NanoBio
International Conference on Nanotechnologies and Bionanoscience

TIME	Sunday 10th September	
19:00-21:00	**REGISTRATION** (at the Registration Desk in Atlantis Aquila Hotel)	
TIME	**Monday 11th September**	
8:00-14:00	**REGISTRATION** (at the Registration Desk in Atlantis Aquila Hotel)	
09:00-9:30	**Conference Opening Ceremony (Room: Minos II)** **Maximos Senetakis, Deputy Minister of Development of Greece** **Elvira Fortunato, Minister of Science, Technology and Higher Education of Portugal**	
09:30-10:15	*Plenary Session I - Chair: E. Stratakis & E. Kymakis - Room*: Minos II **(Plenary) Intelligentsia of Nano-Architected Hierarchical Materials** **Julia Greer** California Institute of Technology (Caltech), USA	
10:15-11:00	**(Plenary) Autophagic mechanisms and cellular homeostasis during ageing** **Nektarios Tavernarakis** Institute of Molecular Biology and Biotechnology, Foundation for Research and Technology-Hellas (FORTH) Medical School, University of Crete (UoC)	
11:00-11:30	**COFFEE BREAK (LOBBY BAR)**	
11:30-12:00	*WS1 & WS3 Session II - Biocompatibility and Nanotoxicity of Nano(bio)Materials I, Chair: P. Kavatzikidou* *Room: Minos I*	*WS2 & WS4 Session III - Chair: T. Aernouts* *Room: Minos II*
	Introductory talk to WS1 & WS3, **Rena Bizios**	**(WS2-Invited) Indoor, outdoor and in-situ characterization strategies for Perovskite Solar Cells** Monica Lira-Cantu Catalan Institute of Nanoscience and Nanotechnology (ICN2), CSIC and the Barcelona Institute of Science and Technology (BIST)
	(**WS1-Invited) Personalized medicine and predictive health and wellness: Adding the chemical component** Anne Milasincic Andrews Departments of Chemistry & Biochemistry and Psychiatry & Biobehavioral Health, Semel Institute for Neuroscience and Human Behavior, Hatos Center for	

	Neuropharmacology, and California NanoSystems Institute, University of California, Los Angeles, USA	
12:00-12:15	**Assembly of layer-by-layer PLL-HA nanothick protein reservoirs on poly(glycerol sebacate) microporous implant surface** Tomasz Urbaniak*, Paweł Piszko[2], Dana Kubies[3], Zuzanna Podgórniak[1], Ognen Pop Georgievski[3], Tomáš Riedel[3], Konrad Szustakiewicz[2], Witold Musiał[1] [1]Department of Physical Chemistry and Biophysics, Faculty of Pharmacy, Wroclaw Medical University, Wrocław, Poland [2]Department of Polymer Engineering and Technology, Faculty of Chemistry, Wrocław University of Science and Technology, Wrocław, Poland [3]Institute of Macromolecular Chemistry, Czech Academy of Sciences, Prague, Czech Republic	**(WS2-Invited) Hybrid Materials for Energy Conversion Toward Smart Photovoltaics** Jovana Milic Adolphe Merkle Institute, University of Fribourg
12:15-12:30	**ESEM and AFM structural characterization of short peptide electrospun fibers** Konstantina Mitropoulou[1]*, Matteo Bottiglieri[1], Meital Reches[2], Alexander M. Bittner[1,3] [1]CIC nanoGUNE, (BRTA) Tolosa Hiribidea 76, 20018 Donostia-San Sebastián, Spain [2]Institute of Chemistry, The Hebrew University of Jerusalem, Jerusalem 91904, Israel [3]Ikerbasque Basque Foundation for Science, Pl. Euskadi 5, 48009 Bilbao, Spain	
12:30-12:45	**First approach on the assessment of laser-synthesized Si nanoparticles: effects on stem cells model for potential tissue engineering application** Clarissa Murru[1]*, Stefano Testa[2], Lucas Duvert[1], Adrien Casanova[1], Frederique Magdinier[2], Anne-Patricia Alloncle[1], Ahmed Al-Kattan[1] [1]Aix-Marseille University, CNRS, UMR 7341, LP3, Campus de Luminy, Case 917, 13288, Marseille cedex 9, France [2]Aix-Marseille University, INSERM, Marseille Medical Genetics, MMG, 27 Bd Jean moulin 13385 Marseille, France	**Printed electronics enabled by 2d materials: Emerging energy harvesters beyond photovoltaics and multi-functional sensors** Konstantinos Rogdakis, Christos Polyzoidis, Katerina Anagnostou,George Veisakis, Ioannis Kalogerakis,Dimitris Tsikritzis,George Viskadouros[1] and Emmanuel Kymakis Department of Electrical & Computer Engineering, Hellenic Mediterranean University
12:45-13:00	**Nano-scale functional analysis of human induced pluripotent stem cell-derived cardiomyocytes** Michal Sarna[1]*, Anna Dobosz[2] and Sylwia Bobis-Wozowicz[2] [1]Department of Biophysics, Faculty of Biochemistry, Biophysics and Biotechnology, Jagiellonian University, Krakow, Poland	**Localized laser sintering as a comprehensive additive manufacturing technology for sensing applications** M. Pervolaraki[1]*, E. Gagaoudakis[1], L. Zouridi[1,2], K. Tsimvrakidis[1], E. Mantsiou[1], V. Binas[1,3], E. Stratakis[1,2]

