

International Conference on Advances in Organic and Hybrid Electronic Materials (AOHM19)

Dubrovnik, Croatia, 2019 March 17th - 20th

Conference Chairs: Alejandro Briseno, Thuc-Quyen Nguyen and Natalie Stingelin

Conference Program

March 17th - Day 1 (Sunday)	
17:00 - 19:00	Registration
17:30 - 18:30	Welcome drink
March 18th - Day 2 (Monday)	
08:55 - 09:00	Opening and Announcement of the Day
	Session 1.1 Chair: Thuc-Quyen Nguyen
09:00 - 09:30	<u>David Jones</u> (<i>School of Chemistry, Bio21 Institute, University of Melbourne, , Parkville, VIC 3010, Australia.</i>)
1.1-01	Liquid Crystallinity as a pre-organisation motif for high efficiency, solid-state singlet fission
09:30 - 10:00	<u>Garry Rumbles</u> (<i>Chemistry and Nanoscience National Renewable Energy Laboratory</i>)
1.1-11	Tracking Triplet Dissociation using Microwave Conductivity
10:00 - 10:15	<u>Shengyang Chen</u> (<i>Department of Chemistry and Centre for Plastic Electronics, Imperial College London</i>),
1.1-02	Bastian Haehle, Ioan Botiz, Alexander J.C. Kuehne, Paul Stavrinou, Natalie Stingelin How Can We Engineer Hierarchical Structures and Pattern Functional Organic Materials?
10:15 - 10:45	Coffee
	Session 1.2 Chair: Natalie Stingelin
10:45 - 11:15	<u>Myung-Han Yoon</u> (<i>School of Materials Science and Engineering, Gwangju Institute of Science and Technology, Gwangju 61005, Republic of Korea</i>)
1.2-01	Organic Bioelectronic Interfaces Based on PEDOT:PSS-Based Crystalline Films, Microfibers, and Fibrillar Hydrogel
11:15 - 11:30	<u>Micah Barker</u> (<i>Laboratoire de Chimie des Polymères Organiques – LCPO, UMR5629 Université de Bordeaux, Allée Geoffroy Saint Hilaire, Bâtiment B8 CS50023, 33615 Pessac Cedex, France</i>), Tommaso Nicolini, Georges Hadziioannou, Natalie Stingelin
1.2-02	Enhanced Electrochemical Doping Kinetics in Conjugated Polymers by Blending with Hydrophilic Block Copolymers
11:30 - 11:45	<u>sadok ben dkhil</u> (<i>Dracula Technologies</i>), Florent Pourcin, Donia Fredj, Marie Chabrolle, Elena Barulina, Pavlo Perkhun, Olivier Margeat, Jörg Ackermann, Jérôme Vernet, Brice Cruchon, Pascal Pierron
1.2-03	Towards Commercially Viable Printable high efficiency OPV modules for indoor applications
11:45 - 12:15	<u>Antonio Facchetti</u> (<i>Northwestern University and Flexterra Inc., 8025 Lamon Avenue Skokie, IL 60077 (USA)</i>)
1.2-K1	Strategies to semiconducting polymer and polymer-metal oxide alloy materials for flexible technologies
12:15 - 12:30	<u>Fabio Cicoira</u> (<i>Polytechnique Montréal</i>)
1.2-04	Flexible, stretchable and healable electronics
12:30 - 14:30	Lunch
	Session 1.3 Chair: Elizabeth von Hauff
14:30 - 15:00	<u>Chihaya Adachi</u> (<i>OPERA, Kyushu University</i>)
1.3-11	Exciton Management in Organic Semiconductor Laser Diodes

15:00 - 15:15	<u>Karolis Kazlauskas</u> (<i>Institute of Photonics and Nanotechnology, Vilnius University, Saulėtekio av. 3, LT-10257 Vilnius, Lithuania</i>), Steponas Raišys, Ona Adomėnienė, Povilas Adomėnas, Alexander Rudnick, Anna Köhler
1.3-O1	Triplet Exciton Diffusion and Quenching in Matrix-Free Solid Photon Upconversion Films
15:15 - 15:45	<u>Iain McCulloch</u> (<i>King Abdullah University of Science & Technology (KAUST)</i>)
1.3-I2	Semiconducting Polymers for High Performance OFET and OECT Applications
15:45 - 16:00	<u>Tracey Clarke</u> (<i>Department of Chemistry, University College London</i>)
1.3-O2	Manipulating Energy Levels in Organic Photovoltaic Materials
16:00 - 16:30	<u>Roisin Owens</u> (<i>Department of Chemical Engineering and Biotechnology, University of Cambridge, Cambridge, CB2 3RA, UK.</i>)
1.3-I3	The world is not flat: 3D cell biology integrated with 3D conducting polymer devices

