

## PRELIMINARY PROGRAM

### Monday 4 July 2022

10:30-11:00 UTC/GMT+3	Welcome and Opening Remarks S. Logothetidis ISFOE22 Chairman		
11:00-13:00	<b>Workshop on OLAE Materials 1 (Room: Crystal Hall)</b> Chair: tba		
11:00-11:30 KEYNOTE	Organic Electronics for a Net Zero Carbon Future Sustainable Society R. Silva <i>University of Surrey, UK</i>		
11:30-12:00 INVITED	Printable Aromatic Polyethers for OLEDs A. K. Andreopoulou, K. Andrikopoulos, C. Anastasopoulos, J. Kallitsis Department of Chemistry, University of Patras, 26504 Patras, Greece		
12:00-12:15	Intrinsic photoinduced charge generation in aggregated small molecule semiconductors F. A. Nüesch <sup>1,4</sup> , G. Fish <sup>2</sup> , S. Jenatsch <sup>5</sup> , A. Billion <sup>3</sup> , W.-H. Hu <sup>1</sup> , R. Hany <sup>1</sup> , I. Krossing <sup>3</sup> , J. E. Moser <sup>2</sup> <sup>1</sup> Laboratory for Functional Polymers, Swiss Federal Laboratories for Materials Science and Technology, EMPA, Switzerland, <sup>2</sup> Photochemical Dynamics Group, Institute of Chemical Sciences and Engineering, Ecole polytechnique fédérale de Lausanne, Switzerland, <sup>3</sup> Institut für Anorganische und Analytische Chemie, and Freiburger Materialforschungszentrum, Universität Freiburg, Germany, <sup>4</sup> Institute of Materials and Engineering, School of Engineering, Ecole polytechnique fédérale de Lausanne, Switzerland, <sup>5</sup> Fluxim AG, Katharina-Sulzer-Platz 2, 8400 Winterthur, Switzerland		
12:15-12:30	Anti-icing solutions combining printed electronics and nanotexturing of Al alloys I. Obieta <sup>1</sup> , L. Bilbao, C. Vaquero, A. Perez, J. Maudes, H. Villaverde, I. Bustero, O. Adarraga <i>Tecnalia Research&amp;Innovation, Functional surfaces and Printed Electronics Platform, San Sebastian, Spain</i>		
12:30-12:45	Optimization of novel squaraine derivatives: configuration and interfacing Floren Radovanović-Perić <sup>1</sup> , Vilko Mandić <sup>1</sup> , Dragana Vuk <sup>1</sup> , Ivana Panžić <sup>1</sup> , Thomas Rath <sup>2</sup> <sup>1</sup> Faculty of Chemical Engineering and Technology, Zagreb, Croatia, <sup>2</sup> Institute for Chemistry and Technology of Materials, Graz, Austria		
12:45-13:00	Rational Design of Dual-Mode Materials for use in Bendable Electrochromic Devices and Electrofluorochromic Applications Monika Wałęsa-Chorab <sup>1,2</sup> , Kacper Muras <sup>2</sup> , Heather L. Filiatrault <sup>1</sup> , W.G. Skene <sup>1</sup> <sup>1</sup> Department of Chemistry, Campus MIL, Université de Montréal, CP 6128, succ. Centre-ville, Montreal, Québec, Canada, <sup>2</sup> Faculty of Chemistry, Adam Mickiewicz University in Poznań, Poland		
13:00-14:30	Lunch Break	Exhibition-Networking	Poster Display & Presentations: Nanomaterials and Devices
			Poster Display: Biosensors & Bioelectronics, Graphene and Related Materials, I3D
14:30-16:30	<b>Workshop on OLAE Materials 2 (Room: Crystal Hall)</b> Chair: tba		
14:30-15:00 KEYNOTE	Developing a tool kit to tune the performance of conjugated polymers by post-polymerisation modification M. Heeney <i>Chemical Science, King Abdullah University of Science and Technology, Saudi Arabia</i>		
15:00-15:30 KEYNOTE	Organics and oxides working together for sustainable and autonomous flexible electronics P. Barquinha <i>I3N CENIMAT, Materials Science Department, NOVA School of Science and Technology, NOVA University of Lisbon (FCT-NOVA) and UNINOVA-CEMOP, Caparica, Portugal</i>		
15:30-16:00 INVITED	Endohedral fullerenes for quantum information processing: beyond qubits K. Porfyrakis <i>Faculty of Engineering and Science, University of Greenwich, Central Avenue, Chatham Maritime, Kent, ME4 4T, U.K.</i>		
16:00-16:15	Dielectric tuning of the non-fullerene organic polymers at the mm-wave frequency Suraj Manikandan, Jens Wenzel Andreasen		

Technical University of Denmark, Denmark				
16:15-16:30	<b>Challenges and opportunities of scaling-up organics semiconductors</b> P. Berrouard <i>Brilliant Matters, QC Canada</i>			
16:30-17:00	Coffee Break	Exhibition-Networking	Poster Display & Presentations: Nanomaterials and Devices	Poster Display: Biosensors & Bioelectronics, Graphene and Related Materials, I3D
17:00-19:00	<b>Workshop on OPVs &amp; Perovskite PVs 1 (Room: Crystal Hall)</b> Chair: tba			
17:00-17:30 KEYNOTE	<b>Non-Radiative Recombination in Organic Photovoltaics</b> Koen Vandewal <i>Hasselt University, Belgium</i>			
17:30-18:00 INVITED	<b>Barrier coatings for next generation front sheets for organic photovoltaics</b> P. Schlenz <sup>1</sup> , L. Momoix <sup>2</sup> , V.J.J. von Morgen <sup>3</sup> , J. Fahlteich <sup>1</sup> <sup>1</sup> Fraunhofer FEP, Dresden, Germany, <sup>2</sup> ASCA, La Chevrolière, France, <sup>3</sup> DuPont Thin Films, UK		18:00-19:00	<b>Workshop on Computational Modelling for OEs 1 (Room: Timber Hall 2)</b> Chair: tba
18:00-18:15 INVITED	<b>Quantitative Analysis of Upscaling Losses and Defects in Printed Solar Cells by Employing FEM Simulations</b> S. Jenatsch <sup>1</sup> , R. K. Misra <sup>2</sup> , E. L. Comi <sup>3</sup> , E. Knapp <sup>3</sup> , G. Koutsourakis <sup>4</sup> , F. Castro <sup>4</sup> , S. R. P. Silva <sup>2</sup> , B. Ruhstaller <sup>1,3</sup> <sup>1</sup> Fluxim AG, Winterthur, Switzerland, <sup>2</sup> Advanced Technology Institute, University of Surrey, UK, <sup>3</sup> Institute of Comp. Physics, Zurich University of Applied Sciences, Winterthur, Switzerland, <sup>4</sup> National Physical Laboratory, UK		18:00-18:15 INVITED	<b>Cross-scale simulation method for the prediction of R2R-printing, drying, and phase separation processes in the eld of organic electronics production</b> A. Kneer <sup>1,2</sup> , S.F. Kalourazi <sup>3</sup> , K. Kordos <sup>4</sup> , I. Skarmoutsos <sup>5</sup> , K. Reimann <sup>1</sup> , B. Nestler <sup>2,3</sup> <sup>1</sup> TinnIT Technologies GmbH, Karlsruhe, Germany, <sup>2</sup> Hochschule Karlsruhe, University of Applied Sciences, IDM, Germany, <sup>3</sup> Karlsruhe Institute of Technology, Institute of Applied Materials – Comp. Materials Science, Germany, <sup>4</sup> Department of Materials Science and Engineering, University of Ioannina, Greece <sup>5</sup> Department of Chemistry, University of Ioannina, Greece
18:15-18:30	<b>Boosting temperature and humidity stability of Inverted PSCs by interface engineering of charge transport layers with an azulene-pyridine molecule</b> N. Tzoganakis <sup>1</sup> , B. Feng <sup>2</sup> , M. Loizos <sup>1</sup> , K. Chatzimanolis <sup>1</sup> , M. Krassas <sup>1</sup> , D. Tsikritzis <sup>1</sup> , X. Zhuang <sup>2</sup> , E. Kymakis <sup>1</sup> <sup>1</sup> Dept. Electrical & Computer Eng., Hellenic Mediterranean University (HMU), Crete, Greece <sup>2</sup> Shanghai Jiao Tong University, P. R. China		18:15-18:30	<b>OLED Modeling with the Amsterdam Modeling Suite</b> T.M. Soini <i>Software for Chemistry and Materials (SCM), Amsterdam, The Netherlands</i>
18:30-18:45	<b>Sustainable laser ablation processes for fabrication of plasmonic colloidal silver NPs to improve electrical and optical properties of printed PEDOT:PSS nanolayers</b> C. Kapnopoulos <sup>1</sup> , S. Kassavetis <sup>1</sup> , V. Heben <sup>1</sup> , C. Stavraki <sup>1</sup> , A. Paliagkas <sup>1</sup> , E. Mekeridis <sup>2</sup> , A. Laskarakis <sup>1</sup> , S. Logothetidis <sup>1,2</sup> <sup>1</sup> Nanotechnology Lab LTFN, Dept Physics, Aristotle University of Thessaloniki, Greece <sup>2</sup> Organic Electronic Technologies (OET), 57001 Thessaloniki, Greece		18:30-18:45	<b>Study of charge balance using electron and hole only devices: Extraction of charge transport parameters of ETL/HTL layers in OLEDs</b> K Chitra Sai Srivatsava, Debdutta Ray <i>Department of Electrical Engineering, IIT Madras, Chennai, India</i>
18:45-19:00	<b>Laser processes for Perovskite Modules: Influence of pulse duration and wave length onto the process quality to reduce production</b> S. Bergfeld <i>Bergfeld Lasertech GmbH, Aachen, Aachen University of Applied Sciences, Jülich Campus</i>		18:45-19:00	<b>Impact of polymer gate dielectric capacitance and gate leakage current on the solution-based polymer organic thin film transistor</b> S. Puttur, M. Chennamkulam Ajith, S. Dutta <i>Department of Electrical Engineering, IIT Madras, Chennai, India</i>
19:00-19:15	<b>High performance transparent embedded-silver grid electrodes for organic photovoltaics fabricated by selective metal condensation</b> P. Bellchambers <sup>1</sup> , C. Henderson <sup>1</sup> , K-W Park <sup>2</sup> , J-K. Lee <sup>2</sup> , R. A. Hatton <sup>1</sup> <sup>1</sup> Department of Chemistry, University of Warwick, UK, <sup>2</sup> Department of Polymer Science and Engineering, Inha University, Incheon, South Korea		19:00-19:15	Title to be announced soon

19:15-19:30	<p>Connecting Electronic Structure and Morphology to Model Organic Electronic Materials R. Alessandri <i>University of Chicago, Chicago, Illinois 60637, United States</i></p>		
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**Tuesday 5 July 2022**