	[2]Department of Cell Biology, Faculty of Biochemistry, Biophysics and Biotechnology, Jagiellonian University, Krakow, Poland	[1]Institute of Electronic Structure and Laser (FORTH), [2]Department of Materials Science and Technology, University of Crete, [3]Department of Physics, University of Crete
13.00:13.15	**Electrospun, composite-coated endotracheal tubes with controlled siRNA and drug delivery, lubricate and minimize airway injury** Gabriela Gonzales[1], Solaleh Miar[1,2], Alisa Isaac[1], Ronit Malka[3], Rena Bizios[1], Gregory Dion[4], Teja Guda[1] [1]The University of Texas at San Antonio, San Antonio, TX, USA [2]The University of Hartford, Hartford, CT, USA [3]Brooke Army Medical Center, Ft. Sam Houston, TX, USA [4]University of Cincinnati, Cincinnati, OH, USA	**Inkjet printing of nanobiosensors: what's next?** Giulio Rosati[1]*, Massimo Urban[1], Gabriel Maroli[1,2], Gustavo Dalkiranis[1,3], Arben Merkoçi[1,4] [1]Institut Català de Nanociència i Nanotecnologia (ICN2), [2]Instituto de Investigaciones en Ingeniería Eléctrica Alfredo Desages (IIIE), Universidad Nacional del Sur – CONICET, [3]Instituto de Física de São Carlos (IFSC), Universidade de São Paulo (USP), [4]ICREA
13:15-13.30	**Enhancement of phosphate removal using designed magnetic iron oxide nanostructures** Théo Lucante[1*,] Philippe Choquet[2], Manon Kretz[1], Stéphane Le Calvé[4], Anaïs Becker[4], Joana Vaz-Ramos[1,4], Ariane Zaloszyc[3], Sylvie Bégin-Colin[1] 1Institut de Physique et Chimie des Matériaux de Strasbourg, UMR7504, University of Strasbourg, CNRS, 67034 Strasbourg, France 2ICUBE, UMR7357, Imagerie Préclinique - Hôpital de Hautepierre, 67412 Illkirch, France 3INSERM, UMR1109, Service pédiatrique-Hôpital de Hautepierre, 67000 Strasbourg, France 4Institut de Chimie et Procédés pour l'Energie, l'Environnement et la Santé (ICPEES), UMR-7515 CNRS-Université de Strasbourg, 25 rue Becquerel, 67087 Strasbourg, France	**Combinatorial nanomaterial inkjet printing for next-generation electrochemical transducers and devices** Massimo Urban[1]*, Giulio Rosati[1], Arben Merkoçi[1,2] [1]Catalan Institute of Nanoscience and Nanotechnology (ICN2), [2]Catalan Institution for Research and Advanced Studies (ICREA)
13:30-13:45	**Material and size related therapy enhancing effects of metal nanoparticles in proton therapy are ruled by surface chemistry** Christoph Rehbock[1]*, Sandra Zwiehoff[1], Jacob Johny[1], Astrid Hensel[2], Carina Behrends[3,4,5], Christian Bäumer[3,4,5,6], Shirley Knauer[2], Beate Timmermann[3,4,6,7], Stephan Barcikowski[1] [1]University of Duisburg-Essen, Technical Chemistry I and Center for Nanointegration Duisburg-Essen (CENIDE), Universitätsstr. 7, Essen, D-45141, Germany: [2]University of Duisburg-Essen, Microbiology II, Universitätsstr. 7, Essen, D-45141, Germany; [3]West German Proton Therapy Centre Essen (WPE), 45147 Essen, Germany;	**Stable and Efficient Perovskite Solar Modules and Panel for Terrestrial and Space Applications** Narges Yaghoobi Nia [1]School of Aerospace Engineering, University of Rome Sapienza, Via Salaria, 851 - 00138 Rome, Italy [2]Laboratory of Photonics and Interfaces, École Polytechnique Fédérale de Lausanne, Lausanne, 1015, Switzerland

	[4]West German Cancer Center (WTZ), 45147 Essen, Germany; [5]Department of Physics, TU Dortmund University, 44227 Dortmund, Germany; [6]German Cancer Consortium (DKTK), 45147 Essen, Germany; [7]Department of Particle Therapy, University Hospital Essen, 45147 Essen, Germany	
13:45-14:00	**Label-free anti-scattering 3D in vivo imaging of organisms** Xiao Yuting, Chen Lianwei, Pu Mingbo*, Li Xiong, Hong Minghui and Luo Xiangang* State Key Laboratory of Optical Technologies on Nano-Fabrication and Micro-Engineering, Institute of Optics and Electronics, Chinese Academy of Sciences, Chengdu 610209, China. Xiamen University, Xiamen, 361005, China. Research Center on Vector Optical Fields, Institute of Optics and Electronics, Chinese Academy of Sciences, Chengdu 610209, China	**Integration of two-dimensional materials-based perovskite solar panels into a stand-alone solar farm** George Viskadouros, Konstantinos Rogdakis, Ioannis Kalogerakis, Emmanuel Spiliarotis, Emmanuel Kymakis Department of Electrical & Computer Engineering, Hellenic Mediterranean University
14:00-15:00	**LUNCH BREAK (PASIPHAE ROOM)**	
15:00-15:30	*WS1 & WS3 Session IV - Biocompatibility and Nanotoxicity of Nano(bio)Materials II, Chair: A. Ranella, Room: Minos I* (WS1-Invited) Single Cell Nanoencapsulation: Past, Present, and Future **Insung Choi** Korea Advanced Institute of Science and Technology	*WS6 Session V - **DYNASTY Session** 2D materials, Chair: G. Kioseoglou Room: Minos II* **(WS6-Invited) Exciton complexes in Transition Metal Dichalcogenide Monolayers** Xavier Marie Université de Toulouse, INSA-CNRS-UPS, Laboratoire de Physique et Chimie des Nano-Objets, Toulouse, France
15:30-16:00	**(WS3-Invited) Biocomposite materials in health protection** Athanassia Athanassiou Istituto Italiano di Tecnologia, Genova	**(WS6-Invited) Nonlinear generation and detection of valleys in atomically thin semiconductors** Giancarlo Soavi Institute of Solid State Physics, Friedrich Schiller University Jena, Germany
16:00-16:15	**Effect of surface topography on mechanotransduction of mesenchymal stem cells** A. Parlanis[1,2]*, E. Kanakousaki[1,2], P. Kavatzikidou[1], A. Manousaki[1], E. Stratakis[1,3], A. Ranella[1] [1]Foundation for Research and Technology - Hellas (FORTH), Institute of Electronic Structure and Laser (IESL), Heraklion, Greece [2]Department of Biology, University of Crete, Heraklion, Greece [3]Department of Physics, University of Crete, Heraklion, Greece	**Biaxial strain tuning of exciton energy and polarization in monolayer WS_2** G. Kourmoulakis[1,2,*], A. Michail[3,4], I. Paradisanos[1], X. Marie[5], M.M. Glazov[6], J. Parthenios[4], K. Papagelis[4,5], E. Stratakis[1,8], and G. Kioseoglou[1,2] [1]Institute of Electronic Structure and Laser, Foundation for Research and Technology-Hellas, Heraklion, Greece [2]Department of Materials Science and Technology, University of Crete, Heraklion, Greece [3]Department of Physics, University of Patras, Patras, Greece