19:00 - 22:00 **Social Diner**

March 19th - Day 3 (Tuesday)

08:55 - 09:00 **Announcement of the Day**

Session 2.1

Chair: Natalie Banerji

09:00 - 09:30 Magnus Berggren (*Laboratory of Organic Electronics at Linköping University*)

2.1-K1 Organic Bioelectronics – Nature connected

09:30 - 10:00 Christine Luscombe (*Materials Science and Engineering Department, University of Washington, Seattle*)

2.1-I1 Combined computational and experimental study on the effects of side-chain architecture of polythiophene derivatives on structure and ionic conduction

10:00 - 10:30 anna Köhler (*University of Bayreuth, DE*)

2.1-I2 The role of Marcus theory in the formation and description of charge-transfer states

10:30 - 11:00 **Coffee**

Session 2.2

Chair: Anna Köhler

11:00 - 11:30 David Beljonne (*University of Mons (UMONS), Laboratory for Chemistry of Novel Materials, Center for Innovation and Research in Materials and Polymers (CIRMAP), Mons (Belgium)*)

2.2-I1 A Microscopic view on Electronic and Excitonic Effects in (Hybrid) Organic Semiconductors

11:30 - 11:45

11:45 - 12:15 Natalie Banerji (*Department of Chemistry and Biochemistry, University of Bern, Freiestrasse 3, 3012 Bern, Switzerland*)

2.2-I2 Driving-force and structural dependence of charge transfer rates in non-fullerene acceptor organic solar cells

12:15 - 12:30 Andrew Clarke (*SPECIFIC, College of Engineering, Swansea University, Bay Campus, Swansea, SA1 8EN, UK*), Rico Meitzner, Joel Luke, Emily Speller, Hyojung Cha, Jiaying Wu, Helen Bristow, Yuming Wang, Katherine Hooper, Alex Evans, Feng Gao, Harald Hoppe, Ji-Seon Kim, Iain McCulloch, Ulrich Schubert, Trystan Watson, James Durrant, Wing Chung Tsoi, Zhe Li

2.2-O1 Influence of Non-Fullerene Acceptors on the Photostability of Organic Photovoltaics in Inert Atmospheres

12:30 - 13:00 Elizabeth von Hauff (*Department of Physics & Astronomy, VU Amsterdam*)

2.2-I3 A dynamic picture of photovoltaic energy conversion

13:00 - 14:30 **Lunch**

Session 2.3

Chair: David Beljonne

14:30 - 15:00 Norbert Koch (*Physics Department and IRIS Adlershof, Humboldt-Universität zu Berlin, Berlin, Germany*)

2.3-I1 Surface and interface electronic properties of perovskites in photovoltaic cells

15:00 - 15:15 Nadège Marchal (*University of Mons (UMONS), Laboratory for Chemistry of Novel Materials, Center for Innovation and Research in Materials and Polymers (CIRMAP), Mons (Belgium)*), Claudio Quarti, David Beljonne

2.3-O1 Electronic properties of 2D hybrid perovskites: spin-orbit coupling and indirect effect of inert organic spacers

15:15 - 15:30 2.3-O2	<u>Anna Nikolskaia</u> (<i>Institute of Biochemical Physics, Russian Academy of Sciences</i>), Marina Vildanova, Sergey Kozlov, Nikolai Tsvetkov, Oleg Shevaleyevskiy, Liudmila Larina Performance of Perovskite Solar Cells under Varied Light Conditions
15:30 - 16:00 2.3-I2	<u>Yana Vaynzof</u> (<i>Kirchhoff-Institute for Physics, Heidelberg University</i>) What Affects the Reproducibility of Perovskite Photovoltaic Devices?
16:00 - 16:15 2.3-O3	<u>Marina Vildanova</u> (<i>Institute of Biochemical Physics, Russian Academy of Sciences</i>), Anna Nikolskaia, Sergey Kozlov, Oleg Shevaleyevskiy Enhancing the Stability of Perovskite Solar Cells by Alkali Metal Doping
16:15 - 16:30 2.3-O4	<u>Dirk Vanderzande</u> (<i>Institute for material research, Hasselt University</i>), Wouter Van Gompel, Roald Herckens, Laurence Lutsen, Bart Ruttens, Jan D' Haen Templating Organic Chromophores in 2D Hybrid Perovskites: A New Class of Materials for Opto-Electronic Applications
16:30 - 17:00 2.3-K1	<u>Henning Sirringhaus</u> (<i>Cavendish Laboratory, Department of Physics, University of Cambridge, JJ Thomson Avenue, Cambridge CB3 0HE, UK.</i>) Charge and spin transport physics of high mobility organic semiconductors

17:00 - 17:45 **Poster Exhibition**

March 20th - Day 4 (Wednesday)