10:30-13:00	<b>Workshop on OPVs &amp; Perovskite PVs 2 (Room: Timber Hall 1)</b> Chair: tba		
10:30-11:00 KEYNOTE	<b>Virtual screening for organic solar cells and light emitting diodes</b> D. Andrienko <i>Max Plank Institute for Polymer Research, Germany</i>	11:00-13:00	<b>Workshop on OLEDs, OTFTs and Wearables 1 (Room: Timber Hall 2)</b> Chair: tba
11:00-11:30 INVITED	<b>Energy Harvesting with Piezoelectric Polymers for Biomedical Applications</b> K. Asadi <i>Department of Physics, University of Bath, Claverton Down, BA2 7AY, Bath, United Kingdom</i>	11:00-1130 INVITED	<b>New Technologies and Materials for Display Applications</b> C. Boeffel <i>Fraunhofer Institute for Applied Polymer Research IAP, Germany</i>
11:30-11:45	<b>Carrier Tunneling from Charge Transfer States in Organic Photovoltaic Cells</b> A. Devižis, A. Gelzinis, J. Chmeliov, M. Diethelm, L. Endriukaitis, D. Padula, F. Nüesch, R. Hany, Dr. A. Devižis, Dr. A. Gelzinis, Dr. J. Chmeliov, L. Endriukaitis <i>State Research Institute Center for Physical Sciences and Technology, Vilnius, Lithuania</i> <i>Institute of Chemical Physics, Faculty of Physics, Vilnius University, Vilnius LT-10222, Lithuania</i> <i>Empa, Swiss Federal Laboratories for Materials Science and Technology, Laboratory for Functional Polymers, Dübendorf CH-8600, Switzerland</i>	11:30-1200 INVITED	<b>Organic Semiconductors: New Opportunities in Visible Light Communication</b> I.D.W. Samuel <i>Organic Semiconductor Centre, SUPA, School of Physics and Astronomy, University of St Andrews, St Andrews, UK</i>
11:45-1200	<b>Role of Ionization Energy Offset in NFA-based Ternary Organic Solar Cells: Implications to Design Rules</b> S. Karuthedath, S. H. K. Paleti, A. Sharma, D. Baran, J. Gorenflot, F. Laquai <i>KAUST Solar Center (KSC), Physical Sciences and Engineering Division (PSE), Material Science and Engineering Program (MSE), Kingdom of Saudi Arabia</i>		
12:00-12:15	<b>Aiming for an overall efficiency of 10% for continuously manufactured OPV</b> L. Pongratz <sup>1</sup> , F. Kiel <sup>2</sup> , C. Esen <sup>2</sup> <sup>1</sup> <i>Fraunhofer Institute for Laser Technology ILT, Aachen, Germany</i> <sup>2</sup> <i>Chair of Applied Laser Technologies LAT at Ruhr Universität Bochum, Germany</i>	12:00-12:15	<b>Evidence and Effects of Ion Transfer at Active-Material/Electrode Interfaces in Solution-Fabricated Light-Emitting Electrochemical Cells</b> E. Auroux <sup>1</sup> , A. Sandström <sup>1</sup> , C. Larsen <sup>2</sup> , E. Zäll <sup>1</sup> , P. Lundberg <sup>1</sup> , T. Wågberg <sup>1</sup> , L. Edman <sup>1,2</sup> <sup>1</sup> <i>Department of Physics, Umeå University, Umeå, Sweden</i> , <sup>2</sup> <i>LunaLEC AB, Umeå, Sweden</i>
12:15-12:30	<b>33% PCE Enhancement in Organic Solar Cells integrating Silver Nanowire Electrodes</b> I. Ibrahim Zamkoye <sup>1,2</sup> , J. Bouclé <sup>1,2</sup> , N. Leclerc <sup>3</sup> , B. Lucas <sup>1,2</sup> , S. Vedraïne <sup>1,2</sup> <sup>1</sup> <i>Univ. Limoges, XLIM, UMR 7252, F-87000 Limoges, France</i> , <sup>2</sup> <i>CNRS, XLIM, UMR 7252, F-87000 Limoges, France</i> , <sup>3</sup> <i>ICPEES, Université de Strasbourg, CNRS, Strasbourg, France</i>	12:15-12:30	<b>Title to be announced soon</b> V. Kyriazopoulos, A. Galatsopoulos, E. Mekeridis, C. Varlamis <i>Organic Electronic Technologies, Thessaloniki, Greece</i>
12:30-12:45	<b>Enhanced Stability of Tin Halide Perovskite Photovoltaics Using a Bathocuproine - Copper Top Electrode</b> A. Wijesekara <sup>1</sup> , M. Walker <sup>2</sup> , Y. Han <sup>2</sup> , D. Walker <sup>2</sup> , S. Huband <sup>2</sup> and R. A. Hatton <sup>1</sup> <sup>1</sup> <i>Department of Chemistry, University of Warwick, Coventry, UK</i> <sup>2</sup> <i>Department of Physics, University of Warwick, Coventry, UK</i>	12:30-12:45	<b>Design and optimization of a Blue fluorescent Microcavity-Organic Light-Emitting Diode (MOLED) for an algae excitation light source application</b> L.A. Lozano-Hernández <sup>1</sup> , J.B. Doucet <sup>1</sup> , B. Reig <sup>1</sup> , L. Salvagnac <sup>1</sup> , H.Y. Lee <sup>2,3</sup> , C.T. Lee <sup>2</sup> , S. Calvez <sup>1</sup> , I. Séguéy <sup>1</sup> , V. Bardinal <sup>1</sup> <sup>1</sup> <i>Laboratory for Analysis and Architecture of Systems, CNRS, Toulouse, France</i> <sup>2</sup> <i>Department of Photonics, National Cheng Kung University, Taiwan, Republic of China</i> <sup>3</sup> <i>Department of Electrical Engineering, Yuan Ze University, Taiwan, Republic of China</i>
12:45-13:00	<b>2-Methylanisole as "green" and harmless solvent for organic photovoltaic cells with over 11% efficiency</b> F. Kiel, C. Esen, A. Ostendorf <i>Applied Laser Technologies, Ruhr University Bochum, Germany</i>	12:45-13:00	<b>Numerical Analysis and Optimization of Organic Light-Emitting Diode based on Triplet-Triplet Fusion Mechanism</b> Jun-Yu Huang <sup>1,2</sup> , Hsiao-Chun Hung <sup>1</sup> , Kung-Chi Hsu <sup>1</sup> , Chia-Hsun Chen <sup>1</sup> , Pei-Hsi Lee <sup>1</sup> , Hung-Yi Lin <sup>1</sup> , Bo-Yen Lin <sup>3</sup> , Man-kit Leung <sup>4</sup> , Tien-Lung Chiu <sup>3</sup> , Jiun-Haw Lee <sup>1</sup> , Richard Friend <sup>2</sup> and Yuh-Renn Wu <sup>1</sup> <sup>1</sup> <i>Graduate Institute of Photonics and Optoelectronics and Department of Electrical Engineering, National Taiwan University, Taipei, Taiwan</i> , <sup>2</sup> <i>Cavendish Laboratory, University of Cambridge, UK</i> , <sup>3</sup> <i>Department of Electrical Engineering, Yuan Ze University, Taiwan</i> , <sup>4</sup> <i>Department of Chemistry, National Taiwan University, Taipei, Taiwan</i>





13:00-14:30	Lunch Break	Exhibition-Networking	Poster Display: Nanomaterials and Devices, Graphene and Related Materials, Biosensors & Bioelectronics, I3D	
14:30-16:30	Workshop on OPVs & Perovskite PVs 3 (Room: Timber Hall 1) Chair: tba		14:30-16:30	Special Workshop on Open Innovation (Room: Timber Hall 2) Chair: tba
14:30-15:00 INVITED	Efficient Structures and Processes for Upscaling of Perovskite Modules and Tandems T. Aernouts <sup>1,2,3</sup> <i>imo-imomec, Thin Film PV Technology – partner in Solliance, Imec1, EnergyVille2, Hasselt University3, 1,2Thor Park 8320, 3600 Genk, Belgium Hasselt, Belgium</i>		14:30-15:00 INVITED	Facilitators of Open Innovations – Who are They? A case study in Advanced Protective Coatings N. Konchakova <sup>1</sup> , P. Klein <sup>2</sup> , P. Visser <sup>3</sup> , K. Schladitz <sup>2</sup> <i>1 Institute of Surface Science, Helmholtz-Zentrum Hereon, Geesthacht, Germany 2 Fraunhofer Institute for Industrial Mathematics, Germany 3 Akzo Nobel Car Refinishes B.V., Rijksweg 31, 2171 AJ Sassenheim, The Netherlands</i>
15:00-15:30 INVITED	New Horizons for Photonic-enhanced Perovskite Solar Cells M. Mendes <i>NOVA School of Science and Technology (FCT NOVA), Portugal</i>		15:00-15:20 INVITED	Building an industry-driven “innovation ecosystem” through the establishment of platforms for characterization D. Dykeman <sup>1</sup> , D. DiStefano <sup>1</sup> , Jean-Marc Lucatelli <sup>2</sup> , Victor Etique <sup>2</sup> , Ludovic Steinbach <sup>1</sup> , Andrea Berto <sup>2</sup> , Yuan Wren <sup>2</sup> <i>Ansys UK Ltd., <sup>1</sup> Materials Business Unit, <sup>2</sup>Applications Engineering, Cambridge, UK</i>
15:30-15:45	Perovskite photovoltaic devices without hysteresis issues based on 1D zincite V. Mandić <sup>1</sup> , I. Panžić <sup>1</sup> , F. Radovanović-Perić <sup>1</sup> , T. Rath <sup>2</sup> <i>1 Faculty of Chemical Engineering and Technology, Marulićev trg 20, 10000 Zagreb, Croatia 2 Institute for Chemistry and Technology of Materials, Stremayrgasse 9, 8010 Graz, Austria</i>		15:20-15:40 INVITED	From MODA to executable workflows via the BPMN standard D. Campagna <i>Research and Development Department, ESTECO SpA Area Science Park, Trieste, Italy</i>
15:45-16:00	Exploring SnO <sub>2</sub> quantum dots-based electron transport layer for perovskite solar cells S. Derbali, A. Mirea, I. Vlaicu, A.G. Tomulescu, F. Neatu, S. Neatu, C. Besleaga, M. Florea, L. Pintilie and I. Pintilie <i>National institute of Materials physics (NIMP), 077125 Magurele, Romania</i>			
16:00-16:15	Monolithic Perovskite/Organic Tandem Solar Cells with Minimized Parasitic Absorption Losses F. Isikgor, T. Maksudov, X. Chang, W. Hadmojo, Z. Ling, T. Anthopoulos <i>King Abdullah University of Science and Technology (KAUST), KAUST Solar Center (KSC), Physical Sciences and Engineering Division (PSE), Kingdom of Saudi Arabia</i>		15:40-16:00 INVITED	A robust multiscale workflow for open simulation platforms O. M. Roscioni <sup>1,2</sup> , M. Ricci <sup>2</sup> , F. M. Bellussi <sup>3</sup> , M. Fasano <sup>3</sup> , G. Goldbeck <sup>1</sup> <i><sup>1</sup> Goldbeck Consulting Limited, St John's Innovation Centre, Cambridge, UK <sup>2</sup> materialx Ltd, Easton Business Centre, Bristol, UK <sup>3</sup> Department of Energy, Politecnico di Torino, Torino 10129, Italy</i>
16:15-16:30	The use of AgNWs for fully-printed perovskites solar cells manufacturing A. Galatsopoulos <sup>1</sup> , A. Zachariadis <sup>2</sup> , E. Mekeridis <sup>1</sup> , C. Kapnopoulos <sup>2</sup> , S. Logothetidis <sup>2</sup> <i><sup>1</sup> Organic Electronic Technologies P.C. (OET), Antoni Tritsi 21b, Thessaloniki, Greece <sup>2</sup> Nanotechnology Lab LTFN, Aristotle University of Thessaloniki, Greece</i>		16:00-16:20 INVITED	The European Open Innovation Ecosystem: How Open Innovation Test Beds, Open Access Pilot Lines and Digital Innovation Hubs may help European SME J. Fahlteich <i>KETMarket GmbH, Germany</i>
16:30-17:00	Coffee Break	Exhibition-Networking	Poster Display: Nanomaterials and Devices, Graphene and Related Materials, Biosensors & Bioelectronics, I3D	