		[4]Institute of Chemical Engineering Sciences, Foundation for Research and Technology-Hellas, Stadiou str Platani, Patras, Greece [5]Universite de Toulouse, INSA-CNRS-UPS, LPCNO, 135 Av. Rangueil, Toulouse, France [6]Ioffe Institute, St.-Petersburg, Russia [7]School of Physics, Dept. of Solid-State Physics, Aristotle University of Thessaloniki, Thessaloniki, Greece [8]Department of Physics, University of Crete, Heraklion Crete Greece
16:15-16:30	**Breast implants silicon outshell bioinstructive multiscale engineering for preventing microbial and fibrosis development** Valentina Dinca[1]*, Simona Nistorescu[1], Anca Bonciu[1], Andreea Negrescu[2], Laurentiu Rusen[1], Anisoara Cimpean[2] [1]FOTOPLASMAT center, NILPRP,Magurele, Romania [2]Faculty of Biology, University of Bucharest, Romania	**Electron density control in WSe_2 monolayers via photochlorination** E. Katsipoulaki[1,2,*], G. Vailakis[1,3], I. Demeridou[1], D. Karfaridis[4], P. Patsalas[4], K. Watanabe[5], T. Taniguchi[6], I. Paradisanos[1], G. Kopidakis[1,3], G. Kioseoglou[1,3], and E. Stratakis[1,2] [1]Institute of Electronic Structure and Laser, Foundation for Research and Technology-Hellas, Heraklion, Greece [2]Department of Physics, University of Crete, Heraklion, Greece [3]Department of Materials Science and Technology, University of Crete, Heraklion, Greece [4]Department of Physics, Aristotle University of Thessaloniki, Thessaloniki, Greece [5]Research Center for Electronic and Optical Materials, National Institute for Materials Science, 1-1 Namiki, Tsukuba, Japan [6]Research Center for Materials Nanoarchitectonics, National Institute for Materials Science, 1-1 Namiki, Tsukuba, Japan
16:30-16:45	**Calcium Phosphate NanoClay porous scaffolds promote osteogenesis and pore strain induces vascularization of included hydrogel matrix** Mistica Perez[1], Solaleh Miar[1,2], Alisa Isaac[1,3], Joo Ong[1,3], Rena Bizios[1], Akhilesh Gaharwar[4], Teja Guda[1,3] [1]The University of Texas at San Antonio, San Antonio, TX, USA. [2]The University of Hartford, Hartford, CT, USA. [3]University of Texas Health San Antonio, San Antonio, TX, USA [4]Texas A&M University, College Station, TX, USA	**Exploring the optical near-field interaction of Mie nanoresonators with a monolayer semiconductor** D. Katrisioti[1, 2, *], P. R. Wiecha[3], G. Larrieu[3], J. Müller[3], J.-M. Poumirol[4], A. Cuche[4], G. Agez[4], V. Paillard[4], X. Marie[5], B. Urbaszek[6], E. Stratakis[1, 7], G. Kioseoglou[1, 2] and I. Paradisanos[1,5] [1]Institute of Electronic Structure and Laser (IESL), Foundation for Research and Technology (FORTH), Heraklion, Crete, Greece [2]Department of Materials Science and Technology, University of Crete, Heraklion, Greece [3]LAAS-CNRS, Université de Toulouse, Toulouse, France [4]CEMES-CNRS, Université de Toulouse, Toulouse, France [5]Université de Toulouse, INSA-CNRS-UPS, LPCNO, Toulouse, France [6]Institute of Condensed Matter Physics, Technische Universität Darmstadt, Darmstadt, Germany [7]Department of Physics, University of Crete, Heraklion, Greece
16:45-17:00	**Biodegradability improvement of bacterial cellulose-based materials** Edina Rusen[1], Gabriela Isopencu[1], Gabriela Toader[2], Aurel Diacon[1,2] ,Adrian Dinescu[3] and Alexandra Mocanu[1,3]* [1]University Politehnica of Bucharest, 1- 7 Gh. Polizu Street, 011061 Bucharest, Romania	**Probing valley population imbalance in transition metal dichalcogenides with temperature-dependent second harmonic generation imaging** L. Mouchliadis[1*], S. Psilodimitrakopoulos[1], G. Miltos Maragkakis[1,2], I. Demeridou[1,2], G. Kourmoulakis[1,3], A. Lemonis[1], G. Kioseoglou[1,3], and E. Stratakis[1]

	[2]Military Technical Academy "Ferdinand I", 39-49 George Cosbuc Av., 050141 Bucharest, Romania [3]National Institute for Research and Development in Microtechnologies (IMT-Bucharest), 126 A, Erou Iancu Nicolae Street, 023573 Bucharest, Romania	[1]Institute of Electronic Structure and Laser-Foundation for Research and Technology-Hellas, 70013, Heraklion, Greece [2]Physics Department, University of Crete, 71003, Heraklion, Greece [3]Department of Materials Science &Technology, University of Crete, 71003, Heraklion, Greece
17:00-17:15	**Development of Superhydrophobic Flexible Surfaces Utilizing Polymer Nanocomposite Coatings** Kiriaki Chrissopoulou[1]*, Thaleia-Michaela Chatzaki[1,2], Franceska Gojda[1,3], Alexandros Thomos[1,2], Fanourios Krasanakis[1], Minas Stylianakis[1,4], and Spiros H. Anastasiadis[1,2] [1]Institute of Electronic Structure and Laser, Foundation for Research and Technology-Hellas, Heraklion, Crete, Greece [2]Department of Chemistry, University of Crete, Heraklion Crete, Greece [3]Department of Physics, University of Crete, Heraklion Crete, Greece [4]Department of Nursing, Hellenic Mediterranean University, Heraklion Crete, Greece	**Second harmonic generation spectroscopy in van der Waals homo- and heterobilayers** I. Paradisanos[1*], D. Lagarde[1], A.M.S. Raven[1], T. Amand[1], S. Shree[1], L. Lombez[1], P. Renucci[1], C. Robert[1], K. Watanabe[2], T. Taniguchi[3], A. Balocchi[1], I. C. Gerber[1], L. Golub[4], M. M. Glazov[4], B. Urbaszek[1], and X. Marie[1] [1]Université de Toulouse, INSA-CNRS-UPS, LPCNO, Toulouse France [2]Research Center for Electronic and Optical Materials, NIMS, Tsukuba, Japan [3]Research Center for Materials Nanoarchitectonics, NIMS, Tsukuba, Japan [4]Ioffe Institute, St. Petersburg, Russia
	END OF DAY 1 OF NANOBIO2023 – ENJOY YOUR EVENING!	

TIME	Tuesday 12th September		
08:30-14:15	**REGISTRATION** (at the Registration Desk in Atlantis Aquila Hotel)		
9:00-9:45	*Plenary Session I - Chair: E. Kymakis & E. Stratakis - Room*: Minos II		
	(Plenary) Nanobiotechnology and Intelligent Materials in a Diverse, Inclusive and Convergent World **Nicholas Peppas** The University of Texas at Austin, USA		
9:45-10:30	**(Plenary) Metallic two dimensional materials for lithium sulphur batteries** **Manish Chhowalla** University of Cambridge, UK		
10:30-11:15	**(Plenary) Inelastic molecular collisions & the gas mean free path in air** **Sotiris Pratsinis** ETH Zurich, Switzerland		
11:15-11:45	**COFFEE BREAK (LOBBY BAR)**		
11:45-12:15	*WS1 & WS3 Session II* - Subtractive and Additive Manufacturing for Biofabrication*, chair: E. Babaliari, Room: Minos I*	*WS5 Session III – Nanophotonics and Biophotonics,*	*WS-NEXTCCUS* *11:45-14:15* *(APOLLON)*
	(WS3-Invited) Laser Printing Boris N. Chichkov Leibniz University Hannover, Institute of Quantum Optics, Hannover	**(WS5-Invited) Nanoscale laser writing for biomimetic photonics** Min Gu University of Shanghai for Science and Technology, Shanghai, China	
12:15-12:45	**(WS3-Invited) From High-Resolution 3D Printing to Bioprinting with Multiphoton Lithography** Aleksandr Ovsianikov Head of the Research Group 3D Printing and Biofabrication, TU Wien Chief Scientific Officer & Founder UpNano GmbH	**(WS5-Invited) Attosecond Field Emission** Eleftherios Goulielmakis Institute of Physics, University of Rostock, Albert-Einstein-Str. 23, D-18059 Rostock, Germany	

