é Clermont Auvergne, CNRS, France
10:15-10:40	A24: Epitaxy of Chalcogenide GeTe-Sb ₂ Te ₃ Thin Films and Superlattice Structures by Pulsed Laser Deposition	Isom Hilmi Leibniz-Institut für Oberflächenmodifizierung, Germany
10:40-10:55	Session Break	
Session: Epitaxy General III Chair: Juan Feliu		
10:55-11:20	A25: Photoelectric effects in ferroelectric thin films	Ignasi Fina Martínez ICMAB-CSIC, Spain
11:20-11:45	A26: Insights into the axial heterostructure formation in ternary nanowires through a kinetic driven nucleation theory	Nikolay Sibirev ITMO University, Russia
11:45-12:10	A27: Some aspects to the droplet epitaxially nano structure growth	Akos Nemcsics Obuda University, Hungary
12:10-12:35	A28: New insights of depolarization field in ferroelectric thin films	Deyang Chen South China Normal University, China
12:35-14:00	Lunch Break	

Wednesday Afternoon, 13th September Room A		
Session: MOCVD I Chair: Franciszek Krok		
14:20-14:45	A29: Wafer-scale production of highly uniform 2D TMDs by metal-organic chemical vapor deposition	TaeWan Kim Korea Research Institute of Standards and Science KRISS, Korea

14:45-15:05	A30: III-V nanowire growth for core-shell (Al)GaInP light-emitting diodes	Alexander Berg Lund University, Sweden/AZUR SPACE Solar Power GmbH, Germany
15:05-15:30	A31: MOVPE growth technology for GaN power based power devices	Tetsuo Narita Toyota Central R&D Labs. Inc., Japan
15:30-16:00	Session Break & Poster	
Poster	P01: Effect of strains on morphology, structure and optical properties of Ge-Si-Sn group IV materials	Vyacheslav Timofeev Rzhanov Institute of Semiconductor Physics SB RAS, Russia
Session: 2D Semiconducting Materials I Chair: Alexander Berg		
16:00-16:25	A32: Self-organization processes of thin metal layers on reconstructed surfaces of semiconductor crystals	Franciszek Krok Jagiellonian University, Poland
16:25-16:50	A33: Dynamic nuclear self-polarization of III-V semiconductors	Mitsuo Koizumi Japan Atomic Energy Agency, Japan
16:50-17:15	A34: Epitaxial thin films for high temperature superconductivity	Xucun Ma Tsinghua University, China
18:05	Dinner Social	

Wednesday Morning, 13th September Room B		
Session: Smart Grid Technology General I Chair: Kwok W. Cheung		
08:25-08:50	B01: Improving the hosting capacity of distribution grids for rooftop PVs	Poria Hasanpor KTH Royal Institute of Technology, Sweden
08:50-09:15	B02: Triple-Active Bridge Converter for Smart DC Grid	Yuichi Kado Kyoto Institute of Technology, Japan
09:15-09:40	B03: Localized Pulsed Power Network for Distributed Generations and Consumers	Hisayoshi Sugiyama Osaka City University, Japan
09:40-10:05	B04: Experiences on the Analysis of Requirements of Distributed Energy Resources and their Control for Energy Management Purposes in Microgrids	Jesús Mina CENIDET, Mexico
10:05-10:30	B05: Smart Energy Networks – Intelligent Management of Energy Generation, Distribution and Utilization	Evgueniy Entchev University of Waterloo, Canada
10:30-10:45	Session Break	

Session: Smart Grid Technology General II		Chair: Poria Hasanpor
10:45-11:10	B06: Strain Engineering in Silicon Nanowires	Kwok W. Cheung GE Grid Solutions, USA
11:10-11:35	B07: Modeling and Analysis of PLC Channel Performance with External Interference at Outdoor and Indoor Environments in Brazil	Christiane B. Santos Instituto Federal de Goiás, Brazil
11:35-12:00	B08: Control simulation and decision making technology	Ganesh Sauba DNVGL Strategic Research & Innovation Group, The Netherlands
12:00-12:25	B09: IoT enabled EPICS based control and monitoring software platform for energy efficient Industrial Infrastructure	Aniruddh Mali iCreate, Ahmedabad, India
12:25-12:50	B10: Distributed Networks as a Key to improve Smart Grid Technologies	Ismail Hind Abdelmalek Essaadi University, Morocco
12:50-14:00	Lunch Break	

Wednesday Afternoon, 13th September		
Room B		
Session: MBE II		Chair: George Cirlin
14:20-14:45	B11: PA-MBE grown III-nitride nanowire arrays and its optoelectronic device applications	Yong-Tak Lee Gwangju Institute of Science and Technology GIST, Korea
14:45-15:05	B12: Multiscale approaches to modeling molecular beam epitaxy growth	Rita Magri University of Modena and Reggio Emilia, Italy
15:05-15:30	B13: GaN Nanowires for intersubband optoelectronics	Akhil Ajay CEA Grenoble, France
15:30-16:00	Session Break & Poster	
Session: MBE III		Chair: Rita Magri
16:00-16:25	B14: Controlled doping for Ge based optoelectronic devices	Kentarou Sawano Tokyo City University, Japan
16:25-16:50	B15: MBE growth and properties of A3B5 nanowires on silicon	George Cirlin St. Petersburg Academic University RAS, Russia
16:50-17:15	B16: Mg incorporation in InGaN alloys - SIMS and TEM investigation	Iulian Gherasoiu SUNY Polytechnic University, USA