17:00-18:30	Workshop on OPVs & Perovskite PVs 4 (Room: Timber Hall 1) Chair: tba	17:00-18:30	Workshop on OLEDs, OTFTs and Wearables 2 (Room: Timber Hall 2) Chair: tba	17:00-18:30	Workshop on Computational Modelling for OEs 1 (Room: Doc Six 1) Chair: P. Kelires
17:00-17:30 INVITED	<b>From additive to structural engineering – tools for performance enhancements in perovskite photovoltaics</b> M. McLachlan <i>Imperial College London, UK</i>	17:00-17:30 INVITED	<b>Triplet-excited State Fusion as a Tool to Drive Photocurrent Generation in Vertically-configured Organic Photodetectors</b> G. Antoniou <sup>1</sup> , P. Yuan <sup>1</sup> , L. Koutsokeras <sup>1</sup> , S. Athanasopoulos <sup>2</sup> , D. Fazzi <sup>3</sup> , T. Prodromakis <sup>4</sup> , J. Panidi <sup>4</sup> , D. G. Georgiadou <sup>4</sup> , P. E. Keivanidis <sup>1</sup> <sup>1</sup> Dept Mechanical Engineering & Materials Science and Engineering, Cyprus Univ. Technology, Cyprus <sup>2</sup> Departamento de Física, Universidad Carlos III de Madrid, Madrid, Spain <sup>3</sup> Dipartimento di Chimica "Giacomo Ciamician", Università di Bologna, Italy <sup>4</sup> Centre for Electronics Frontiers, Electronics and Computer Science, University of Southampton, UK	17:00-17:30 INVITED	<b>First-principles studies on advanced electronic materials</b> L. Tsetseris <i>Department of Physics, School of Applied Mathematical and Physical Sciences, National Technical University of Athens, GR-15780 Athens, Greece</i>
17:30-18:00 INVITED	<b>From atomic scale studies of halide perovskite material properties to surfaces and interfaces in semiconductor devices</b> L. Pedesseau <sup>1</sup> , P. Jiang <sup>1</sup> , B. Traore <sup>2</sup> , M. Kepenekian <sup>2</sup> , C. Katan <sup>2</sup> , G. Volonakis <sup>2</sup> , J. Even <sup>1</sup> <sup>1</sup> Univ Rennes, INSA Rennes, CNRS, Institut FOTON-UMR 6082, France <sup>2</sup> Univ Rennes, ENSCR, INSA Rennes, CNRS, ISCR-UMR 6226, France	17:30-18:00 INVITED	<b>Force sensing for smarter and more functional UI – The need for new nanomaterials and device constructs</b> T. Voutsas, T. Mitchell-Williams <i>Peratech HoldCo, NETPark, Thomas Wright Way, Sedgefield, United Kingdom</i>	17:30-18:00 INVITED	<b>Deciphering the Nanoparticles by Atomic Level, Large-Scale Simulations</b> J. Kioseoglou <i>Department of Physics, Aristotle University of Thessaloniki GR-54124, Thessaloniki, Greece</i>
18:00-18:15	<b>Memristive perovskite solar cells for self-powered IoT edge computing</b> K. Rogdakis <sup>1,2</sup> , M. Loizos <sup>1</sup> , G. Viskadourous <sup>1</sup> , E. Kymakis <sup>1,2</sup> <sup>1</sup> Dept Electrical & Computer Engineering, Hellenic Mediterranean University (HMU), Heraklion, Greece <sup>2</sup> Institute of Emerging Technologies (i-EMERGE) of HMU Research Center, Heraklion, Greece	18:00-18:15	<b>Printed temperature and water detection sensors for smart monitoring on customized LSF structures</b> D. Campanhã <sup>1</sup> , C. Furtado <sup>1</sup> , C. Ferreira <sup>1</sup> , K. Rodrigues <sup>1</sup> , N. Simões <sup>2</sup> , R. Vicente <sup>3</sup> , C. Pires <sup>4</sup> , F. Pereira <sup>5</sup> <sup>1</sup> CeNTI, Centre of Nanotechnology and Smart Materials, Portugal <sup>2</sup> Inst. Research & Techn. Development in Construction, Energy, Environment, Sustainability, Portugal <sup>3</sup> RISCO, Risks and Sustainability in Construction, Universidade de Aveiro, Portugal <sup>4</sup> Catim, Technological Center for the Metal Working Industry, Porto, Portugal <sup>5</sup> Sucorema, Lda., Zona Industrial da Carriça, Muro, Portugal		

18:30  
UTC/GMT+3

## PLENARY SESSION



18:30-19:00		Introduction by Prof. S. Logothetidis, ISFOE22 & NN22 Chairman Greetings from Regional and National Authorities
19:00-19:30		Device operation of organic light-emitting diodes based on thermally activated delayed fluorescence Prof. Paul Blom Managing Director, Max Planck Institute for Polymer Research, Germany
19:30-20:00		Biofabrication in regenerative medicine: from textile scaffolds to bioprinting Prof. Lorenzo Moroni Professor of Biofabrication for Regenerative Medicine & Scientific Director of the MERLN Institute, Maastricht University, The Netherlands
20:00-20:30		Optimising solar energy conversion in molecular electronic materials Prof. Jenny Nelson Royal Society Research Professor, Department of Physics, Imperial College London, UK



**Wednesday 6 July 2022**

11:00-13:00	Workshop on OPVs & Perovskite PVs 5 (Room: Timber Hall 2) Chair: tba	11:00-13:00	Workshop on Graphene (ISFOE22 + NN22) 1 (Room: Timber Hall 1) Chair: tba	11:00-13:00	Workshop on Computational 3 (Room: Crystal Hall) Chair: P. Kelires
11:00-11:30 INVITED	<b>10% Organic Solar Cells fabricated from Nanoparticle Dispersions</b> A. Colsmann <i>Karlsruhe Institute of Technology, Germany</i>	11:00-11:30 INVITED	<b>Self-consistent modelling of mid-IR optoelectronics based on graphene</b> E. Lidorikis <i>Department of Materials Science and Engineering, University of Ioannina, 45110 Ioannina, Greece</i> <i>Institute of Materials Science and Computing, University Research Center of Ioannina, Ioannina, Greece</i>	11:00-11:30 INVITED	<b>DFT+<math>\Sigma</math>2 method for electron correlation effects at transition metal surfaces and nano-devices</b> M. M. Radonjic <i>Institute of Physics Belgrade, University of Belgrade, Serbia</i>
11:30-12:00 INVITED	<b>Using High throughput screening methods and genetic algorithms to develop ternary blend-based photovoltaics</b> M. Campoy-Quiles <i>Institute of Materials Science of Barcelona, ICMA-B-CSIC, Campus UAB, Bellaterra, 08193, Spain</i>	11:30-11:45	<b>Interaction of graphene-related materials with sensory neurons of the dorsal root ganglia</b> Lieselot Deleye <i>Center for Synaptic Neuroscience and Technology, Istituto Italiano di Tecnologia, Italy</i>	11:30-12:00 INVITED	Topological quantum chemistry for quasi-one-dimensional systems with either translational or helical periodicity <b>I. Milošević</b> <i>Faculty of Physics, University of Belgrade, Serbia</i>
		11:45-12:00	<b>Light Emission Mechanisms from Graphene: a Review</b> A. Beltaos <i>Centre for Science, Athabasca University, 1 University Drive, Athabasca, Alberta, Canada</i>		
12:00-12:30 INVITED	<b>In-line characterization of compositional, electronic and structural properties of advanced thin film solar cells</b> C. Defranoux, F. Korsos, P. Basa, T. Brigancz <i>Semilab Co. Ltd., Prielle Kornelia 4/A. str., H-1117 Budapest, Hungary</i>	12:00-12:15	<b>Thin-film assembly of few-layer nanosheet networks: transport properties and chemiresistive sensing</b> S.P. Ogilvie <i>University of Sussex, Brighton, UK</i>	12:00-12:30 INVITED	Linear dispersions in low-dimensional structures: the role of crystalline symmetries, time reversal, and spin-orbit coupling <b>N. Lazić,</b> <i>NanoLab, Faculty of Physics, University of Belgrade Serbia</i>
		12:15-12:30	<b>Evaluation of Strain and Doping in 2D Materials by Raman Spectroscopy</b> F. Lee <i>Department of Physics and Astronomy, University of Sussex, United Kingdom</i>		
12:30-12:45	<b>Emerging Printed Electronics Research Infrastructure- EMERGE</b> K. Rogdakis <sup>1,2,*</sup> and E. Kymakis <sup>1,2,*</sup> <sup>1</sup> Department of Electrical & Computer Engineering, Hellenic Mediterranean University (HMU), Heraklion 71410 Crete, Greece <sup>2</sup> Inst. Emerging Technologies (i-EMERGE) of HMU Research Center, Heraklion, Crete, Greece	12:30-12:45	<b>Size-dependent porosity defines conductivity in liquid-exfoliated nanosheet networks</b> Hannah J. Wood <i>University of Sussex, United Kingdom</i>	12:30-12:45	Unraveling the atomic structure and reconstruction mechanisms of carburized W(110) by ab initio calculations <b>A. Kyritsakis</b> <i>Institute of Technology, University of Tartu, Estonia</i>
12:45-13:00	<b>Optimization study of fully printed flexible OPV devices based on PBDB-T:BTP-12 system and photoactivation process investigation</b>	12:45-13:00	<b>Tuneable synthetic reduced graphene oxide scaffolds elicit high levels of glioblastoma interconnectivity in vitro</b> C. J. Brown	12:45-13:00	The interplay between local and global dynamics for nano-filaments using computer simulations <b>I. Andricioaei</b> <i>Departments of Chemistry, and of Physics and Astronomy, University of California, Irvine, USA</i>



	V. Heben, C. Kapnopoulos, C. Stavragi, A. Paliagkas, E. Doudis, D. Tselekidou, A. Zachariadis, C. Gravididis, A. Laskarakis, S. Logothetidis <i>Nanotechnology Lab LTFN, Department of Physics, Aristotle University of Thessaloniki, 54124 Thessaloniki, Greece</i>		<i>Department of Physics and Astronomy, University of Sussex, Brighton, BN1 9QH, UK</i>		
13:00-14:30	Lunch Break	Exhibition-Networking	Poster Display & Presentations: Biosensors & Bioelectronics, Graphene and Related Materials, I3D		Poster Display: Nanomaterials and Devices
14:30-16:30	<b>Workshop on OLEDs, OTFTs and Wearables 3 (Room: Timber Hall 2)</b> Chair: tba				
14:30-15:00 KEYNOTE	<b>NanoManufacturing of Sustainable Circular Electronics</b> T. Anthopoulos <i>King Abdullah University of Science and Technology, Saudi Arabia</i>	15:00-16:30	<b>Workshop on Graphene (ISFOE22 + NN22) 2 (Room: Timber Hall 1)</b> Chair: tba	15:00-15:45	<b>I3D Conference Session 1 (Room: Doc Six 1)</b> Chair: tba
15:00-15:30 INVITED	<b>Organic and Hybrid films as platform for Large-area and Flexible Detection of Ionizing Radiation</b> L. Basiricò <i>Department of Physics and Astronomy, University of Bologna and INFN Bologna, Bologna, Italy</i>	15:00-15:30 INVITED	<b>Next generation electronics using low dimensionality nanomaterials</b> George Delligeorgis <i>FORTH IESL, Greece</i>	15:00-15:30 INVITED	<b>Nanoscribe: An overview from sub-micron and to high speed 3D printing</b> Alexander Legant <i>Nanoscribe GmbH &amp; Co. KG, Germany</i>
15:30-15:45	<b>Design and evaluation of a Double-Gate Organic Thin Film Transistor (OTFT) for biosensing</b> T. Fresneau, K. Romanjek, P. Mailley <i>Organic Components Laboratory, Université Grenoble-Alpes, CEA, France</i>	15:30-16:00 INVITED	<b>Environmental effects on the electric transport and the photoresponse in 2D-materials based FETs</b> A. Di Bartolomeo <i>Department of Physics E. R. Caianiello, University of Salerno, and CNR-SPIN, Italy</i>	15:30-15:45	<b>3D-printed metasurfaces for potential energy harvesting applications at 2.4 GHz</b> Z. Viskadourakis <i>FORTH IESL, Greece</i>
15:45-16:00	<b>Manufacturing of Conductive and Insulating Features at Micrometer Scale for Flexible Organic Electronics</b> Piotr Kowalczewski <sup>1</sup> , Aneta Wiatrowska <sup>1</sup> , Karolina Ficzyk <sup>1</sup> , Mateusz Łysień <sup>1,2</sup> , Łukasz Witczak <sup>1</sup> , Jolanta Gadzalińska <sup>1</sup> , Ludovic Schneider <sup>1</sup> , Filip Granek <sup>1</sup> <sup>1</sup> XTPL SA, Stabłowicka 147, 54-066 Wrocław, Poland <sup>2</sup> Institute of Low Temperature and Structure Research, Polish Academy of Sciences, , Poland			15:45-16:00	<b>HAPTIC Digital 3D printing on textile surfaces for high volume footwear manufacturing</b> T.W. Schmidt <i>Key Lab for Sport Shoes Upper Materials of Fujian Province, China</i>
16:00-16:15	<b>Inkjet Printing of heaters and temperature sensors for PCR and LAMP analysis on Lab-on-a-chip devices</b> T. Schönfelder <sup>1</sup> , F. Kemper <sup>1</sup> , E. Beckert <sup>1</sup> , A. Tünnermann <sup>1,2</sup> , S. Allelein <sup>3</sup> , D. Kuhlmeier <sup>3</sup> , C. Freese <sup>4</sup> <sup>1</sup> Fraunhofer Institute for Applied Optics and Precision Engineering (IOF), Jena, Germany, <sup>2</sup> Institute of Applied Physics, Abbe Center of Photonics, Friedrich Schiller University Jena, Germany, <sup>3</sup> Fraunhofer Institute for Cell Therapy and Immunology (IZI), Leipzig, Germany, <sup>4</sup> Fraunhofer Institute for Microengineering and Microsystems (IMM), Mainz, Germany	16:00-16:15	<b>Two dimensional MoS2 DC Field Effect Transistor for switching applications</b> F. Iacovella <i>FORTH-IESL Greece</i>	16:00-16:15	<b>Metallization of 3D-printed polymer components for space applications</b> N. Godja <sup>1</sup> , A. Schindel <sup>2</sup> , G. Palyzynski <sup>3</sup> , <i>CEST Centre of Electrochemical Surface Technology GmbH, Austria</i>