	Austrian Cluster for Tissue Regeneration Vienna, Austria	
12:45-13:00	**Laser assisted cell bio-printing and polymer structuring for the creations of bio-models** Lucas Duvert[1]*, Clarissa Muru[1], Stefano Testa[2], Adrien Casanova[1], Frédérique Magdinier[2], Anne-Patricia Alloncle[1] [1]Aix-Marseille University, CNRS, UMR 7341, LP3, Campus de Luminy, Case 917, 13288, Marseille cedex 9, France [2]Aix-Marseille University, INSERM, Marseille Medical Genetics, MMG, 27 Bd Jean moulin 13385 Marseille, France	**Post-Melting Encapsulation of Glass Microwires for the Development of Advanced Waveguides** Ioannis Konidakis[1]*, Foteini Dragosli[1], Aby Cheruvathoor Poulose[2], Josef Kašlík[2], Aristeidis Bakandristos[2,3], Radek Zboril[2,3] and Emmanuel Stratakis[1] [1]Institute of Electronic Structure and Laser (IESL), Foundation for Research and Technology - Hellas (FORTH), Heraklion-Crete, Greece [2]Regional Centre of Advanced Technologies and Materials, Czech Advanced Technology and Research Institute (CATRIN), Palacký University, Šlechtitelů 27, 783 71, Olomouc, Czech Republic [3]Nanotechnology Centre, Centre of Energy and Environmental Technologies, VŠB-Technical University of Ostrava, Ostrava-Poruba, Czech Republic
13:00-13:15	**Flexible 2D and 3D conductive hydrogel platforms for wearable applications** Leonor Aguiar[1], Raquel Pereira[1], Sanjiv Sharma[2] and Gabriela Martins[1,3]* [1]BioMark@ISEP-CEB/LABBELS, School of Engineering, Polytechnic of Porto, R. Dr. António Bernardino de Almeida, 431, 4249-015 Porto, Portugal [2]Department of Biomedical Engineering, Faculty of Science and Engineering, Swansea University, Swansea SA1 8EN, U.K. [3]CIETI - LabRISE-School of Engineering, Polytechnic of Porto, R. Dr. António Bernardino de Almeida, 431, 4249-015 Porto, Portugal	**Impact of plasmonic modes and metal thermophysical properties on the formation of self-organised nano-patterns in thin films** George D. Tsibidis[1,3]*, Panagiotis Lingos[1], George Perrakis[1], Odysseas Tsilipakos[2,1], Emmanuel Stratakis[1,4] [1]Institute of Electronic Structure and Laser (IESL), Foundation for Research and Technology (FORTH), Vassilika Vouton, 70013, Heraklion, Crete, Greece [2]Theoretical and Physical Chemistry Institute National Hellenic Research Foundation, GR-11635 Athens Greece [3]Department of Materials Science and Technology, University of Crete, 71003, Heraklion, Greece [4]Department of Physics, University of Crete, 71003, Heraklion, Greece
13:15-13:30	**4D printed scaffolds composed of natural polymers for bone tissue engineering** P. Daskalakis*[1,2], C. Ntoulias[1], E. Kanakousaki[1,4], L. Chaniotaki[1,5], A. Lamprakis[1,2], P. Kavatzikidou[1], A. Manousaki[1,3], A. Ranella[1], E. Stratakis[1,3] [1]Foundation for Research and Technology - Hellas, Heraklion, Greece [2]University of Crete, School of Medicine, Heraklion, Greece [3]University of Crete, Department of Physics, Heraklion, Greece [4]University of Crete, Department of Biology, Heraklion, Greece	**Tailoring surface topographies on solids with Mid-IR femtosecond laser pulses** Stella Maragkaki[1], George D. Tsibidis[1,2], Ludovit Haizer[3], Zsuzsanna Pápa[3], Roland Flender[3], Bálint Kiss[3], Zsuzsanna Márton[3] and Emmanuel Stratakis[1,4] [1]Institute of Electronic Structure and Laser (IESL), Foundation for Research and Technology (FORTH), Vassilika Vouton, 70013, Heraklion, Crete, Greece [2]Department of Materials Science and Technology, University of Crete, 71003, Heraklion, Greece

	[5]University of Crete, Department of Materials Science, Heraklion, Greece	[3]ELI-ALPS, ELI-HU Non-Profit Ltd., Wolfgang Sandner utca 3., Szeged, H-6728, Hungary [4]Department of Physics, University of Crete, 71003, Heraklion, Greece
13.30-13:45	**3D printing of polylactic acid/cuttlefish bone biocomposites** Aikaterini Gialouri[1*] and Nikolaos Bouropoulos[1,2] [1]Department of Materials Science, University of Patras, 26504 Rio, Patras, Greece [2]Foundation for Research and Technology Hellas, Institute of Chemical Engineering and High Temperature Chemical Processes, 26504 Patras, Greece	**Vector optical field laser micro/nano-fabrication for nonlinear materials** Fang Yao, Wang Qinsong, Chen Lianwei, Ma Xiaoliang, Li Xiong*, Pu Mingbo, and Luo Xiangang* State Key Laboratory of Optical Technologies on Nano-Fabrication and Micro-Engineering, Institute of Optics and Electronics, Chinese Academy of Sciences, Chengdu 610209, China. Research Center on Vector Optical Fields, Institute of Optics and Electronics, Chinese Academy of Sciences, Chengdu 610209, China
13:45-14:00	**(WS3-Invited) Sub-diffractional optical lithography beyond acrylates** Sourav Islam, Georgii Gvindzhiliia, and Thomas A. Klar* Institute for Applied Physics, Johannes Kepler University Linz, 4040 Linz	**Transparent and Resilient 3D Microoptics** Karolis Galvanauskas[1], Darija Astrauskytė[2], Arūnas Čiburys[1], Darius Gailevičius[1], Andrius Melninkaitis[3], Lina Grinevičiūtė[2], and Mangirdas Malinauskas[1*] [1]Laser Research Center, Physics Faculty, Vilnius, Lithuania [2]Center for Physical Sciences and Technology, Vilnius, Lithuania [3]LIDARIS Ltd, Vilnius, Lithuania
14:00-14:15		**Femtosecond-Laser-Induced All-Silicon Dielectric Metasurfaces Assisted by Wet Chemical Etching** Ioanna Sakellari[1], Sotiris Droulias[2], Andreas Lemonis[3], and Emmanuel Stratakis[1] [1]Institute of Electronic Structure and Laser, Foundation for Research and Technology Hellas, Heraklion, Crete, 71110, Greece [2]University of Piraeus, Piraeus, 18534, Greece [3]Biomimetic, Science and Technology Park of Crete, Heraklion, Crete, Greece.
14:15-15:15	**LUNCH BREAK (PASIPHAE ROOM)**	
15:15-15:45	*WS1 Session IV – **BRIDGE Session**, Colloidal perovskites and quantum dots, Chair: A. Kostopoulou* *Room*: Minos I	*WS4 & WS6 Session V, Chair: I. Paradisanos* *Room: Minos II*

