

EMN MEETING on Polymer

January 7th - January 10th

DoubleTree by Hilton Hotel Orlando, FL, USA

Wednesday Jan. 7

Room A

7:00-8:00AM

Breakfast

Session: Polymers and Hybrid Materials for Nanomedicine I Chair: Carlos Graeff

8:00-8:25AM

A01: Novel Materials for Nanomedicine and Nanotoxicology Studies

Valtencir Zucolotto
University of Sao Paulo, Brazil

8:25-8:50AM

A02: Chitosan based nano hybrids for biomedical applications

Chang-Sik Ha
Pusan National University, South Korea

8:50-9:15AM

A03: Polypeptide thermogel for biomedical applications

Byeongmoon Jeong
Ewha Womans University, South Korea

9:15-9:40AM

A04: Mucoadhesive and non-adhesive nanoparticles for transmucosal delivery

Vitaliy Khutoryanskiy
University of Reading, UK

9:40-10:05AM

A05: Composite Polysaccharide Hydrogels: An Innovative Approach for Controlled Release of Hydrophobic Drugs

Havazelet Bianco-Peled
Israel Institute of Technology, Israel

10:05-10:20AM

Session Break

Session: Polymer Physics I Chair: Valtencir Zucolotto

10:20 -10:45AM

A06: Electronic structure and dynamics interactions in organic semiconductors as studied by Electronic Magnetic Resonance

Carlos Graeff
Sao Paulo State University, Brazil

10:45-11:10AM

A07: The effect of deformation on physical structures in polymers as studied by solid-state NMR

Victor Litvinov
DSM Resolve, The Netherlands

11:10-11:35AM

A08: Particle Simulation of Charge Transport in Ferroelectric Nanocomposite Films

Meng H. Lean
QEDone LLC, USA

11:35-12:00PM	A09: Key thermo-diffuso activated couplings in mechanical answer of gas/polymer interactions	Severine Boyer CNRS, ISAE-ENSMA - PPRIME INSTITUTE, France
12:00-12:25PM	A10: Polymers and polyelectrolytes in solution: adsorption and confinement.	Alberto Pais University of Coimbra, Portugal
12:25-13:25PM	Lunch Break	
Session: General I Chair: Christian Nielsen		
13:25-13:50PM	A11: Enabling a high-efficiency wet-processed OLED with a cross-linkable electron confining hole transporting material	Jwo Huei Jou National Tsing Hua University, Taiwan
13:50 -14:15PM	A12: Directed Self-Assembly of Block Copolymers for Nanopatterning Applications	Apostolos Avgeropoulos University of Ioannina, Greece
14:15 -14:40PM	A13: Novel biosensors using Liquid Crystals using PAA-b-LCP decoration on 5CB	Soo-Young Park Kyungpook National University, South Korea
14:40 -15:05PM	A14: Strain-induced crystallization of cross-linked rubber	Hyun Hoon Song Hannam University, South Korea
15:05-15:20PM	Session Break	
Session: Polymer Solar Cell I Chair: Apostolos Avgeropoulos		
15:20-15:45PM	A15: Additive and Annealing Free Organic Solar Cells with Efficiencies Exceeding 8%	Christian Nielsen Imperial College London, UK
15:45-16:10PM	A16: Strategies towards intrinsically stable materials for polymer solar cells	Roger Hiorns CNRS-UMR, France
16:10-16:35PM	A17: New Polymer Constructs for OPV Device Stability	Paul Topham Aston University, UK
17:30PM	Dinner Social	

Thursday Jan. 8 Room B		
7:00-8:00AM	Breakfast	
Session: Polymer Nanostructures I Chair: Naoko Yoshie		
8:00-8:25AM	B01: Enzymatic Synthesis of Nano-structured Amylose Supramolecular Materials	Jun-ichi Kadokawa Kagoshima University, Japan
8:25-8:50AM	B02: Multiphasic materials based on block copolymers and nanostructured thermosets	Agnieszka Tercjak Sliwinska University of the Basque Country, Spain
8:50-9:15AM	B03: Bio-based aerogels: a new generation of thermal super-insulating materials	Tatiana Budtova MINES ParisTech, France
9:15-9:40AM	B04: Engineering Nonlinear Electrical Behavior with Metals and Polymer Nanowires	Loik Gence CETUC, Pontifical Catholic University of Rio de Janeiro (PUC-RIO), Brazil
9:40-10:05 AM	B05: Structures and dynamics of bound polymer layers on planar and curved solids	Tadanori Koga Stony Brook University, USA
10:05-10:20AM	Session Break	
Session: Smart Polymer Materials I Chair: Jun-ichi Kadokawa		
10:20 -10:45AM	B06: Biobased Furan Polymers with Self-healing Ability	Naoko Yoshie The University of Tokyo, Japan
10:45-11:10AM	B07: Polydiacetylene Based Colorimetric and Fluorescent Chemosensors	Juyoung Yoon Ewha Womans University, Korea
11:10-11:35AM	B08: Anisotropic Swelling Behavior Induced by Helix-Coil Transition in Liquid Crystalline Polypeptide Gels	Katsuhiro Inomata Nagoya Institute of Technology, Japan
11:35-12:00PM	B09: Fast responding thermosensitive N-isopropylacrylamide-clay hydrogels with high mechanical strength and extensibility	Libor Matejka Academy of Sciences of the Czech Republic, Czech Republic
12:25-13:20PM	Lunch Break	
Session: Polymers for Functionality I Chair: Kensuke Akamatsu		