16:15-16:30	<p><b>Development of 3D organic polymer dendrites as neuromorphic device</b> K. Janzakova<sup>1</sup>, M. Ghazal<sup>1</sup>, A. Kumar<sup>2</sup>, Y. Coffinier<sup>1</sup>, S. Pecqueur<sup>1</sup>, F. Alibart<sup>1,2</sup> 1. Institut d'Électronique, Microélectronique et Nanotechnologie (IEMN), CNRS, UMR 8520, F-59652, Villeneuve d'Ascq, France. 2. Laboratoire Nanotechnologies &amp; Nanosystèmes (LN2), CNRS, Université de Sherbrooke, J1X0A5, Sherbrooke, QC, Canada</p>	16:15-16:30	<p><b>Unified Charge Control Model for MoS2 FET</b> A. Mounir Rovira I Virgili University, Tarragona, Spain</p>	16:15-16:30	<p><b>Fully printed single-layer functional PCB via digital hybrid printing of polymer and molten metal</b> Zeba Khan Laboratory for MEMS Applications, IMTEK – Department of Microsystems Engineering, University of Freiburg, Freiburg, Germany</p>
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16:30-17:00	Coffee Break	Exhibition-Networking	Poster Display & Presentations: Biosensors & Bioelectronics, Graphene and Related Materials, I3D	Poster Display: Nanomaterials and Devices
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17:00-18:15	<p><b>Workshop on OLEDs, OTFTs and Wearables 4 (Room: Timber Hall 2)</b> Chair: tba</p>	16:30-17:30	<p><b>I3D Conference Session 2 (Room: Doc Six 1)</b> Chair: tba</p>	16:30-18:00	<p><b>Workshop on Graphene (ISFOE22 + NN22) 3 (Room: Timber Hall 1)</b> Chair: tba</p>
17:00-17:30 INVITED	<p><b>Going for Gold Wearable heaters for base layers garments for elite athletes</b> A.T. Claypole, J.M. Claypole, D.T. Gethin and T.C. Claypole WCPC, Swansea University Bay Campus, Swansea, UK</p>	17:00-17:30 INVITED	<p><b>Additive manufacturing of biomimetic vascular tissue models</b> R. Kargl<sup>1,2</sup>, F. Lackner<sup>1</sup>, I. Knechtl<sup>1</sup>, T. Mohan<sup>1,2</sup>, J. Stana,<sup>3</sup> N. Tsilimparis,<sup>3</sup> K. S. Kleinschek<sup>1</sup> <sup>1</sup> IBioSys, Graz University of Technology, Austria <sup>2</sup> University of Maribor, Slovenia <sup>3</sup> Ludwig Maximilians University Munich, Germany</p>	17:00-17:30 INVITED	<p><b>Hybrid Graphene/Silicon Integrated Photodetectors</b> Ilya Goykhman Technion- Israel Institute of Technology, Israel</p>
17:30-17:45	<p><b>Synergistic effect of screen-printed single-walled carbon nanotubes and phosphorylated cellulose nanofibrils on thermophysiological comfort, thermal/UV resistance and electroconductive properties of FR fabric</b> T. Kolar &amp; V. Kokol University of Maribor, Faculty of Mechanical Eng., Slovenia</p>	17:30-17:45	<p><b>World's first 3D Printable Self-healing Concrete: A pioneering approach from Finland</b> Gaurav Das Renotech Oy, Sampsankatu 4B 20520Turku, Finland</p>	17:30-17:45	<p><b>Fabrication of sensors based on graphene via laser direct transfer</b> M. Filipescu National Institute for Laser, Plasma, and Radiation Physics, Laser Department, Atomistilor, Romania</p>
17:45-18:00	<p><b>An all textile sensor integration concept for Smart Textiles</b> K.M.B. Jansen Faculty of Industrial Design Engineering, Delft University of Technology, The Netherlands</p>	17:45-18:00	<p><b>Surface texture of biopharmaceutical equipment: Understand the differences between conventional and additive manufacturing techniques</b> Álvaro Morales-López KTH Royal Institute of Technology, Department of Fibre and Polymer Technology, School of Engineering Sciences in Chemistry, Biotechnology and Health, Sweden</p>	17:45-18:00	<p><b>Energetic bombardment and defect generation during magnetron-sputter-deposition of metal layers on graphene</b> N. Pliatsikas<sup>1,2</sup>, F. Nadjajjim<sup>3</sup>, O. Karabinaki<sup>4</sup>, M. Zarshenas<sup>1</sup>, G.A. Almyras<sup>1</sup>, I. Shteplyuk<sup>1</sup>, R. Yakimova<sup>1</sup>, J. Arvanitidis<sup>2</sup>, D. Christofilos<sup>4</sup>, K. Sarakinos<sup>3,5</sup> <sup>1</sup> Dept of Physics, Chemistry &amp; Biology, Linköping Un., Sweden <sup>2</sup> Physics Dept., Aristotle University of Thessaloniki, Greece <sup>3</sup> Department of Physics, University of Helsinki, Finland <sup>4</sup> School of Chemical Engineering &amp; Physics Laboratory, Aristotle University of Thessaloniki, Thessaloniki, Greece <sup>5</sup> KTH Royal Institute of Technology, Department of Physics, Stockholm, Sweden</p>

<p>18:00-18:15</p>	<p><b>A Stretchable and Bendable Electrochromic Device</b> M. Lerond<sup>1</sup>, W. Skene<sup>2</sup>, F. Cicoira<sup>1</sup> <i>1</i>Department of Chemical Engineering, Polyt. Montréal, Canada <i>2</i>Department of Chemistry, Université de Montréal, Canada</p>	<p>18:00-18:15</p>	<p><b>Development of 3D printed ceramic monolithic structures and membranes for gas separation applications</b> C. Zisis <i>Information Technologies Institute, Centre for Research &amp; Technology Hellas, Greece</i></p>	<p>18:00-18:15</p>	<p><b>Size-dependent packing in nanosheet networks yields record-high electrical conductivities</b> Keiran Clifford <i>University of Sussex, UK</i></p>
<p>18:15-18:30</p>	<p><b>Design and development of textile-based strain sensors via screenprinting</b> T. Caliskan<sup>1</sup>, F.E. Altun<sup>2</sup>, M.A. Kumru<sup>3</sup>, B. Kostekci<sup>4</sup>, A. Arslan<sup>5</sup>, M. Acer Kalafat<sup>6</sup>, I. Gocek<sup>7</sup> <sup>1,7</sup> Department of Textile Engineering, Istanbul Technical University, Gumussuyu/Beyoglu, Istanbul, Turkey <sup>3,4,5,6</sup> Department of Mechanical Engineering, Istanbul Technical University, Gumussuyu/Beyoglu, Istanbul, Turkey <sup>2</sup> Department of Control and Automation Engineering, Istanbul Technical University, Maslak/Sariyer, Istanbul, Turkey</p>	<p>18:15-18:30</p>	<p><b>3D Printed Inconel mechanical response related to Volumetric Energy Density</b> A.K. Kampouris <i>Laboratory of Engineering Mechanics, School of Civil Engineering, Faculty of Engineering, Aristotle University of Thessaloniki, Greece</i></p>	<p>18:15-18:30</p>	

**Thursday 7 July 2022**

		10:30-13:00	<b>Workshop on Biosensors &amp; Bioelectronics (ISFOE22-NN22) 2 (Room: Timber Hall 1)</b> Chair: tba		
11:00-13:00	<b>Workshop on OLEDs, OTFTs and Wearables 5 (Room: Crystal Hall)</b> Chair: tba	10:30-11:00 INVITED	<b>The route towards an organic liquid retina nano-prosthesis</b> Guglielmo Lanzani <i>Polytechnic University of Milan, Italy</i>	11:10-13:00	<b>I3D 3 3D Bioprinting (Room: Doc Six 2)</b> Chair: I. Zergioti
11:00-11:30 INVITED	<b>Sensing and energy harvesting technologies for wearable devices</b> M.A. Costa Angeli, Mattia Petrelli, Raheel Riaz, L. Petti, and P. Lugli <i>Faculty of Science and Technology, Free University of Bozen-Bolzano, Bolzano, Italy</i>	11:00-11:30 INVITED	<b>Organic photovoltaics for wireless wide-area retinal stimulation</b> Diego Ghezzi <i>EPFL, Switzerland</i>	11:00-11:30 INVITED	<b>3D-Printing and Sustainable Research</b> V. Prasad Shastri <i>Institute for Macromolecular Chemistry, University of Freiburg, Stefan-Meier Str. 31, Freiburg, 79104 Germany</i>
11:30-11:45	<b>Bringing interaction to the next level: Printed haptic feedback and stretchable cabling for integration in Magos gloves</b> C. Patron, F. Conrady, K.U. Fritz, G. Agriopoulos, A. Bakalidis <i>ZOEK gGmbH, Luxemburgerstraße 90, 50939 Köln, Germany</i>	11:30-12:00 INVITED	<b>Nanoscale effects in organic transistors for bioelectronics</b> F. Biscarini <sup>1,2</sup> , S. Drakopoulou <sup>2</sup> , M. Murgia <sup>1,3</sup> , M. Di Lauro <sup>1</sup> , M. Bianchi <sup>1</sup> , C. Albonetti <sup>1,3</sup> <sup>1</sup> <i>Center for Translational Neurophysiology – Istituto Italiano di Tecnologia, Italy</i> <sup>2</sup> <i>Life Sciences Dept. – Università di Modena e Reggio Emilia, Italy</i> <sup>3</sup> <i>Institute for Nanostructured Materials – Consiglio Nazionale delle Ricerche (CNR-ISMN), Italy</i>	11:30-12:00 INVITED	<b>Laser Induced Forward Transfer as an enabling bioprinting technology</b> I. Zergioti <i>School of Applied Mathematical and Physical Sciences, National Technical University of Athens, Greece</i>
11:45-12:00	<b>A novel low temperature synthesis method to produce durable multifunctional stretchable fabrics</b> Vahid Shakeri Siavashani <sup>1</sup> , Gursoy Nevin <sup>1</sup> , Majid Montazer <sup>2</sup> , Pelin Altay <sup>1</sup> <sup>1</sup> <i>Textile Engineering Department, Faculty of Textile Technologies and Design, Istanbul Technical University, Istanbul, Turkey</i> <sup>2</sup> <i>Dept Textile Engineering Amirkabir University of Technology, Tehran Polytechnic, Iran</i>				
12:00-12:15	<b>Textile Sensor based on Hybrid Piezoelectric-Triboelectric Nanogenerators with ZnO nanostructured and polypyrrole coated felt fabric</b> N. Camlibel <sup>1</sup> , K. Sahin <sup>2</sup> , S. Cetin <sup>2</sup> , B. Kandola <sup>3</sup> <sup>1</sup> <i>Textile Engineering Department, Pamukkale University, Turkey</i> <sup>2</sup> <i>Biomedical Engineering Department, Pamukkale University, Turkey</i> <sup>3</sup> <i>Inst. Materials Research &amp; Innovation, Bolton University, Bolton, UK</i>	12:00-12:15	<b>Development of <sup>3</sup>D organic polymer dendrites as neuromorphic device</b> K. Janzakova <i>Institut d'Électronique, Microélectronique et Nanotechnologie (IEMN), CNRS, UMR 8520, France</i>	12:00-12:30 INVITED	<b>Global health impacts of nanotechnology law: Nanoregulations governing food</b> Ilise Feitshans JD and ScM and DIR1, <i>Director, ESI SAFERNANO European Scientific Institute, Archamps France</i> <i>AND Research Assistant O'Neill Institute for National and Global Health Law</i>
12:15-12:30	<b>Laser patterning of soli-state flexible supercapacitor: Smart textiles</b> V. Babaahandi <sup>1</sup> , V. Shakeri Siavashani <sup>2</sup>	12:15-12:30	<b>A hybrid piezoelectric and electrostatic energy harvester for scavenging arterial pulsations</b> I. Sobianin		