	(WS1-Invited) Halide Perovskite and Perovskite-Related Nanocrystals: Synthesis, Encapsulation, Reactivity **Liberato Manna** Istituto Italiano di Tecnologia, Genova	**(WS6-Invited) Can we move from inorganic to carbon nanoallotrope thermoelectrics? 2D and 3D printing of highly efficient TEG devices** Lazaros Tzounis[*1,2,3], Fivos Simopoulos[1], Emmanouil Porfyrakis[1], Kampourakis George[1], Papadakis Nikolaos[1] and Emmanuel Kymakis[3,4] [1]Mechanical Engineering Department, Hellenic Mediterranean University, Heraklion, Greece [2]Printed Electronic Devices of Things P.C., Volos, Greece [3]Institute of Emerging Technologies (i-EMERGE) of HMU Research Center, Heraklion, Greece [4]Department of Electrical & Computer Engineering, Hellenic Mediterranean University, Heraklion, Greece
15:54-16:15	(**WS1-Invited) Colloidal Halide Perovskite Nanocrystals: Newly Emerged Sources for Polarized Light Emission** Lakshminarayana Polavarapu CINBIO, Universidade de Vigo, Materials Chemistry and Physics Group, Department of Physical Chemistry, Campus Universitario Lagoas, Marcosende, 36310 Vigo	**(WS4-Invited) 2D materials for energy applications** Francesco Bonaccorso BeDimensional SpA, Via Lungotorrente Secca 30r, 16163 Genova Istituto Italiano di Tecnologia, via Morego 30, 16163 Genova
16:15-16:30	(**WS1-Invited) Colloidal Semiconductor Nanocrystals: From Artificial Atoms to Artificial Molecules** Uri Banin Institute of Chemistry and the Center for Nanoscience and Nanotechnology, The Hebrew University of Jerusalem, Jerusalem 91904, Israel	**Studying the interfacial interactions in polymer/GO nanocomposite materials** I. Karnis [1,2*], F. Krasanakis [1], and K. Chrissopoulou [1] [1]Institute of Electronic Structure and Laser, Foundation for Research and Technology Hellas, Heraklion, Crete, Greece [2]Department of Chemistry, University of Crete, Heraklion Crete, Greece
16:30-16:45		**Single and double pulse UV- femtosecond laser-induced breakdown spectroscopy (LIBS) for depth-resolved characterization of nano-scaled films** N. Giannakaris[1], P. Siozos[2*], V. Pinon[2], S.P. Banerjee[3], M. Sentis[3], D. Anglos[2,4] [1]Institute of Applied Physics, Johannes Kepler University Linz, A-4040 Linz, Austria [2]Institute of Electronic Structure and Laser (IESL), FORTH, Heraklion, Crete, Greece [3]LP3 Laboratory, Case 917, 163 Avenue de Luminy, Marseille, France [4]Department of Chemistry, University of Crete, Heraklion, Crete, Greece

16:45-17:00	**Laser-assisted Processes on Metal Halide Perovskite Nanocrystals: Shape/Dimensionality Transformations and Conjugation with 2D Materials** K. Brintakis[1,*] , A. Kostopoulou[1], E. Stratakis[1,2] [1]Institute of Electronic Structure and Laser, Foundation for Research and Technology - Hellas, Heraklion, Crete, Greece [2]Physics Department, University of Crete, Heraklion, Crete, Greece	**2D Bismuthene as a Functional Interlayer for Enhanced Oxygen-Evolution $BiVO_4$ Photoanodes** S. Eslava[1*], J. Cui[1], M. Daboczi[1], S. Gimenez[2], and J.S. Kim[3] [1]Department of Chemical Engineering and Centre for Processable Electronics, Imperial College London, London, United Kingdom [2]Institute of Advanced Materials (INAM), Universitat Jaume I, Castelló, Spain [3]Department of Physics and Centre for Processable Electronics, Imperial College London, London, United Kingdom
17:00-17.15	**The role of doping in all-inorganic mixed-halide perovskites for ozone sensing** A. Argyrou[1,2,*], K. Brintakis[1], E. Gagaoudakis[1], V. Binas[1], R. Giappa[3], I. Remediakis[3], A. Kostopoulou[1], E. Stratakis[1] [1]Institute of Electronic Structure and Laser, Foundation for Research & Technology-Hellas, P.O. Box 1527, Vassilika Vouton, 70013 Heraklion, Greece [2]University of Crete, Department of Chemistry, Vassilika Vouton, 70013 Heraklion, Greece [3]University of Crete, Department of Material Science and Technology, Vassilika Vouton, 70013 Heraklion, Greece	**PANI/MoS_2 based NH_3 sensor** A. Jain[1,2*], A. MP[2] and S. Panda[1,2] [1]Department of Chemical Engineering, Kanpur, India [2]National Centre for Flexible Electronics, Kanpur, India
17:15-17:30	**Metal Halide Perovskites as Gas Sensing Elements: From Micro to Nano** Konstantina Alexaki[1]*, Athanasia Kostopoulou[1], Konstantinos Brintakis[1], Aikaterini Argyrou[1,2], and Emmanuel Stratakis[1,3] [1]Foundation For Research And Technology Hellas (FORTH), Institute Of Electronic Structure & Laser (IESL), Heraklion, Greece [2]University of Crete, Department of Chemistry, Heraklion, Greece [3]University of Crete, Department of Physics, Heraklion, Greece	**Electrical and Magnetic Features of Heterometallic Oxalate Coordination Polymers with 2D Layers: Oxide-Related Use** M. Jurić[1*], A. Lozančić[1], L. Molčanov[1], S. Renka[1], D. Pajić[2], D. Barišić[2], M. Vrankić[1] and S. Burazer[1] [1]Ruđer Bošković Institute, Zagreb, Croatia [2]Department of Physics, Faculty of Science, University of Zagreb, Zagreb, Croatia
17:30-17:45	**Materials modeling for environmental catalysis: from metal nanoparticles to halide perovskites** Rafaela Maria Giappa[1]*, Apostolos Pantousas[1], Constantinos C. Stoumpos[2], George Kopidakis[1,2] and Ioannis N. Remediakis[1,2] [1]Department of Materials Science and Technology, University of Crete, Heraklion, Greece [2]Institute of Electronics Structure and Laser, Foundation for Research and Technology (IESL-FORTH), Heraklion, Greece	**END OF SESSION**
	END OF DAY 2 OF NANOBIO2023 – ENJOY YOUR EVENING!	