13:20-13:45PM	B10: Block copolymer-based aerosol nanoparticles: Self-Assembly, hierarchical morphologies and temperature responsive hydrogels	Janne Ruokolainen Aalto University, Finland
13:45 -14:10PM	B11: From metallic gyroid structures to piezoelectric nanoporous networks	Katja Loos University of Groningen, The Netherlands
14:10 -14:35PM	B12: Functionalized Polymers: New Developments	Helmut Ritter Heinrich-Heine-University, Germany
14:35 -15:00PM	B13: Bioinspired Adhesive Design: Physical and Chemical Strategies	Marleen Kamperman Wageningen University, The Netherlands
15:00-16:00PM	Poster Session	
Session: Advances in Polymer and Hybrid Material Technology I Chair: Janne Ruokolainen		
16:00-16:25PM	B14: Controlled synthesis of hybrid polymer nanocomposites containing metal nanoparticles	Kensuke Akamatsu Konan University, Japan
16:25-16:50PM	B15: Organic Photodiodes/ Photodetectors using Intermediate Band Metal Oxides for Hole Extraction	Dimitris Davazoglou National Center for Scientific Research “Demokritos”, Greece
16:50-17:15PM	B16: Photoassisted synthesis of metal/polymer assemblies. Towards a fair control of the particle morphology and surface plasmon resonance	Lavinia Balan Institute of Material Science in Mulhouse, France
17:30PM	Dinner Social	

Thursday Jan. 8 Room C		
7:00-8:00AM	Breakfast	
Session: Polymer Nanostructures II Chair: Natalie Stingelin		
8:00-8:25AM	C01: The Hidden Solid-like Nature of Polymer Melts & Liquids	Laurence Noirez CEA-CNRS, France
8:25-8:50AM	C02: Polymer electrolyte membranes: design and development of polymer nanostructure	Takeo Yamaguchi Tokyo Institute of Technology, Japan
8:50-9:15AM	C03: Fabrication of Single Polydiacetylene Chains for Single Molecular Wiring	Yuji Okawa National Institute for Materials Science, Japan
9:15-9:40AM	C04: Polymer-wrapped single-wall carbon nanotubes for emissions in 1.5-micron spectral range	Masayoshi Tange National Institute of Advanced Industrial Science and Technology (AIST), Japan
9:40-10:05AM	C05: Nanomorphology Based on Phase-Separation of Phospholipids and Polymers for Nanoparticles of Conjugated Polymers	Juhyun Park Chung-Ang University, South Korea
10:05-10:20AM	Session Break	
Session: Polymer Solar Cell II Chair: Laurence Noirez		
10:20 -10:45AM	C06: The power of materials science tools for gaining insights in organic photovoltaic devices	Natalie Stingelin Imperial College London, UK
10:45-11:10AM	C07: Competition between phase separation and structure confinement in all polymer heterojunctions: Influence on charge transport	Mari Cruz Garcia-Gutierrez Institute of Material Structure, C.S.I.C., Spain
11:10-11:35AM	C08: Efficient bilayer polymer solar cells utilizing non-planar junction	Kyungkon Kim Ewha Womans University, Korea
11:35-12:00PM	C09: Interface Design Principles for High Efficiency Organic Semiconductor Devices	Aditya D. Mohite Los Alamos National Laboratory, USA
12:25-13:20PM	Lunch Break	
Session: General II Chair: Alexey V. Lyulin		