	<sup>1</sup> Department of Materials Science and Textile Engineering, Razi University, Kermanshah, Iran <sup>2</sup> Textile Engineering Department, Faculty of Textile Technologies Design, Istanbul Technical University, Turkey		School of Engineering & Innovation, The Open University Milton Keynes MK7 6AA, UK		
12:30-12:45	<b>Direct writing of conducting polymer 2D/3D microelectrodes for physiological recording and stimulation</b> P. Zhang <sup>1,2,3</sup> , O. Athavale <sup>3</sup> , P. Du <sup>3</sup> and J. Travas-Sejdic <sup>1,2</sup> <sup>1</sup> School of Chemical Sciences, The University of Auckland, New Zealand <sup>2</sup> MacDiarmid Institute for Advanced Materials and Nanotechnology, New Zealand <sup>3</sup> Auckland Bioengineering Institute, The University of Auckland, New Zealand	12:30-12:45	<b>Real-time reaction monitoring of liquids on the chip-scale</b> B. Hinkov Institute of Solid State Electronics & Center for Micro- and Nanostructures, Technische Universität, Austria	12:30-12:45	<b>Biomechanical performances of PCL/HA micro- and macro-porous lattice scaffolds for tissue engineering application produced by LPBF</b> Maria Laura Gatto Department DIISM, Polytechnic University of Marche, Italy
12:45-13:00	<b>Printed sensors as monitoring solutions for the environmental conservation conditions of food and pharmaceutical packaging</b> D. Campanhã, L. Truta, S. Bogas, B. Sorathiya, A. Faria, F. Gomes CeNTI – Centre for Nanotechnology and Smart Materials, Vila Nova de Famalicão, Portugal	12:45-13:00	<b>Wearable Microneedle-Based Extended Gate Transistor Biosensor for Real-Time Detection of Biomarkers in Interstitial Fluids</b> Rawan Omar Department of Chemical Engineering and Russell Berrie Nanotechnology Institute, Technion-Israel Institute of Technology, Israel	12:45-13:00	<b>Laser bioprinting of cells and tumor organoids for organ-on-chip applications</b> E. Elezoglou <sup>1,3</sup> , M. Chliara <sup>1</sup> , M. Chatzipetrou <sup>1</sup> , S. Papazoglou <sup>3</sup> , K. Tsilingiri <sup>2</sup> , A. Klinakis <sup>2</sup> , I. Zergioti <sup>1</sup> <sup>1</sup> National Technical University of Athens, School of Applied Mathematical and Physical Sciences, Athens, Greece <sup>2</sup> Biomedical Research Foundation of Academy of Athens, Greece <sup>3</sup> PhosPrint P.C., Attika Technology Park Lefkippos, Agia Paraskevi, Athens, Greece

13:00-14:30	Coffee Break	Exhibition-Networking	Poster Display: Nanomaterials and Devices, Graphene and Related Materials, Biosensors & Bioelectronics, I3D
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14:30-16:30	<b>Workshop on Real-time Metrology and Quality Control for Nano-Manufacturing (Room: Crystal Hall)</b> Chair: tba	14:30-16:30	<b>Workshop on Biosensors &amp; Bioelectronics (ISFOE22-NN22) 3 (Room: Timber Hall 1)</b> Chair: tba
14:30-15:00 INVITED	<b>Pathway to R2R production of components for green hydrogen and fuel cells</b> Thomas Kolbusch COATEMA Coating Machinery GmbH, Germany	14:30-15:00 INVITED	<b>Bioelectronics with photosynthetic microorganisms</b> G. M. Farinola <sup>1</sup> , M. Grattieri <sup>1</sup> , M. Trotta <sup>2</sup> , F. Biscarini <sup>3,4</sup> , D. Vona <sup>1</sup> , G. Buscemi <sup>1</sup> , C. Vicente Garcia <sup>1</sup> , S. Cicco <sup>1</sup> , R. Ragni <sup>1</sup> , F. Milano <sup>2</sup> , M. Di Lauro <sup>3,4</sup> <sup>1</sup> Department of Chemistry, Università degli Studi di Bari "Aldo Moro", Bari, Italy, <sup>2</sup> CNR IPCF Bari, Italy, <sup>3</sup> Dipartimento di Scienze della Vita, Università di Modena e Reggio Emilia, Italy, <sup>4</sup> Center for Translational Neurophysiology of Speech and Communication, IIT Ferrara, Italy
15:00-15:30 INVITED	<b>Large Scale Manufacturing of fully printed Organic Photovoltaics (OPVs)</b> E. Mekeridis <sup>1</sup> , C. Varlamis <sup>1</sup> , A. Galatsopoulos <sup>1</sup> , V. Kyriazopoulos <sup>1</sup> Organic Electronic Technologies, Thessaloniki Greece	15:00-15:30 INVITED	<b>Towards electronic drug delivery implants for the brain</b> Christopher Proctor University of Cambridge, UK
15:30-15:45	<b>In-line and Real-time Nano-characterization technologies for the high yield digital manufacturing of Flexible Organic Electronics (RealNano)</b> A. Laskarakis, S. Logothetidis Nanotechnology Lab LTFN and Center of Organic and Printed Electronics Hellas (COPE-H), Aristotle University of Thessaloniki, Greece	15:30-16:00 INVITED	<b>Organic neuromorphic electronics for learning and bio-interfacing</b> Paschalis Goupidenis Max Planck Institute for Polymer Research, Germany

15:45-16:00	<b>Realization of roll-to-roll inline photoluminescence imaging for organic photovoltaic structures</b> T. Brigancz, Zs. Sánta, Z. Kiss, F. Korsós <i>Semilab Co. Ltd., Budapest, Hungary</i>		
16:00-16:15	<b>Hyperspectral Imaging for in-line thin film characterization in large area roll to roll processing</b> P. Schlenz <sup>1</sup> , F. Gruber <sup>2</sup> , P. Wollmann <sup>2</sup> , J. Hernandez <sup>3</sup> , Stefan Jakobs <sup>4</sup> , Ch. Maurer <sup>4</sup> , J. Fahlteich <sup>1</sup> and S. Cornelius <sup>1</sup> <sup>1</sup> Fraunhofer FEP, Dresden, Germany, <sup>2</sup> Fraunhofer IWS, Dresden, Germany, <sup>3</sup> Norsk Elektro Optikk AS, Ostensjøveien 34, 0667, Oslo, Norway, <sup>4</sup> Bruker AXS GmbH, Karlsruhe, Germany	16:00-16:30 INVITED	<b>Hydrogen-bonded molecules for bio-organic electronic applications</b> Cigdem Yumusak <i>Linz Institute for Organic Solar Cells (LIOS), Physical Chemistry, Johannes Kepler University Linz, Austria</i>
16:15-16:30	<b>Sustainable &amp; smart packaging: A closer look at material choice and industrial process development</b> K. Stephan, D. Kourkoulos, H. Rooms, T. Kolbusch <i>Coatema Coating Machinery GmbH, Dormagen, Germany</i>		
16:30-17:00	<b>Exhibition-Networking</b>	<b>Poster Display:</b> Nanomaterials and Devices, Graphene and Related Materials, Biosensors & Bioelectronics, I3D	
17:00-19:30	<b>Workshop on Printed sensors and integration of battery and OPV (Room: Crystal Hall)</b> Chair: tba	17:30-18:30	<b>Workshop on Biosensors &amp; Bioelectronics (ISFOE22-NN22) 4 (Room: Timber Hall 1)</b> Chair: tba
17:00-17:30 INVITED	<b>Printed sensors with integrated functions</b> Martin Krebs <i>PrintABattery, Germany</i>	17:00-17:30 INVITED	<b>Biomedical devices and Therapeutic applications</b> Dimitrios A. Koutsouras <i>Imec High Tech Campus 31, 5656 AE Eindhoven, The Netherlands</i>
17:30-17:45	<b>Innovative Printed Batteries: From funded projects to prototype production</b> N. Bucher, J. Lefebvre <i>VARTA Microbattery GmbH, VARTA-Platz 1, 73479 Ellwangen, Germany</i>	17:30-17:45	<b>Gas Mixtures Recognition with Feature Extracted from the Single Gas: A KNN Model-Based Approach for Diabetes-specific Odor Diagnosis</b> X. Li <i>Graduate School of Frontier Sciences, The University of Tokyo, Kashiwa, Chiba Japan</i>
17:45-18:00	<b>The H2020 IMPETUS project: Pilot line for paper-based quantitative electrochemical biosensing test cards</b> G.C. Mutinati, R. Hainberger <i>AIT Austrian Institute of Technology GmbH, Vienna, Austria</i>	17:45-18:00	<b>Direct writing of conducting polymer 2D/3D microelectrodes for physiological recording and stimulation</b> P. Zhang <i>School of Chemical Sciences, The University of Auckland, New Zealand</i>
18:00-18:15	<b>INN PAPER project</b> Jamal Tallal	18:00-18:15	<b>Design and evaluation of a Double-Gate Organic Thin Film Transistor (OTFT) for biosensing</b> T. Fresneau, K. Romanjek, P. Mailley <i>Organic Components Laboratory, Université Grenoble-Alpes, CEA Grenoble, 17 rue des Martyrs, 38054 Grenoble, France</i>
18:15-18:30	Title to be announced soon	18:15-18:30	<b>Inkjet Printing of heaters and temperature sensors for PCR and LAMP analysis on Lab-on-a-chip devices</b> T. Schönfelder <i>Fraunhofer Institute for Applied Optics and Precision Engineering (IOF), Germany</i>
18:30-18:45	Title to be announced soon		
18:45-19:30	CLOSING CEREMONY		