TIME	Wednesday 13th September	
8:30-13:45	**REGISTRATION** (at the Registration Desk in Atlantis Aquila Hotel)	
09:00-09:30	*WS1 & WS3 Session I - NanoMedicine, Chair: L. Papadimitriou* *Room: Minos I* (**WS3-Invited) Nanotechnology Approaches for Biology and Medicine** Paul Weiss University of California Los Angeles	*WS2 Session II - Chair: M. Lira-Cantu* *Room: Minos II* **(WS2-Invited) Efficient Structures And Processes for Upscaling of Perovskite Modules and Tandems** Tom Aernouts IMEC
09:30-10:00	(**WS3-Invited) Mapping the protein corona around endocytosed nanoparticles** Wolfgang Parak Universität Hamburg	(WS2-Invited) Bifacial perovskite photovoltaic for See-through and tandem applications Aldo Di Carlo Institute of Structure of Matter - CNR, Rome Italy CHOSE-University of Rome Tor Vergata
10:00-10:15	**Quantitative analysis of the size dependency for cellular entry and excretion of colloidal nanoparticles** Neus Feliu[1]*, Wolfgang J. Parak[2] [1]Zentrum für Angewandte Nanotechnologie CAN, Fraunhofer-Institut für Angewandte Polymerforschung IAP, Hamburg, Germany [2]Universität Hamburg, Hamburg, Germany	(**WS2-Invited) Mesoscale ordered two-dimensional semiconductor polymers with Dirac cones and flat bands by on-surface synthesis** Giorgio Contini[1,2] [1]Istituto di Struttura della Materia-CNR (ISM-CNR), Via Fosso del Cavaliere 100, 00133 Roma, Italy [2] Department of Physics, University Tor Vergata, Via della Ricerca Scientifica 1, 00133 Roma, Italy
10:15-10:30	**Cell specific targeting of Lipid Nanoparticles** Panagiota Papadopoulou[1], Gabriela Arias-Alpizar[2], Rianne van der Pol[1], Niek van Hilten[1], Winant van Os[1], Mohammad-Amin Moradi[3], Nico Sommerdijk[3], Jordi Llop[4], Jelger Risselada[1], Agur Sevink[1], Frederick Campbell[1] and Alexander Kros[1] [1]Leiden Institute of Chemistry, Leiden University, the Netherlands [2]Leiden Academic Center of Drug Research, Leiden University, the Netherlands [3]Eindhoven University of Technology, the Netherlands [4]CIC biomaGUNE, Basque Research and Technology Alliance, Spain	
10:30-10:45	**Vcam-1 expression screening for therapeutic and diagnostic purposes** Maria Grekioti[1]*, Lina Papadimitriou[1], Eirini Koutsouroubi[1], Yannis	**(WS2-Invited) Probing single molecules in active molecular layers of devices**

	Papaharilaou[3] Alexandros Lappas[1] and Anthi Ranella[1] [1]IESL FORTH, Heraklion, Greece [3]IACM FORTH, Heraklion, Greece	Shadi Fatayer King Abdullah University of Science and Technology
10:45-11:00	**Nanocomposite cell culture substrates produced by printed electronics techniques for cell stimulation** Łucja Dybowska-Sarapuk1*, Weronika Sosnowicz1, Paulina Trzaskowska1, Anna Grzeczkowicz2, Małgorzata Jakubowska1 [1]Centre for Advanced Materials and Technologies Warsaw University of Technology, Warsaw, Poland [2]Nalecz Institute of Biocybernetics and Biomedical Engineering, Polish Academy of Sciences, Warsaw, Poland	
11:00-11:15	**Evaluation of intra and extracellular pH detection capabilities of plasmonic nanoprobes** Gail A. Vinnacombe-Willson[1] and Luis M. Liz-Marzán[1]* [1]BioNanoPlasmonics Laboratory, CIC biomaGUNE, Basque Research and Technology Alliance (BRTA), 20014 Donostia-San Sebastián, Spain	**Nanophotonics for thin-film perovskite solar cells** A. Furasova ITMO University
11:15-11:45	**COFFEE BREAK (LOBBY BAR)** **All the Poster Presenters of POSTER SESSION could place their Poster on the Poster Stands – Go to Registration Desk for adhesive material**	
11:45-12:15	*WS1 & WS3 Session III - Advanced Diagnostics and Nanocharacterisation I, Chair: P. Weiss, Room: Minos I*	*WS5 Session IV - Nanophotonics and Biophotonics, chair: I. Konidakis, Room: Minos II*
	(WS1-Invited) Sustainable nanobiosensors for diagnostics Arben Merkoci Catalan Institute of Nanoscience and Nanotechnology (ICN2), UAB Campus, Bellaterra, Barcelona, 08193 Spain	**(WS5-Invited) Ultracompact perovskite lasers integrated with waveguiding systems** Sergey Makarov School of Physics and Engineering, ITMO University, Lomonosova, 9, Saint-Petersburg 191002, Russia
12:15-12:45	**(WS1-Invited) Graphene oxide electrodes for bio-sensing and bio-stimulation** Vincenzo Palermo[1,2,*], Roberta Fabbri[1], Alessandro Kovtun[1], Diletta Spennato[1], Giorgia Conte[1], Andrea Candini[1], Filippo Valorosi[1], Emanuela Saracino[1], Katerina Konstantoulaki[1], Chiara Lazzarini[1], Manuela Melucci[1], Emanuele Treossi[1], Chiara Zanardi[1,3], Valentina Benfenati	**(WS5-Invited) Colloidal quantum dot infrared optoelectronics: LEDs, Lasers and Photodetectors** Gerasimos Konstantatos ICFO - Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology, Castelldefels, Barcelona 08860, Spain ICREA-Institució Catalana de Recerca i Estudis Avançats, Barcelona 08010, Spain