08:45 - 09:00 **Announcement of Poster prize winner**

Session 3.1

Chair: Oana Jurchescu

09:00 - 09:30 3.1-I2	<u>Giulia Grancini</u> (<i>Ecole polytechnique fédérale de Lausanne Institut des sciences et ingénierie chimiques EPFL SB ISIC SCI-SB-MN</i>) 2D/3D Hybrid Perovskite Interfaces and Physics therein for Stable and Efficient Solar Cells
09:30 - 10:00 3.1-I1	<u>Thomas Anthopoulos</u> (<i>King Abdullah University of Science and Technology (KAUST), Division of Physical Sciences and Engineering, Thuwal 23955-6900, Kingdom of Saudi Arabia</i>) Ultra-high Performance Organic Transistors Enabled by Molecular Doping
10:00 - 10:15 3.1-O1	Magatte N. Gueye, Amélie Schulteiss, Olivier Bardagot, Jérôme Faure-Vincent, Stéphanie Pouget, Alexandre Carella, Jean-Pierre Simonato, <u>Renaud Demadrille</u> (<i>University Grenoble Alpes, CEA, CNRS (INAC-SYMMES)</i>) Structure and Dopant Engineering in PEDOT-based Materials, Strategies to Enhance their Conductivity and Application in Thermoelectric Devices

10:15 - 10:45 **Coffee**

Session 3.2

Chair: Renaud Demadrille

10:45 - 11:15 3.2-I1	<u>Oana Jurchescu</u> (<i>Wake Forest University</i>) Contact definition and patterning for high performance organic thin-film transistors
11:15 - 11:30 3.2-O1	<u>Seong-Min Kim</u> (<i>School of Materials Science and Engineering, Gwangju Institute of Science and Technology, Gwangju 61005, Republic of Korea</i>), Chang-Hyun Kim, Youngseok Kim, Natalie Stingelin, Myung-Han Yoon Correlation Among Film Microstructure/Composition, Electrochemical Transistor Performance, and Long-Term Aqueous Stability of PEDOT:PSS Films
11:30 - 12:00 3.2-I2	<u>Paul Meredith</u> (<i>Department of Physics, Swansea University, Single Park, Swansea SA2 8PP, United Kingdoms</i>) Electro-optical Considerations for Thin Film Solar Cells and Photodetectors
12:00 - 12:15 3.2-O2	<u>Donia Fredj</u> (<i>Dracula Technologies, 4 rue Georges Auric, 26000 Valence, France</i>), Ali Nouridine, Florent Pourcin, Sadok Ben Dkhil, Jérôme Vernet, Brice Cruchon, Pascal Pierron, Lionel Flandin High-Performance inkjet Printed Flexible Organic solar cells and modules Using Silver nanowires as Transparent Electrodes
12:15 - 12:30 3.2-O3	<u>Anton Kiriy</u> (<i>Leibniz Institute of Polymer Research Dresden</i>) Interfacial doping of organic semiconductors

12:30 - 12:45 3.2-O4	<u>Hongmo Li</u> (<i>School of Materials Science and Engineering, Georgia Institute of Technology, Atlanta, GA, USA</i>), David Valverde, Andre Zeumault, Yadong Zhang, Stephen Barlow, Lee Richter, Seth Marder, Carlos Silva, Natalie Stingelin Towards Metallic-Type Transport in Polymers: Establishing Structure/Property Interrelationships
12:45 - 14:30	Lunch
	Session 3.3 Chair: Giulia Grancini
14:30 - 14:45 3.3-O1	<u>Chun Ma</u> (<i>King Abdullah University of Science and Technology (KAUST), Division of Physical Sciences and Engineering, Thuwal 23955-6900, Kingdom of Saudi Arabia</i>), Hu Chen, Emre Yengel, Hendrik Faber, Jafar Khan, Weiming Zhang, Frédéric Laquai, Iain McCulloch, Thomas Anthopoulos Multi-Input Parameter Modulable Memtransistors from Hybrid Perovskite/Conjugated Polymer Heterostructures
14:45 - 15:00 3.3-O2	<u>Lydia Sosa Vargas</u> (<i>Sorbonne Universite -Institut Parisien de Chimie Moleculaire</i>), Quentin Fernez, David Kreher, Fabrice Mathevet, Imad Arfaoui, Simon Vassant, Celine Fiorini-Debuisschert, Fabrice Charra Nano-engineering of Fluorescent Monolayers on Graphene
15:00 - 15:15 3.3-O3	<u>Takashi Okubo</u> (<i>Department of Chemistry, Kindai University</i>), Wataru Genno, Misaki Ohkita, Sanshiro Fukuda, Masahiko Maekawa, Takayoshi Kuroda-Sowa Conducting Properties and Application to Organic Solar Cells of Coordination Polymers Including Copper(I) Halides
15:15 - 15:30	Clousure