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POSTERS

\* The posters will be displayed from Monday to Thursday

<b>Nanomaterials: Organic Semiconductors, Electrodes, Barriers, Hybrids and Devices: OPVs, OTFTs, OLEDs</b>	<b>POSTER AREA</b> Monday 4 July (13:00-14:30, 16:30-17:00): Poster Display & Presentations Tuesday 5 July, Wednesday 6 July, Thursday 7 July: Poster Display
<b>Nanomaterials: Organic Semiconductors, Electrodes, Barriers, Hybrids and Devices</b>	
<b>PI1-1</b>	<b>Optical and electrical characteristics of ZnO-PEDOT:PSS heterojunction</b> Nagpal K.*1, M. Rosario Soares2, Rauwel E.2, Rauwel P.3 Institute of Forestry and Engineering, Estonian University of Life Science, Kreutzwaldi 56/1, Tartu, Estonia, CICECO, University of Aveiro, 3810-193 Aveiro, Portugal)
<b>PI1-2</b>	<b>Dual-State Emission Exhibiting Derivatives of Bis(trifluoromethyl)biphenyl and Various Donor Moieties</b> Rasa Keruckiene1, Nerijus Kusas1, Vitaly E. Matulis2, Juozas V. Grazulevicius1 1Department of Polymer Chemistry and Technology, Faculty of Chemical Technology, Kaunas University of Technology, K. Barsausko st. 59-500, Kaunas, Lithuania 2Belarusian State University, 4, Nezavisimosti avenue, 220030, Minsk, Republic of Belarus
<b>PI1-3</b>	<b>Flexible Neural Interfaces Based on 3D PEDOT:PSS micropillars</b> Alice Lunghi*1,2, Michele Bianchi1, Mauro Murgia1,3, Pierpaolo Greco1,2, Michele Di Lauro1, Luciano Fadiga1,2,, Fabio Biscarini1,4 1Center for Translational Neurophysiology of Speech and Communication, Fondazione Istituto. Italiano di Tecnologia, via Fossato di Mortara 17, 44121 Ferrara, Italy. 2Sezione di Fisiologia, Università di Ferrara, via Fossato di Mortara 17, 44121 Ferrara, Italy. 3Institute for Nanostructured Materials (ISMN), Consiglio Nazionale delle Ricerche, via Gobetti 101, 40129 Bologna, Italy. 4Life Science Department, Università di Modena e Reggio Emilia, via Campi 103, 41125 Modena, Italy
<b>PI1-4</b>	<b>Solution-Processed Organic Polymer Semiconductor and Ferroelectric Copolymer in a Dual-Gate Structure for Multi-Bit Nonvolatile Memory Transistor</b> A.A. Boampong1, Y. Choi2, M.-H. Kim3 1Research Institute of Printed Electronics & 3D Printing, Daejeon, 34158, South-Korea 2Department of Electronic Engineering, Hanbat National University, Daejeon, 34158, South-Korea 3Department of Creative Convergence Engineering, Hanbat National University, Daejeon, 34158, South-Korea
<b>PI1-5</b>	<b>Benignant Electron Carrier Traps in Organic Semiconductors for Electrical Bistability</b> Ratheesh K. Vijayaraghavan, Biswajit K. Barman Department of Chemical Sciences, Indian Institute of Science Education and Research, Kolkata (IISER- K), West Bengal, India
<b>PI1-6</b>	<b>Printed, flexible and low power consumption wind sensor for Urban Wind Turbines</b> S. Bogas1, A. Fonseca1, D. Campanhã1, M. Peixoto1, J. Fonseca1 1CeNTI – Centre for Nanotechnology and Smart Materials, Vila Nova de Famalicão (Portugal).
<b>PI1-7</b>	<b>Structural and optical characterization of CdSxSe1-x films grown by Pulsed Laser Ablation technique</b> L. Martínez-Ara 1, L. Bibiano-Salas 2, P. Maldonado-Altamirano 2, J. Aguilar-Hernández 2, M. Hernández-Pérez 3, J. Santoyo-Salazar 1 1CINVESTAV -National Polytechnic Institute, Av. IPN 2508, CDMX, Mexico. 2 ESFM - National Polytechnic Institute, Av. IPN s/n, CDMX, Mexico. 3 ESIQIE - National Polytechnic Institute, Av. IPN s/n, CDMX, Mexico
<b>PI1-8</b>	<b>New Donor–Acceptor–Donor–Acceptor–Donor architected crosslinkable conjugated pentamers</b> Arife Aktas1,2, Mücahit Özdemir3, Sermet Koyuncu1,2 1Canakkale Onsekiz Mart University, Department of Chemical Engineering, TR-17100 Canakkale, Turkey.



	2Canakkale Onsekiz Mart University, Science and Technology Application and Research Center, TR-17100 Canakkale, Turkey. 3Marmara University, Department of Chemistry, TR-34722 Istanbul, Turkey
PI1-9	<b>Fluorene based crosslinkable conjugated polymers containing different length of PEG subunit</b> Sinem Altinisik <sup>1,2</sup> , Arzu Kortun <sup>1</sup> , Ahmet Nazlı <sup>2</sup> , Ugur Cengiz <sup>1,2</sup> , Sermet Koyuncu <sup>1,2</sup> 1 Canakkale Onsekiz Mart University, Department of Chemical Engineering, TR-17100 Canakkale, Turkey 2 Canakkale Onsekiz Mart University, Department of Energy Resources and Management, TR-17100 Canakkale, Turkey
PI1-10	<b>Hydrogen bonding-controlled transfer-printing of PEDOT:PSS films for flexible and stretchable electronics</b> C. Volkert <sup>1</sup> , R. Colucci <sup>1</sup> , P. Blom <sup>1</sup> , U. Kraft <sup>1</sup> 1Max Planck Institute for Polymer Research, Ackermannweg 10, 55128 Mainz (Germany)
PI1-11	<b>Synthesis and characterization of blue emitting multicarbazoyl-substituted benzonitriles with different additional electron accepting moieties</b> R. Butkute <sup>1</sup> , K. Leitonas <sup>1</sup> , M. Guzauskas <sup>1</sup> , D. Volyniuk <sup>1</sup> , J.V. Grazulevicius <sup>1</sup> 1Department of Polymer Chemistry and Technology, Kaunas University of Technology, Kaunas, Lithuania
PI1-12	<b>Overcoming solid-state solvation and conformation disorder corollaries of blue TADF emitters in non-doped and doped OLEDs</b> D. Volyniuk <sup>1</sup> , M. Mahmoudi <sup>1</sup> , D. Gudeika <sup>1</sup> , J. Simokaitiene <sup>1</sup> , R. Butkute <sup>1</sup> , L. Skhirtladze <sup>1</sup> , J. Keruckas <sup>1</sup> , K.L. Woon <sup>2</sup> , J.V. Grazulevicius <sup>1</sup> 1 Department of Polymer Chemistry and Technology, Kaunas University of Technology, Baršausko Str. 59, LT, 51423, Kaunas, Lithuania 2 Low Dimensional Materials Research Centre, Department of Physics, Faculty of Science, University of Malaya, Kuala Lumpur 50603, Malaysia
PI1-13	<b>Triphenylamine and dibenzothiophene-2-yl(phenyl)methanone derivatives exhibiting long persistent luminescence as oxygen probes of optical sensors</b> L. Volyniuk <sup>1</sup> , M. Ghasemi <sup>1</sup> , M. Mahmoudi <sup>1</sup> , D. Gudeika <sup>1</sup> , K. Leitonas <sup>1</sup> , A. Panchenko <sup>2</sup> , B.F Minaev <sup>2</sup> , D. Volyniuk <sup>1</sup> , J.V. Grazulevicius <sup>1</sup> 1 Department of Polymer Chemistry and Technology, Kaunas University of Technology, Baršausko Str. 59, LT, 51423, Kaunas, Lithuania 2 Department of Chemistry and Nanomaterials Science, Bohdan Khmelnytsky National University, 18031, Cherkasy, Ukraine
PI1-14	<b>Exploitation of phenothiazine–pyrimidine linking pattern for the achievement of efficient TADF</b> Starykov H.* <sup>1</sup> , Simokaitiene J., Volyniuk D., Grazulevicius J.V. Department of Polymer Chemistry and Technology, Kaunas University of Technology, Kaunas, Lithuania
<b>Organic Electronics in Energy: OPVs and Perovskite PVs</b>	
PI1-15	<b>Molecular doping of fully printed flexible organic solar cells using F4-TCNQ additive</b> A. Paliagkas, C. Stavragi, C. Kapnopoulos, V. Heben, I. Kortidis, D. Tselekidou, C. Gravalidis, S. Logothetidis, A. Laskarakis Nanotechnology Lab LTFN, Department of Physics, Aristotle University of Thessaloniki, 54124 Thessaloniki, Greece
PI1-16	<b>Dilute donor organic solar cell and its application in semitransparent photovoltaic</b> Nannan Yao, Fengling Zhang Department of Physics, Chemistry and Biology (IFM), Linköping University, Linköping, 58183, Sweden
PI1-17	<b>Fabrication of non-fullerene based organic solar cells with potential for flexible large-scale coating</b> A. Panagiotopoulos, K. D. G. I. Jayawardena, Jae Sung Yun D. Kutsarov, S.R.P. Silva <i>Department of Electrical and Electronic Engineering, Advanced Technology Institute (ATI), University of Surrey, Guildford, Surrey GU2 7XH, UK</i>
PI1-18	<b>A route towards the fabrication of large-scale and high-quality perovskite films for optoelectronic devices</b> E. Rezaee, D. Kutsarov, A. Panagiotopoulos, B. Li, J. Bi, S.R.P. Silva <i>Department of Electrical and Electronic Engineering, Advanced Technology Institute (ATI), University of Surrey, Guildford, Surrey GU2 7XH, UK</i>
PI1-19	<b>Hole Mobility via Impedance Spectroscopy as a Diagnostic Analysis in materials for OPV devices</b> G. Bianchi <sup>1</sup> , N. Camaioni <sup>2</sup> , C. Carbonera <sup>1</sup> , A. Chiodini <sup>1</sup> , A. Congiu <sup>1</sup> , R. Marrazzo <sup>1</sup> , F. Melchiorre <sup>1</sup> , N. Perin <sup>3</sup> , R. Po <sup>1</sup> , M. Salvalaggio <sup>1</sup> , A. Savoini <sup>1</sup> , A. Siviero <sup>1</sup> , S. Spera <sup>1</sup> , A. Tacca <sup>1</sup> , F. Tinti <sup>2</sup> , S. Zanardi <sup>1</sup> 1 Renewable, New Energies and Material Science Research Center, Eni S.p.A, Via G. Fauser 4, Novara, Italy 2 Istituto per la Sintesi Organica e la Fotoreattività - Consiglio Nazionale delle Ricerche, Via Gobetti 14, Bologna, Italy