	[1] Institute for Organic Synthesis and Photoreactivity (ISOF), National Research Council of Italy (CNR), Bologna, Italy. [2] Department of Industrial and Materials Science, Chalmers University of Technology, Gothenburg, Sweden. [3] Department of Molecular Sciences and Nanosystems, Ca' Foscari University of Venice, Venice, Italy.	
12:45-13:00	**Augmentation of the Standalone Multiplexed Extended-Gate Field-Effect Transistor Immunosensor Response with Gold Nanoparticle/Antibody Bioconjugates** Željko Janićijević[1]*, Trang-Anh Nguyen-Le[1], Ahmed Alsadig[1], Rugilė Žilėnaitė[1,2], Taufhik Hossain Tonmoy[1], Manja Kubeil[1], Michael Bachmann[1] and Larysa Baraban[1] [1]Institute of Radiopharmaceutical Cancer Research, Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany [2]Institute of Chemistry, Faculty of Chemistry and Geosciences, Vilnius University, Vilnius, Lithuania	**Polarization-Resolved Optical Second Harmonic Generation microscopy in 2D Materials** S. Psilodimitrakopoulos[1*], L. Mouchliadis[1], G. M. Maragkakis[1,2], G. Kourmoulakis[1,3], I. Demeridou[1], A. Lemonis[1], G. Kioseoglou[1,3] and E. Stratakis[1] [1]Institute of Electronic Structure and Laser-Foundation for Research and Technology-Hellas, GR-711 10, Heraklion, Greece [2]Department of Physics, University of Crete, 71003 Heraklion, Greece [3]Department of Materials Science, University of Crete, 71003 Heraklion, Greece
13:00-13:15	**Nanobiosensor for the Impedimetric Detection of SARS-CoV-2 Antigens and Antibodies Using Interdigitated Gold Nanowires** Diana Isabel Sandoval Bojorquez[1]*, Željko Janićijević[1], Brenda Palestina Romero1, Eduardo Sergio Oliveros Mata[2], Markus Laube[1], Anja Feldmann[1], Alexandra Kegler[1], Laura Drewitz[1], Ciarán Fowley[2], Jens Pietzsch[1], Jürgen Fassbender[2], Torsten Tonn[3], Michael Bachmann[1], Larysa Baraban1. [1]Institute of Radiopharmaceutical Cancer Research, Helmholtz-Zentrum Dresden-Rossendorf e. V. (HZDR), Dresden, Germany [2]Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf e.V. (HZDR), Dresden, Germany [3]Department for Experimental Transfusion Medicine, German Red Cross Blood Donation Service North-East, Dresden, Germany.	**Polarization-resolved third harmonic generation (P-THG) of myelin inside optic nerves** Maria Kefalogianni[1,2]*, Leonidas Mouchliadis[1], Niki Ktena[3,4], Stefanos Kaplanis[3,4], Ilias Kalafatakis[3,4], Sotiris Psilodimitrakopoulos[1], Domna Karagogeos[4], Emmanuel Stratakis[1,2] [1]Institute of Electronic Structure and Laser, Foundation for Research and Technology-Hellas, Heraklion Crete, 71110, Greece [2]Department of Physics, University of Crete, Heraklion Crete, 71003, Greece 3Department of Basic Sciences, Faculty of Medicine, University of Crete, Heraklion Crete, 71003, Greece [4]Institute of Molecular Biology and Biotechnology, Foundation for Research and Technology
13:15-13:30	**(WS1-Invited) Plasmonic Bio-Sensing with Photonic Integrated Circuits** Dimitris Tsiokos D. Tsiokos[1*], S. Suckow[2], A. Manolis[1], C. Eleftheriou[1], M.A. El-Rabiaey[1],	**Thermally-induced mechanical switching of the second harmonic generation in pNIPAM hydrogels-linked Au and Si nanoparticles** E N. Gerasimova[1*], V. V. Yaroshenko[1], L V. Mikhailova[1], D. M. Dolgintsev[1], A. S. Timin[1], M. V. Zyuzin[1], D. A. Zuev[1]

	G. Tsekenis[1], Sabato D'Auria[3], Antonio Varriale[4], Alessandro Capo[4], B. Chmielak[2], O. Bhalerao[2,5], A. L. Schall-Giesecke[2,6,] M. L. Lemme[2,5], K. Fotiadis[7,8], E. Chatzianagnostou[7,8,] Dimosthenis Spasopoulos[7,8], Stelios Simos[7,8], Nikos Pleros[7,8] and L. Lidorikis[7,8] 1 bialoom Ltd, Nicosia, Cyprus 2 AMO GmbH, Aachen, Germany 3 Department of Biology, Agriculture and Food Science, CNR, Rome, Italy 4 ISA-CNR, Institute of Food Science, Avellino, Italy. 5 Chair of Electronic Devices, RWTH Aachen University, Aachen, Germany 8 Chair of Electronic Components and Circuits, University of Duisburg-Essen, and Fraunhofer IMS, Duisburg-Essen, Germany 7 Department of Informatics, Aristotle University of Thessaloniki, Greece 8 Center for Interdisciplinary Research and Innovation (CIRI-AUTH), Thessaloniki, Greece	[1]Department of Physics, ITMO University, Kronverksky Pr. 49, bldg. A, 197101 St. Petersburg, Russian Federation
13:30-13:45		**END OF SESSION**
13:45-15:00	**LUNCH BREAK (PASIPHAE ROOM)** **All the Poster Presenters of POSTER SESSION could place their Poster on the Poster Stands – Go to Registration Desk for adhesive material**	
15:00-17:00	**POSTER SESSION** **To all Poster Presenters – Please be by your Poster at all times!**	
20:00	**CONFERENCE GALA DINNER**	

TIME	Thursday 14th September	
09:00-14:00	**REGISTRATION DESK - OPEN**	
9:30-10.00	*WS1 & WS3 Session I - Advanced Diagnostics and Nanocharacterisation II, Chair: W. Parak, Room: Minos I*	*WS4 - Emerging Printed Electronics and Bioelectronics, Chair: K. Rogdakis, Room: Minos II*
	(WS1-Invited) Sensing polynucleotides with nanomaterials Antonios Kanaras University of Southampton	**(WS4-Invited) Scalable NanoManufacturing of Sustainable Electronics** Thomas Anthopoulos King Abdullah University of Science and Technology (KAUST)
10:00-10:15	**A Nanotransducer Mediated Approach to Genome Editing** F. Tantussi[1]*, S. Konstantinidou[2], A. De Carli[3], D. Witt[4], A. Lindstaedt[4], M. D'Amora[1,2], M. Lai[3], A. Everhardt[5], F. Fuso[6], P. Barski[4], V. Raffa[2], F. de Angelis1 [1]Plasmon Nanotechnologies, Istituto Italiano di Tecnologia, Genova, Italy; [2]Department of Biology, University of Pisa, Pisa, Italy; 3Department of Medicine, University of Pisa, Pisa, Italy; [4]ProChimia Surfaces, Gdynia, Poland; [5]LioniX International, Enschede AL, The Netherlands [6]Department of Physics, University of Pisa, Pisa, Italy	**(WS4-Invited) Metabolite-induced in vivo fabrication of substrate-free organic bioelectronics** Daniel Simon Linköping University, Sweden
10:15-10:30	**Synthesis, detection, and actuation of self-assembling DNA nanostructures** Ibon Santiago[1]* [1]CIC nanoGUNE BRTA, Donostia-San Sebastia´n 20018, Spain	
10:30-10:45	**Biomimetic nano-vesicles for intelligent RNA delivery** Stefania Garbujo[1]*, Miriam Colombo[1], and Davide Prosperi[1] [1]NanoBioLab, University of Milano-Bicocca, Dep. Of Biotechnology and Biosciences, Milano Italy	**(WS4-Invited) Organic electrochemical neurons and synapses with ion-mediated spiking** Simone Fabiano