Session: Intelligent Systems and Materials II		Chair: Akhil Ajay
17:15-17:40	B17: Development of high resolution MEMS tactile sensor device and its applications	Hidekuni Takao Kagawa University, Japan
17:40-18:05	B18: Beyond Backpropagation	Bojan Ploj College of Ptuj, Slovenia
18:05	Dinner Social	

Thursday Morning, 14th September		
Room A		
Session: MOCVD II		Chair: Joris Keizer
08:25-08:50	A35: Growth temperature: a critical parameter for III-Nitride electron devices on Silicon	Yvon Cordier Université Côte d'Azur, CNRS, CRHEA, France
08:50-09:15	A36: Combining top-down etching and MOVPE regrowth: an hybrid approach to nano-engineer III-Nitrides for visible and deep-UV light-emitting devices	Pierre-Marie Coulon University of Bath, UK
09:15-09:40	A37: Epitaxial growth of nano-oxides on gaphene: towards the synthesis of new 2D layered systems	Andrea Picone Polytechnic University of Milan, Italy
09:40-09:55	Session Break	
Session: 2D Semiconducting Materials II		Chair: Yvon Cordier
09:55-10:20	A38: Atomic precise device fabrication in Si:P	Joris Keizer University of New South Wales, Australia
10:20-10:45	A39: Preparation of Graphene hybrid electrodes for supercapacitor applications	Stefanos Chaitoglou Universitat de Barcelona, Spain
10:45-11:10	A40: Epitaxy of NiO Thin Films on the MgO(001) Substrate by MOCVD	Yunsoo Kim Korea University, Korea
Session: MBE III		Chair: Andrea Picone
11:10-11:35	A41: Fabrication of I-VII semiconductor thin films using novel MBE with electron beam irradiation and their assessment by cathodoluminescence	Masayoshi Ichimiya The University of Shiga Prefecture, Japan

11:35-12:00	A42: 2D nucleation and transition to multilayer growth during Si/Si(111) epitaxy	Dmitry Rogilo Rzhanov Institute of Semiconductor Physics SB RAS, Russia
12:00-12:25	A43: Manipulating the electronic structure and magnetism of spin-orbit Mott insulator by tailoring superlattices	Dawei Shen Shanghai Institute of Microsystem and Information Technology, CAS, China
12:05-14:00	Lunch Break	

Thursday Afternoon, 14th September		
Room A		
Session: Epitaxy General IV		Chair: Taek-Mo Chung
14:20-14:45	A44: Interface role on the magnetic and electric dead layer on La _{0.7} Ca _{0.3} MnO ₃ epitaxial thin films	Juan Rubio-Zuazo Instituto de Ciencia de Materiales de Madrid-CSIC, Spain
14:45-15:10	A45: Strategies for narrowing length and radius distributions of nanowires	Yury Berdnikov ITMO University, Russia
15:10-15:35	A46: Advanced (S)TEM – EELS characterization of functional oxides	Sonia Estrade Universitat de Barcelona, Spain
15:35-15:50	Session Break	
Session: Epitaxy General V		Chair: Juan Rubio-Zuazo
15:50-16:15	A47: Development and Application of Novel Precursors for High Mobility Transparent Conducting Oxide (TCO)	Taek-Mo Chung Korea Research Institute of Chemical Technology, Korea
16:15-16:40	A48: Abnormal large single crystalline grains epitaxially grown in electrodeposition	Masato Sone Tokyo Institute of Technology, Japan
16:40-17:05	A49: Characterization of the epitaxially grown layers using X-ray absorption spectroscopy	Anna Wolska Institute of Physics, PAS, Poland
17:05-17:30	A50: Epitaxy of GaN/AlGa _N 2DEG heterostructures for lateral Schottky diodes. Towards high frequency devices	Grzegorz Cywinski Institute of High Pressure Physics, PAS, Poland

17:30-17:55	A51: Structural property characterization of ZnTe CdTe, and Cd _{1-x} Zn _x Te (0 ≤ x ≤ 1) nanolayers grown by atomic layer deposition on GaSb and GaAs (001) oriented substrates	Joel D áz-Reyes CIBA-IPN, México
17:45-18:10	A52: In situ photoemission and spectroscopic ellipsometry study of the band alignment and electronic structure of epitaxially strained d and s band composite oxide nanostructures	John D. Baniecki Fujitsu Laboratories, Japan
18:10	Dinner Social	

September 15th, 2017
One Day Academic Exchange & Excursion