	3Versalis S.p.A. - Stabilimento di Ferrara, Piazzale privato Donegani 12, Ferrara, Italy
PI1-20	<b>Optical and structural characterization of lead-free tin-based perovskite nanolayers for high performance solution processed solar cells</b> C. Stavragi1, A. Galatsopoulos2, A. Paliagkas1, C. Kapnopoulos1, V. Heben1, I. Kortidis1, D. Tselekidou1, C. Gravalidis1, S. Logothetidis1, A. Laskarakis1 1Nanotechnology Lab LTFN, Department of Physics, Aristotle University of Thessaloniki, 54124 Thessaloniki, Greece 2Organic Electronic Technologies P.C. (OET), Antoni Tritsi 21B, Thessaloniki, 57001, Greece
PI1-21	<b>Fully printed ternary organic photovoltaic devices based on PPDT2FBT- PC70BM - BTP-12 system</b> G.Atsas, O. Heben, C. Kapnopoulos, I. Kortidis, C. Gravalidis, D. Tselekidou, S. Logothetidis, A. Laskarakis Lab for Thin Films, Nanosystems & Nanometrology (LTFN), Department of Physics Aristotle University of Thessaloniki, 54124, Thessaloniki, Greece
PI1-22	<b>Passivation of electron transport layer to achieve better efficiency of perovskite solar cells</b> I. Panžić1, V. Mandić1, T. Rath2 1 Faculty of Chemical Engineering and Technology, Marulićev trg 20, 10000 Zagreb, Croatia 2 Institute for Chemistry and Technology of Materials, Stremayrgasse 9, 8010 Graz, Austria
<b>OLEDs, OTFTs and Sensors</b>	
PI1-22	<b>Solution-processable red phosphorescent OLEDs with different Ir(dmpq)2(acac) doped organic materials as emitting layers</b> D. Tselekidou1, L. Panagiotidis1, K. Papadopoulos1, V. Kyriazopoulos2, S. Kassavetis1, S. Logothetidis1, M. Gioti1 1Nanotechnology Lab LTFN, Department of Physics, Aristotle University of Thessaloniki, GR-54124, Thessaloniki, Greece 2Organic Electronic Technologies P.C. (OET), Antoni Tritsi 21B, GR-57001 Thessaloniki, Greece
PI1-23 (V)	<b>Flexible, fully textile-based force sensors for wearable applications</b> A. K. Stavrakis1, M. Simić1, and G.M. Stojanović1 Faculty of Technical Sciences, University of Novi Sad Trg Dositeja Obradovica 6, 21000, Novi Sad, Serbia
PI1-24 (V)	<b>Ink-jet printing of n-acenes: from TIPS-pentacene to pentaceno-hexacene</b> M.Y. Aliouat1, F. Mesnilgrente1, R. Monflier1, A. Gourdon2, A. Jančařík3, and I. Séguy1 1 LAAS-CNRS, Université de Toulouse, UPS, 31031 Toulouse, France 2 CEMES-CNRS, 29 Rue J. Marvig, 31055 Toulouse France 3 CRPP, UMR CNRS 5031, Université de Bordeaux, 33600 Pessac, France.
PI1-25 (V)	<b>Fully Printed semi-transparent Resisting Switching Devices (RSDs) based on Poly(4-vinylphenol) organic layer</b> A. Mourkas1, I. Panagiotopoulos1 1. Materials Science Engineering, Unive
PI1-26 (V)	<b>ZnO ALD thin film FET's ultra high on/off ratio by using assembly molecule buffer layer</b> Tae hyeon Kimr1, Woo jong Yu1* 1Department of Electrical and Computer Engineering, Sungkyunkwan University, Suwon 16419, South Korea.
PI1-27 (V)	<b>Nanostructured Thermoelectric Device for Treating Osteomuscular Pain by Using Flexible Electronics</b> W. Marin1, C. Mesa2, M. Hurtado-Morales1 1 <i>Electronic Engineering Department, Universidad Central Bogota Colombia</i> 2 <i>Institute of Advanced Materials INAM, Castellón Spain</i>
<b>Biosensors &amp; Bioelectronics</b> (common with NN22)	
P4-1	<b>Electrodeposition of gold nanoparticles on flexible substrate for electrochemical bio-sensing applications</b> P. Stavropoulos1, A. Batsi1, K. Tsimenidis2, A. Orfanos2, A. Laskarakis1, S. Logothetidis1
POSTER AREA: Wednesday 6 July (13:00-14:30, 16:30-17:00): Poster Display & Presentations Tuesday 5 July, Thursday 7 July: Poster Display	

	1Nanotechnology Lab LTFN, Faculty of Sciences, Aristotle University of Thessaloniki, Greece, 2BL-NanoBiomed P.C.
P4-2	<b>Electroactive polymer films for Bioelectronics: P3HT-MWCNT properties</b> G.M.L. Messina, P. Campione, G. Marletta Dept of Chemical Sciences, University of Catania and CSGI, Laboratory for Molecular Surfaces and Nanotechnology (LAMSUN), Italy
P4-3	<b>Electrolyte-Gated Organic Transistors as Versatile Building Blocks in Translational Neuroelectronics</b> De Salvo A. <sup>*1,3</sup> , Di Lauro M. <sup>1</sup> , Zucchini E. <sup>1,3</sup> , Calandra S. G. <sup>2</sup> , Murgia M. <sup>1,4</sup> , Bianchi M. <sup>1</sup> , Biscarini F. <sup>1,5</sup> , Fadiga L. <sup>1,3</sup> 1Center for Translational Neurophysiology of Speech and Communication, Fondazione Istituto Italiano di Tecnologia (IIT-CTNSC), Italy 2 Dipartimento di Scienze Biomediche, Metaboliche e Neuroscienze, Università di Modena e Reggio Emilia, Italy 3 Sezione di Fisiologia, Dipartimento di Neuroscienze e Riabilitazione, Università di Ferrara, Italy 4 Istituto per lo Studio dei Materiali Nanostrutturati (CNR-ISMN), National Research Council, Italy 5 Dipartimento di Scienze della Vita, Università di Modena e Reggio Emilia, Italy
P4-4	<b>Biofunctionilization of Au nanoparticles for printed biosensors</b> I.E. Chatziioannou <sup>1</sup> , A. Orfanos <sup>2</sup> , K. Tsimenidis <sup>2</sup> , S. Logothetidis <sup>1</sup> , A. Laskarakis <sup>1</sup> 1Nanotechnology Lab LTFN (Lab for Thin Films - Nanobiomaterials - Nanosystems - Nanometrology) Aristotle University of Thessaloniki, Thessaloniki, Greece 2BL NanoBioMed, Greece
P4-5	<b>Substrate influence on carbon based bioprinted sensors</b> C.Marculescu <sup>1</sup> , B. Tincu <sup>1</sup> , T. Burinaru <sup>1,2</sup> , P. Preda <sup>1</sup> , E. Chiriac <sup>1,3</sup> , A. Matei <sup>1</sup> , M. Avram <sup>1</sup> 1IMT Bucharest, 126A, Erou Iancu Nicolae Street, 077190, Voluntari, Ilfov, ROMANIA 2USAMV Bucharest, 59 Mărăști Blv., 011464, Bucharest, ROMANIA 3UPB, 313 Splaiul Independenței, Bucharest, ROMANIA
P4-6	<b>Multiplexed biofunctionalisation of GaAs for sepsis diagnostics, a photochemical approach</b> B. Santos Gomes, F. Masia School of Biosciences, Cardiff University santosgomesb@cardiff.ac.uk, CF10 3AX, Cardiff, United Kingdom
P4-7	<b>Biohybrid microelectrodes coated with human brain microvascular endothelial cells (hBMECs) as a novel therapeutic tool for tackling foreign body reaction</b> Guzzo S.* <sup>1,2</sup> , Zucchini E. <sup>1,2</sup> , Pavan B. <sup>1,2</sup> , Biscarini F. <sup>1,3</sup> , Bianchi M. <sup>1,2</sup> , Fadiga L. <sup>1,2</sup> 1 Department of Neuroscience and Rehabilitation, Section of Physiology, Università di Ferrara, Ferrara, Italy 2 Center for Translational Neurophysiology of Speech and Communication, Fondazione Istituto Italiano di Tecnologia, Ferrara, Italy. 3 Life Science Department, Università di Modena e Reggio Emilia, Modena, Italy
P4-8	<b>Poly(3, 4 -ethylenedioxythiophene):Poly(styrenesulfonate) (PEDOT:PSS) Properties Improvement Through Cross-linking with an Oxetane Unit</b> Jorge S. M.* <sup>1,2</sup> , Santos L. F. <sup>2</sup> , Galvão A.2, Morgado J. <sup>1,3</sup> and Charas A. <sup>1</sup> 1. Instituto de Telecomunicações, Instituto Superior Técnico, Av. Rovisco Pais, P-1049-001, Lisboa, Portugal; 2. Centro de Química Estrutural, Instituto Superior Técnico, Universidade de Lisboa, Av Rovisco Pais, P-1049-001 Lisboa, Portugal; 3. Department of Bioengineering, Instituto Superior Técnico, Universidade de Lisboa, Av Rovisco Pais, P-1049-001 Lisboa, Portugal
P4-9 (V)	<b>Cost-effective Synthesis of Graphene (and its derivatives) Materials for Non Enzymatic Glucose Electrochemical Sensors: A Review</b> G. Balkourani <sup>1</sup> , C. Molochas <sup>1</sup> , A. Brouzgou <sup>2</sup> , P. Tsiakaras <sup>1*</sup> 1Laboratory of Alternative Energy Conversion Systems, Department of Mechanical Engineering, School of Engineering, University of Thessaly, 1 Sekeri Str., Pedion Areos, 38834, Volos, Greece 2Department of Energy Systems, Faculty of Technology, University of Thessaly, Geopolis, 41500 Larissa, Greece

Graphene and Related Materials (common with NN22)		POSTER AREA Wednesday 6 July (13:00-14:30, 16:30-17:00): Poster Display & Presentations Tuesday 5 July, Thursday 7 July: Poster Display
P5-1	<b>Graphene Films with Different Structure for Nervous Tissue Regeneration</b> Martina Trevisani <sup>1</sup> , Andrea Capasso <sup>2</sup> , Valentina Castagnola <sup>1, 3</sup> , Fabio Benfenati <sup>1, 3</sup> . 1 Center for Synaptic Neuroscience and Technology, Istituto Italiano di Tecnologia, , Italy 2 International Iberian Nanotechnology Laboratory, Braga, Portugal 3 IRCCS San Martino Polyclinical Hospital, Largo Rosanna Benzi 10, 16132 Genova, Italy	
P5-2	<b>Low-temperature exciton behaviour in van der Waals heterostructures of WS<sub>2</sub>, WSe<sub>2</sub> and MoS<sub>2</sub> 2D materials</b> S. Aškračić <sup>1</sup> , U. Ralević <sup>1</sup> 1Institute of Physics Belgrade, University of Belgrade, Pregrevica 118, 11080 Belgrade, Serbia	
P5-3	<b>Greenhouse monitoring system using graphene-based sensor</b> S.M. Iordache <sup>1</sup> , A.M. Iordache <sup>1</sup> , A. Sobetkii <sup>2</sup> , E. Tanasa <sup>3</sup> , E. Vasile <sup>3</sup> , V. Barna <sup>4</sup> , I.C. Vasiliu <sup>1</sup> , M. Elisa <sup>1</sup> , I. Chillibon <sup>1</sup> , C.E.A. Grigorescu <sup>1</sup> 1National Institute for Research and Development in Optoelectronics-INOE 2000, Optospintronics Department, 409 Atomistilor, 077125, Magurele Romania 2S.C. MGM STAR Construct S.R.L, 7 Pancota Str., Building.13, Ap.19, Bucharest, 022773, Romania. 3Politehnica University of Bucharest, 313 Splaiul Independenței, Bucharest, Romania. 4University of Bucharest, Faculty of Physics, 405 Atomistilor, 077125, Magurele, Romania	
P5-4	<b>Pressure effects on electrical and optical transport in few-layer ReSe<sub>2</sub> FETs</b> Enver Faella <sup>1,2</sup> , Kimberly Intonti <sup>1</sup> , Loredana Viscardi <sup>1</sup> , Filippo Giubileo <sup>2</sup> , Arun Kumar <sup>1</sup> , Otto Lam <sup>3</sup> , Anastasiou Konstantinos <sup>3</sup> , Monica Craciun <sup>3</sup> , Saverio Russo <sup>3</sup> and Antonio Di Bartolomeo <sup>1,2</sup> , 1Department of Physics "E.R. Caianiello", University of Salerno, Fisciano 84084, Salerno, Italy 2CNR-SPIN, Fisciano 84084, Salerno, Italy 3University of Exeter, Stocker road 6, Exeter EX4 4QL, Devon, UK;	
P5-5	<b>Development of a graphene field-effect transistor for the fabrication of functional mesobots</b> J. Reif <sup>1*</sup> , R. Kirchner <sup>1</sup> , C. Strobel <sup>1</sup> , J. Zhang <sup>2</sup> , M. Albert <sup>1</sup> , J. W. Bartha <sup>1</sup> , T. Mikolajick <sup>1</sup> 1 Technische Universität Dresden, Institute of Semiconductors and Microsystems, 01062 Dresden, Germany 2 Technische Universität Dresden, Center for Advancing Electronics Dresden, 01062 Dresden, Germany	
P5-6	<b>Graphene-Silicon Device for Visible and Infrared Photodetection</b> A. Pelella <sup>1,2</sup> , A. Grillo <sup>1,2</sup> , E. Faella <sup>1,2</sup> , G. Luongo <sup>3</sup> , M. B. Askari <sup>4</sup> , A. Di Bartolomeo <sup>1,2</sup> 1Department of Physics, University of Salerno, Fisciano, Salerno, 84084, Italy; 2CNR-SPIN, Fisciano, Salerno, 84084, Italy; 3IHP-Microelectronics, Frankfurt Oder 15236, Germany 4Department of Physics, Faculty of Science, University of Guilan, 41335-1914 Rasht, Iran	
P5-7	<b>Study of HfO<sub>2</sub> deposition on MoS<sub>2</sub> by Atomic Layer Deposition</b> G.Fanourakis <sup>1,2</sup> , F. Iacovella <sup>2</sup> , G. Deligeorgis <sup>2</sup> 1 Department of Materials Science and Technology, University of Crete, Heraklion 70013, Greece 2 Institute of Electronic Structure and Laser (IESL), Foundation for Research and Technology – Hellas (FORTH), Greece	
P5-8	<b>Fabrication study of relative humidity sensors based on 2D materials</b> N. Armaou <sup>1,2</sup> , G. Fanourakis <sup>1,2</sup> , F. Iacovella <sup>1,2</sup> , G. Deligeorgis <sup>1,2</sup> 1. Institute of Electronic Structure and Laser (IESL), Foundation for Research and Technology – Hellas (FORTH), Greece 2. Department of Physics, University of Crete Heraklion 70013, Greece	
P5-9	<b>Preparation and doping of single-walled carbon nanotube membranes</b> D.M. Kosmidis <sup>1</sup> , F. Iacovella <sup>2</sup> , G. Deligeorgis <sup>3</sup>	