13:20-13:45PM	C10: Stretched and Contracted Helices of Stereoregular Mono-substituted Polyacetylenes Prepared with an Organo-rhodium Catalyst	Yasuteru Mawatari Muroran Institute of Technology, Japan
13:45 -14:10PM	C11: Micromechanics of the thermo-mechanical behaviour of oriented semicrystalline polymer foils	J.A.W. van Dommelen Eindhoven University of Technology, The Netherlands
14:10 -14:35PM	C12: Dislocations and jerky creep in semicrystalline polymers	Florian Spieckermann University of Freiburg, Austria
14:35 -15:00PM	C13: Temperature-Induced Packaging of Ferricyanide by Help of Cationic Microgels	Felix Plamper RWTH Aachen University, Germany
15:00-16:00PM	Poster Session	
Session: Polymer Physics II Chair: Yasuteru Mawatari		
16:00-16:25PM	C14: Stochastic Analysis of Tensile Fracture of Semi-crystalline polymers	Koh-hei Nitta Kanazawa University, Japan
16:25-16:50PM	C15: Multiscale Computer Simulations of Mechanical Reinforcement in Elastomer-based Nanocomposites	Alexey V. Lyulin Technology University of Eindhoven, The Netherlands
17:30PM	Dinner Social	

Thursday Jan. 8 Room D		
7:00-8:00AM	Breakfast	
Session: Polymers for Optoelectronics I Chair: Herman Sander Mansur		
8:00-8:25AM	D01: Electro-optic polymer for high-speed and low driving voltage modulator application	Shiyoshi Yokoyama Kyushu University, Japan
8:25-8:50AM	D02: Enhancing Emission Properties of Conjugated Polymers by Light Processing	Ioan Botiz Babes-Bolyai University, Romania
8:50-9:15AM	D03: Polymer-stabilized N* and blue phase liquid crystals: Driving light valves and optical phase modulators	Alexander Lorenz Technology University of Berlin, Germany
9:15-9:40AM	D04: Graded-Index Plastic Optical Fibers: Materials and Fabrication Techniques	Kotaro Koike Keio University, Japan
9:40-10:05AM	D05: High performance organic light-emitting devices based on light-emitting polymers and ionic liquids	Tomo Sakanoue Waseda University, Japan
10:05-10:20AM	Session Break	
Session: Polymers and Hybrid Materials for Nanomedicine II Chair: Shiyoshi Yokoyama		
10:20 -10:45AM	D06: Quantum dot/Glycol Chitosan Fluorescent Nanoconjugates	Herman Sander Mansur Federal University of Minas Gerais, Brazil
10:45-11:10AM	D07: RNA Hydrogel	Li Niu University at Albany, State University of New York, USA
11:10-11:35AM	D08: Fascinating Electroactive Hydrogels based Bacterial Cellulose	Guang Yang Huazhong University of Science & Technology, China
11:35-12:00PM	D09: Applications of Self-assembled polymer blends in Tissue engineering	Artee Panwar University of Massachussets Lowell, USA
12:25-13:20PM	Lunch Break	

Session: Polymers for Energy I Chair: Jianhong Xu		
13:45 -14:10PM	D10: Conversion from Natural mechanical energy to electrical energy by pressure evaluated for dielectric polymer-particle composites	Masaru Matsuo Dalian University of Technology, China
14:10 -14:35PM	D11: Functionality and Physical Properties of Cyanide Coordination Polymer as Secondary-Battery Electrode	Daisuke Asakura National Institute of Advanced Industrial Science and Technology (AIST), Japan
14:35 -15:00PM	D12: Grafted multi-block copolymer membranes for purification and recovery of biofuels by sustainable processes	Anne Jonquieres University of Lorraine, France
15:00-16:00PM	Poster Session	
Session: General III Chair: Daisuke Asakura		
16:00-16:25PM	D13: Smart hydrogel microcapsules with microfluidics	Jianhong Xu Tsinghua University, China
16:25-16:50PM	D14: Conformation of single polymer chain in thin films revealed by fluorescence nanoscopy	Hiroyuki Aoki Kyoto University, Japan
17:30PM	Dinner Social	