Poster Contribution

023	<u>Jiale Feng</u> (<i>Cavendish Laboratory, Department of Physics, University of Cambridge, JJ Thomson Avenue, Cambridge CB3 0HE, UK.</i>), Dan Credgington Tuneability of organic light emitting diode emission via composite structural control
024	<u>Giacomo Londi</u> (<i>Laboratory for Chemistry of Novel Materials, University of Mons</i>), Rexiati Dilimulati, Yoann Olivier, David Beljonne Efficient exciton diffusion in a donor-acceptor conjugated dye for solar cells applications: Theoretical insights
037	<u>Alex Balzer</u> (<i>School of Chemical and Biomolecular Engineering, Georgia Institute of Technology, Atlanta, Georgia 30332, USA</i>), Natalie Stingelin Titanium Oxide Hydrates as Optically and Photonically Versatile Species in Inorganic-Organic Hybrids for Polymer-Based Energy Harvesting and Conversion Devices
040	<u>Qinying Gu</u> (<i>Cavendish Laboratory, Department of Physics, University of Cambridge, JJ Thomson Avenue, Cambridge CB3 0HE, UK.</i>), Dan Credgington Organic Photovoltaics Incorporating Electron Donors with Small Exchange Energy
051	<u>Yukihiro Shimoj</u> (<i>Research Center for Computational Design of Advanced Functional Materials (CD-FMat), National Institute of Advanced Industrial Science and Technology (AIST)</i>), Hisaaki Tanaka, Shin-ichi Kuroda, Taishi Takenobu DFT and ESR studies on donor-acceptor type conjugated polymers
053	<u>Alper Gurarslan</u> (<i>Faculty of Textile Technologies and Design, Istanbul Technical University, Istanbul Turkey</i>), Elif Omur, Busra Ozdemir Silver Nanowire Coated Flexible Textile Sensors
054	<u>Indu Chanchal Polpava</u> (<i>Department of Chemical Engineering, Indian Institute of Technology Madras</i>), C Lakshmana Rao, Susy Varughese Polydiacetylene Thin-films for Strain Sensing Applications
055	<u>Vladimir Nikitenko</u> (<i>National Research Nuclear University MEPhI</i>), Yaroslav Burdakov, Yulia Metel' Unified Description of Hopping Transport in Disordered Organics by Multiple Trapping Formalism

- 056 Maxim Khan (*National Research Nuclear University «MEPhI» (Moscow Engineering Physics Institute)*), Vladimir Nikitenko, Andrey Tyutnev, Renat Ikhsanov
An Analytic Description of Transient Current in Disordered Organics for a Broad Range of Temperature and Electric Field by the Joint Application of Transport Level and Effective Temperature Concepts
- 057 Pauline Tourneur (*University of Mons (UMONS), Laboratory for Chemistry of Novel Materials, Center for Innovation and Research in Materials and Polymers (CIRMAP), Mons (Belgium)*), Fabien Lucas, Cassandre Quinton, Yoann Olivier, Olivier Douheret, Joëlle Rault-Berthelot, Cyril Poriel, Roberto Lazzaroni, Pascal Viville, Jérôme Cornil
Design of New Fully Organic Emitter with Spiro Connection for OLED Applications
- 058 Natalia Borzdun (*Institute of macromolecular compounds Russian academy of sciences*), Victor Nazarychev, Sergey Larin, Günter Reiter, Sergey Lyulin
Ordering of Oligo(phenylene-thiophene)s on Monolayer Graphene
- 059 Bruna Bregadiolli (*Institute of Chemistry, São Paulo State University (UNESP), Araraquara SP 14800-060, Brazil.*), Luiz Carlos Silva-Filho, Maria Aparecida Zaghete, Alan Sellinger
Surface functionalization of 4-6nm nanodiamonds with conjugated aromatic ligands for application in organic electronics
- 060 João V. Paulin (*São Paulo State University (UNESP), School of Sciences, Department of Physics, Bauru, Brazil.*), Albertus B. Mostert, Carlos F. O. Graeff, Paul Meredith
Insights on the nature of free radicals species of functionalized melanin derivatives
- 061 Eisuke Kawashima (*Department of Chemical System Engineering, Graduate School of Engineering, The University of Tokyo*), Koichi Yamashita
Organic Photovoltaics Simulators for Material Design
- 062 Masanori Kaneko (*Department of Chemical System Engineering, School of Engineering, The University of Tokyo, 7-3-1 Hongo Bunkyo-ku, Tokyo 113-8656, Japan*), Mikiya Fujii, Takashi Hisatomi, Koichi Yamashita, Kazunari Domen
Regression model for stabilization energies associated with anion ordering in Perovskite materials