	1. Institute of Electronic Structure and Laser (IESL), Foundation for Research and Technology-Hellas (FORTH), Greece 2. Department of Physics, University of Crete, Heraklion 70013, Greece
P5-10	<b>Carbon nanotube and fullerene based nano-rectifiers</b> A. Provias <sup>1,2</sup> , D. Kosmidis <sup>1</sup> , G. Deligeorgis <sup>1,2</sup> 1. Institute of Electronic Structure and Laser (IESL), Foundation for Research and Technology, – Hellas (FORTH), Heraklion 70013, Greece 2. Department of Physics, University of Crete Heraklion 70013, Greece
P5-11	<b>Electrically modulated wavelength selective photodetection enabled by MoS<sub>2</sub>/ZnO heterostructure</b> aKishan Lal Kumawat, a, bPius Augustine, aDeependra Kumar Singh, aKaruna Kar Nanda, aSaluru Baba Krupanidhi aMaterials Research Centre, Indian Institute of Science, Bangalore 560012, India. bMaterials Research Laboratory, Sacred Heart College (Autonomous), Kochi-682013, India.
P5-12	<b>Study of HfO<sub>2</sub> deposition on MoS<sub>2</sub> by Atomic Layer Deposition</b> G. Fanourakis <sup>1,2</sup> , F. Iacovella <sup>2</sup> , G. Deligeorgis <sup>2</sup> 1 Department of Materials Science and Technology, University of Crete, Heraklion 70013, Greece 2 Institute of Electronic Structure and Laser (IESL), Foundation for Research and Technology– Hellas (FORTH), N. Plastira 100, Heraklion 70013, Greece
P5-13	<b>Raman study under simultaneous mechanical deformation and electrochemical doping in 2D MoS<sub>2</sub></b> N. Balakeras <sup>1</sup> , K. Filintoglou <sup>1,4</sup> , A. Michail <sup>2,3</sup> , I. Samaras <sup>1</sup> , I. Parthenios <sup>3</sup> , and K. Papagelis <sup>1,3</sup> 1 School of Physics Department of Solid State Physics, Aristotle University of Thessaloniki, Thessaloniki 54124, Greece 2 Department of Physics, University of Patras, Patras 26504, Greece 3 FORTH/ICE-HT, Institute of Chemical Engineering Sciences, Rio Patras 26504, Greece 4 HENANOTECH, Komnion 17, Thessaloniki 54624, Greece
P5-14 (V)	<b>Heterojunction Biosensor of MoS<sub>2</sub> and Graphene with Increased On/Off Controllability via Modification of Schottky Barrier</b> Yeahyun Kim <sup>1</sup> , Woojong Yu <sup>1</sup> 1 Department of Electrical and Computer Engineering, Sungkyunkwan University 2066 Westbound Janan-gu, Suwon-si, South Korea
P5-15 (V)	<b>Optical-to-Voltage Spike Conversion based on Graphene/Silicon Photodetector</b> Sungbum Park <sup>1</sup> , Woojong Yu <sup>1</sup> 1 Department of Electrical and Computer Engineering, Sungkyunkwan University 2066 Westbound Janan-gu, Suwon-si, South Korea
P5-16 (V)	<b>Non-volatile memory and synaptic devices using interlayer intercalation of ions into 2D material</b> Gayoung Cho <sup>1</sup> , Woojong Yu <sup>1*</sup> Electrical and Electronic Computer Engineering, Sungkyunkwan University Suwon 16419, Korea
P5-17 (V)	<b>2D van der Waals heterostructure with MoS<sub>2</sub>/WSe<sub>2</sub> on Al<sub>2</sub>O<sub>3</sub> insulator making photosensor</b> Seok won Choi, Woo jong Yu <sup>1</sup> 1) Department of Electrical and Computer Engineering, Sungkyunkwan University, 2066 Westbound Janan-gu, Suwon-si, South Korea
P5-18 (V)	<b>Water droplet detection above an on the surface by microcrystalline graphene layer</b> Algimantas Lukša <sup>1</sup> , Vladimir Astachov <sup>1</sup> , Saulius Balakauskas <sup>1</sup> , Virginijus Bukauskas <sup>1</sup> , Mindaugas Kamarauskas <sup>1</sup> , Artūras Suchodolskis <sup>3</sup> , Marius Treideris <sup>1</sup> , Martynas Talaikis <sup>2</sup> , Arūnas Šetkus <sup>1</sup> 1 Department of Physical Technologies, State research institute Center for Physical Sciences and Technology (FTMC), Vilnius, Lithuania 2 Department of Organic Chemistry, State research institute Center for Physical Sciences and Technology (FTMC), Vilnius, Lithuania 3 Department of Optoelectronic, State research institute Center for Physical Sciences and Technology (FTMC), Vilnius, Lithuania Saulėtekio ave. 3, Vilnius, Lithuania
I3D	<b>POSTER AREA</b> Wednesday 6 July (13:00-14:30, 16:30-17:00): Poster Display & Presentations

	<b>Tuesday 5 July, Thursday 7 July: Poster Display</b>
I3DP-1	<b>Properties, performance and application of Inconel 718 lattice structures</b> A. Santoni <sup>1</sup> , M. Cabibbo <sup>1</sup> , M. Mandolini <sup>1</sup> , V. Di Pompeo <sup>1</sup> , E. Santeccchia <sup>1</sup> , S. Spigarelli <sup>1</sup> DIISM, Università Politecnica, Ancona, Italy
I3DP-2	<b>Reverse Engineering and <sup>3</sup>D Printing for Replica Fabrication of a Paleontological Human Skull</b> E. Tzimtzimis <sup>1,2</sup> , D. Tzetzis <sup>1,2</sup> , C. Achillas <sup>1,3</sup> , A. Athanasiou <sup>4</sup> , A. Darlas <sup>4</sup> , D. Bochtis <sup>1</sup> <sup>1</sup> Institute for Bio-Economy and Agri-Technology, Centre for Research & Technology Hellas (CERTH), Volos, Greece <sup>2</sup> Digital Manufacturing and Materials Characterization Laboratory, School of Science and Technology, International Hellenic University, Themi, Greece <sup>3</sup> Department of Supply Chain Management, International Hellenic University, Katerini, Greece <sup>4</sup> Ephorate of Palaeontology and Speleology, Ministry of Culture and Sports, Greece
I3DP-3	<b>End-to-end procedure for the restoration of an archaeological find using 3D printing technologies</b> N. Papas <sup>1</sup> , K. Tsongas <sup>1</sup> , D. Karolidis <sup>2</sup> , D. Tzetzis <sup>1</sup> , A. Arvanitaki <sup>2</sup> <sup>1</sup> Digital Manufacturing and Materials Characterization Laboratory, School of Science and Technology, International Hellenic University, Greece <sup>2</sup> Archeological Museum of Thessaloniki, Thessaloniki, Greece
I3DP-4	<b>Artifacts' digital restoration and their implementation in Tactile Museums by utilizing 3D scanning and 3D printing</b> S. Koltsakidis <sup>1,2</sup> , K. Tsongas <sup>2,3</sup> , E. Kargioti <sup>3</sup> , D. Tzetzis <sup>2</sup> , C. Achillas <sup>1</sup> , N. Moussiopoulos <sup>1</sup> <sup>1</sup> Laboratory of Heat Transfer and Environmental Engineering, Department of Mechanical Engineering, Aristotle University Thessaloniki, Thessaloniki, Greece <sup>2</sup> Digital Manufacturing and Materials Characterization Laboratory, School of Science and Technology, International Hellenic University, Themi, Greece <sup>3</sup> Teloglion Fine Arts Foundation – Aristotle University Thessaloniki, Thessaloniki, Greece
I3DP-5	<b>Development of a food-waste derived bio-ink for soilless cultivation</b> C. Febo <sup>1,2</sup> , M. Ciocca <sup>1</sup> , P. Lugli <sup>1</sup> , L. Petti <sup>1,3</sup> <sup>1</sup> Sensing Technologies Lab, Faculty of Science and Technology, Free University of Bozen-Bolzano, Italy <sup>2</sup> Smart Materials Lab, Istituto Italiano di Tecnologia, via Morego, Genova, Italy <sup>3</sup> Competence Centre for Plant Health, Free University of Bozen-Bolzano, Bolzano, Italy
I3DP-6 (V)	<b>A portable real-time fiber density measurement system for electrospinning setups</b> A. Evangelidis, G. Dobrescu, C. Ciobotaru, M. Enculescu National Institute of Materials Physics, Măgurele, Romania
I3DP-7 (V)	<b>3D printing of Zirconia ceramics for dental applications</b> E. Garmpi <sup>1,4</sup> , I. Kitsou <sup>1</sup> , P. Angelopoulou <sup>1</sup> , E. Kalithinou <sup>1</sup> , O. Alexiadou <sup>1</sup> , P. Gkomoza <sup>1</sup> , E. Roussi <sup>1</sup> , S. Koltsakidis <sup>2</sup> , D. Tzetzis <sup>2</sup> , E. Mavropoulis <sup>3</sup> , C. Andreouli <sup>4</sup> , A. Tsetsekou <sup>1</sup> <sup>1</sup> School of Mining and Metallurgical Engineering, National Technical University of Athens, 157 80 Zografos, Athens, Greece <sup>2</sup> Digital Manufacturing and Materials Characterization Laboratory, School of Science and Technology, International Hellenic University, Themi, Greece <sup>3</sup> Lino3D, 2, Doiranis str, Kallithea, 176 71 Athens, Greece <sup>4</sup> MIRTEC S.A., 76 km Athens-Lamia national Road, 32009 Schimatari, Greece
I3DP-8 (V)	<b>Development of nanocrystalline yttria stabilized zirconia feedstock for 3D-printing in dental applications</b> I. Kitsou <sup>1</sup> , P. Angelopoulou <sup>1</sup> , E. Kalithinou <sup>1</sup> , O. Alexiadou <sup>1</sup> , E. Roussi <sup>1</sup> , P. Gkomoza <sup>1</sup> , E. Garmpi <sup>1,4</sup> , S. Koltsakidis <sup>2</sup> , D. Tzetzis <sup>2</sup> , E. Mavropoulis <sup>3</sup> , C. Andreouli <sup>4</sup> , A. Tsetsekou <sup>1</sup> <sup>1</sup> School of Mining and Metallurgical Engineering, National Technical University of Athens, 157 80 Zografos, Athens, Greece <sup>2</sup> Digital Manufacturing and Materials Characterization Laboratory, School of Science and Technology, International Hellenic University, Themi, Greece <sup>3</sup> Lino3D, 2, Doiranis str, Kallithea, 176 71 Athens, Greece <sup>4</sup> MIRTEC S.A., 76 km Athens-Lamia national Road, 32009 Schimatari, Greece