Friday Jan. 9 Room B		
7:00-8:00AM	Breakfast	
Session: Smart Polymer Materials II Chair: Hsin-Ying Lee		
8:25-8:50AM	B17: Thermo-responsive water-soluble polyion complex micelles	Shin-ichi Yusa University of Hyogo, Japan
8:50-9:15AM	B18: Photoactive and Multifunctional Thin Films for Multi-modal Sensing	Kenneth Loh University of California, USA
9:15-9:40AM	B19: Self-healing anticorrosion coatings based on polyaniline and MWCNT	Francois Xavier Perrin University of Southern Toulon, France
9:40-10:05AM	B20: Intrinsic switching kinetics of ultrathin thermoresponsive polymer brushes	Marc Thomas University of Duisburg-Essen, Germany
10:05-10:20AM	Session Break	
Session: Polymer Solar Cell III Chair: Roger Hiorns		
10:20 -10:45AM	B21: Investigation of high performance inverted polymer solar cells	Hsin-Ying Lee National Cheng Kung University, Taiwan
10:45-11:10AM	B22: Tailoring the molecular ordering at the donor-acceptor interface for suppressing charge transfer state recombination	Wanyi Nie Center For Nanotechnology and Molecular Materials, Wake Forest University, NC, USA
11:10-11:35AM	B23: Polymer photovoltaic cells with an electrochemically induced p-n or p-i-n junction—open-circuit voltage and built-in field	Jun Gao Queen's University, Canada
11:35-12:00PM	B24: Addressing Fundamental Challenges in Polymer-based Solar Cells	Vikram Kuppa University of Cincinnati, USA
12:25-13:25PM	Lunch Break	
Session: Polymers for Functionality II Chair: Katja Loos		
13:50 -14:15PM	B25: Plasticized Dielectric Poly(vinyl chloride) as an Electro-active Actuator	Toshihiro Hirai Shinshu University, Japan

14:15 -14:40PM	B26: Chemical modification of polysaccharides and proteins: synthetic strategies and opportunities toward new functional materials	Monica Bertoldo University of Pisa, Italy
14:40 -15:05PM	B27: Novel properties of polyvinylidene fluoride based artificial multilayer films	Jianlu Wang Shanghai Institute of Technical Physics, Chinese Academy of Sciences, China
15:05-15:20PM	Session Break	
Session: Advances in Polymer and Hybrid Material Technology II Chair: Toshihiro Hirai		
15:20-15:45PM	B28: The role of polymers in hybrid oligomer-grafted nanoparticles	Alexandros Chremos Imperial College London, UK
15:45-16:10PM	B29: Morphological control and thermal conductivity of organic-silica nanocomposite	Reiko Saito Tokyo Institute of Technology, Japan
16:10-16:35PM	B30: Processing of polymer nanocomposites for different applications and functionalities: Extrusion, Injection Molding and electrospinning	Rosario E.S.Bretas University of Sao Paulo, Brazil
16:35-17:00PM	B31: Polymeric Hybrid Materials through Electrospinning	Gupta Virendrakumar Reliance Industries Limited, India
17:30PM	Dinner Social	

Friday Jan. 9 Room C		
7:00-8:00AM	Breakfast	
Session: Polymer Nanostructures III Chair: Roland Faller		
8:25-8:50AM	C16: Chitin Nanofiber-Based Films for Sustainable Gas Barrier Packaging Materials	Carson Meredith Georgia Institute of Technology, USA
8:50-9:15AM	C17: Investigating micro and nano-structures in polymer and perovskite organic solar cells	Alan Dunbar The University of Sheffield, UK
9:15-9:40AM	C18: Terpyridine Self-Assembly: New Materials, Their Characterization and Utility	Charles Moorefield University of Akron, USA
9:40-10:05AM	C19: Surface energy tuning for block copolymer self-assembly: concepts and preconceptions	Michele Perego IMM-CNR, Italy
10:05-10:20AM	Session Break	
Session: Polymer Physics III Chair: Carson Meredith		
10:20 -10:45AM	C20: Modeling of Polystyrene under Confinement	Roland Faller University of California Davis, USA
10:45-11:10AM	C21: Carrier thermoelectric transport in organic semiconductor based on hopping theory	Nianduan Lu Institute of Microelectronics, Chinese Academy of Sciences, China
11:10-11:35PM	C22: Hopping transport in organic solar cell	Ling Li The Institute of Microelectronics (IME) of the Chinese Academy of Sciences, China
12:25-13:25PM	Lunch Break	
Session: Polymers for Energy II Chair: Thomas Ernst Muller		
14:15 -14:40PM	C23: Kinetics of Decomposition of Laboratory Safety Glove	Nasrollah Hamidi South Carolina State University, USA
14:40 -15:05PM	C24: Nano-structured single-ion BAB triblock copolymers as highly efficient solid polymer electrolytes for lithium-metal batteries	Didier Gimes Aix-Marseille University, France
15:05-15:20PM	Session Break	

Session: Renewable and Sustainable Polymers Chair: Nasrollah Hamidi		
15:20-15:45PM	C25: Elucidation of Molecular Characteristics of Aromatic Polyesters and Biodegradable Aliphatic Polyesters by ab initio Statistical Mechanics	Yuji Sasanuma Chiba University, Japan
15:45-16:10PM	C26: CO ₂ -Based Polyols as Building Block for Sustainable Polyurethane Materials	Thomas Ernst Muller RWTH Aachen University, Germany
17:30PM	Dinner Social	

Friday Jan. 9		
Room D		
7:00-8:00AM	Breakfast	
Session: General IV Chair: Moonhor Ree		
8:25-8:50AM	D15: Selective Plasma Etch of poly(methyl methacrylate) in block copolymer for directed self-assembly lithography	Hiroshi Yamamoto Toshiba Corporation, Japan
8:50-9:15AM	D16: Alicyclic Polyimides for Colorless and High-temperature Substrate of Flexible Devices	Toshihiko Matsumoto Tokyo Polytechnic University, Japan
9:15-9:40AM	D17: Water Absorbed in Water-Borne Anticorrosive Urethane/Epoxy Coating and Degraded Stress Relaxation Behavior	Yukitoshi Takeshita NTT Corporation, Japan
9:40-10:05AM	D18: Vertical all organic transistor in a n-type/metal/p-type configuration	Michelle Meruvia Pontifical Catholic University of Parana, Brazil
10:05-10:20AM	Session Break	
Session: Polymer Nanostructures IV Chair: Toshihiko Matsumoto		
10:20 -10:45AM	D19: Self-assembly Characteristics and Properties of Novel Functional Brush Polymers and Block Copolymers	Moonhor Ree Pohang University of Science & Technology (POSTECH), Korea
10:45-11:10AM	D20: Nanostructured Thermosetting Polymers Containing Block Copolymers	Sixun Zheng Shanghai Jiao Tong University, China
11:10-11:35AM	D21: Theory for Nanocellular Polymeric Foams	Russell Thompson University of Waterloo, Canada
12:25-13:25PM	Lunch Break	
Session: Polymers for Optoelectronics II Chair: Alberto Pais		
13:50 -14:15PM	D22: Organic magnetoelectroluminescence for room temperature transduction between magnetic and optical information	Markus Wohlgenannt University of Iowa, USA

14:15 -14:40PM	D23: Polymer System on Polymer Stabilized-Blue Phase Liquid Crystals	Jiangang Lu Shanghai Jiao Tong University, China
14:40 -15:05PM	D24: Influence of Polymeric Matrix on Structural and Photoluminescent Properties of Polymer-Quantum Dot (nano)composites	Ana Vera Machado University of Minho, Portugal
15:05-15:20PM	Session Break	
Session: General V Chair: Markus Wohlgenannt		
15:20-15:45PM	D25: Effects of dipolar interactions in polymeric media	Rajeev Kumar Oak Ridge National Laboratory, USA
15:45-16:10PM	D26: Polymers and polyelectrolytes in solution: adsorption and confinement.	Alberto Pais University of Coimbra, Portugal
16:10-16:35PM	D27: To be determined	Giuseppe Portale ESRF, France
17:30PM	Dinner Social	

Saturday Jan. 10

Room B

7:00-8:00AM

Breakfast

Session: Polymer Solar Cell IV Chair: Giuseppe Portale

8:50-9:15AM

B31: Novel structure of organic photovoltaic cells fabricated by electrospray

Takeshi Fukuda
Saitama University, Japan

9:15-9:40AM

B32: Advancing Porphyrin Polymers for Solar Energy Conversion

Michael Walter
University of North Carolina, USA

9:40-10:05AM

B33: Enhanced Structural Order of Polymer Photovoltaic Devices Deposited on Hydrogenated Metal Oxide Surface

Maria Vasilopoulou
National Center for Scientific Research
“Demokritos”, Greece

10:05AM

End

Thursday Jan. 8

15:00-16: 00PM

Poster Session

P1	Unique behaviors of polymer thin film in CO ₂	Maya Endoh Stony Brook University, USA
P2	Mechanical Characterization of Protein base fibril using Molecular Dynamics Simulations	Myeongsang Lee Korea University, Korea
P3	Drug Delivery System using polymer and hybrid materials	Sungsoo Na Korea University, Korea
P4	Time-resolved USAXS studies on the change with the dispersion of filler in rubber	Shotaro Nishitsuji Yamagata University, Japan
P5	Maintenance of insulin's bioactivity in oral nanoparticles produced by ultrasonication-assisted emulsification/internal gelation	Antonio Ribeiro Universidade de Coimbra, Portugal
P6	To be determined	Joao Sousa Universidade de Coimbra, Portugal
P7	To be determined	Francisco Veiga Universidade de Coimbra, Portugal