10:45-11:00	**Controlling the Synthesis of Iron Oxide Based Nanomaterials and Nanocomposites with Advantageous Features for Biomedical Applications** Liudmyla Storozhuk[1,2*] and Rachel A. McKendry[1,3] [1]London Centre for Nanotechnology, University College London, 17-19 Gordon Street, London, WC1H 0AH, UK [2]Department of Physics and Astronomy, University College London, London, WC1E 6BT, UK [3]Division of Medicine, University College London, London WC1E 6BT, UK Storozhuk	Linköping University
11:00-11:15	**A comprehensive orthogonal study on the interaction of nanoparticles with mucin** Matteo Tollemeto[1]*, Isidro Badillo Ramirez[1], Lasse Højlund Eklund Thamdrup[1], Yudong Li[2], Tania Patiño Padial[2], Jan van Hest[2], Anja Boisen[1] [1]The Danish National Research Foundation and Villum Foundation's Center IDUN, Department of Health Technology, Technical University of Denmark, Kgs. Lyngby, Denmark. [2]Laboratory of Chemical Biology, Institute for Complex Molecular Systems, Eindhoven University of Technology, Eindhoven, The Netherlands	**(WS4-Invited) Bioelectronic devices and Therapeutic applications: The selective Vagus Nerve Stimulation as a paradigm of the new Bioelectronic Medicine era** Dimitrios Koutsouras IMEC the Netherlands
11:15-11:30	**Ultrathin water layers on viruses** A.M. Bittner[1]*, M.A. Iriarte-Alonso[1], J.H. Melillo[2], S. Cerveny[2], S. Chiantia[3] [1]CIC nanoGUNE (BRTA)/Ikerbasque, San Sebastián/Bilbao, Spain; [2]Donostia. Intl. Phys. Center and Centro Fís. Mat., San Sebastián, Spain; 3Potsdam University, Germany	

11:45-12:00	**COFFEE BREAK (LOBBY BAR)**	
12:00-12:30	*WS1 & WS3 Session III - Micro and Nanofabrication, chair: A. Kanaras, Room: Minos I*	*WS4 & WS6 Session III Chair: T. Anthopoulos, Room: Minos II*
	(WS3-Invited) Densified Collagen Conduits for Vascular Grafts Athina Markaki Cambridge University	**(WS6-Invited) Recent advances on graphene grown on liquid metal catalysts: synthesis, in situ monitoring and direct separation** Costas Galiotis University of Patras, Chemical Engineering Department, 26504 Patras, Greece Institute of Chemical Engineering Sciences, Foundation for Research and Technology Hellas
12:30-13:00	**(WS3-Invited) Bottom-up engineering of 3D microtissues using cell-instructive microbiomaterials as tissue matrix-mimicking building blocks** Niloofar Tahmasebi Maastricht University, The Netherlands	**(WS6-Invited) Chemical and physical sensing with two-dimensional materials** Paolo Samori University of Strasbourg & CNRS
13:00-13:15	**Adipose-derived extracellular matrix foams with integrated reduced graphene oxide as implantable scaffolds for neural regeneration** Papadimitriou Lina[1]*, Paula Marques[2], Beatriz Olalde[3], Emmanuel Stratakis[1] and Anthi Ranella[1] [1]Institute of Electronic Structure and Laser, Foundation for Research and Technology-Hellas (FORTH), Heraklion, Greece [2]TEMA - Centre for Mechanical Technology and Automation, Department of Mechanical Engineering, University of Aveiro, 3810-193 Aveiro, Portugal [3]TECNALIA, Basque Research and Technology Alliance (BRTA), E20009 Donostia-San Sebastian, Spain	**(WS4-Invited) Functionalized carbon fiber yarns for application in 1D supercapacitors and triboelectric devices** Luis Pereira 1 CENIMAT|i3N, Department of Materials Science, NOVA School of Science and Technology, NOVA University Lisbon and CEMOP/UNINOVA, Campus da Caparica, Caparica 2829-516, Portugal 2 AlmaScience, Campus da Caparica, Caparica 2829-516

<table>
<tr><td>13:15-13:30</td><td>Study of in vitro differentiation of NE-4C cells encapsulated in 3D adipose derived-ECM hydrogels
Kyriaki Stampouli[1]*, Lina Papadimitriou[1] and Andrea García-Lizarribar[2], Beatriz Olalde[2], Anthi Ranella[1]
[1]Institute of Electronic Structure and Laser, Foundation for Research and Technology-Hellas (FORTH), Heraklion, Greece
[2]TECNALIA, Basque Research and Technology Alliance (BRTA), E20009 Donostia-San Sebastian, Spain</td><td colspan="2"></td></tr>
<tr><td>13:30-13:45</td><td>Controlling Aerosol-Jet Printed Mxene Flakes Morphology for Neutral Applications
Javier Gutierrez-Gonzalez[1,2,3]*, Dahnan Spurling[2], Tara McGuire[1], Ian Woods[1,3], Adrian Dervan[1], Fergal J. O'Brien[1,3] and Valeria Nicolosi[2,3].
[1]Tissue Engineering Research Group, Dept. of Anatomy & Regenerative Medicine, Royal College of Surgeons in Ireland (RCSI), Dublin, Ireland
[2]School of Chemistry, Trinity College Dublin (TCD), Dublin 2, Ireland
[3]Advanced Materials Bio-Engineering Research Centre (AMBE, RCSI and TCD)</td><td colspan="2" rowspan="2">(WS4-Invited) Oxide thin-film transistors as enablers of innovative flexible electronics: the examples of e-textiles and ionizing radiation detectors
Pedro Barquinha
CENIMAT|i3N, NOVA School of Science and Technology</td></tr>
<tr><td>13:45-14:00</td><td>Statin-loaded biodegradable micropatterned polymeric replicas on osteogenic differentiation
Eleni Kanakousaki[1,2]*, Paraskevi Kavatzikidou[1], Despoina Angelaki[1,3], Alexandra Manousaki[1], Emmanuel Stratakis[1,3] and Anthi Ranella[1]
[1]Foundation for Research and Technology-Hellas (FORTH), Institute of Electronic Structure and Laser (IESL), Heraklion, Greece
[2]Department of Biology, University of Crete, Heraklion, Greece
[3]Department of Physics, University of Crete, Heraklion, Greece</td></tr>
<tr><td>14:00-15:00</td><td colspan="3">LUNCH BREAK (PASIPHAE ROOM)</td></tr>
<tr><td rowspan="2">15:00-15:30</td><td>WS1 Session V - Nanomaterials for catalysis, energy storage and sensing, chair: L. Manna, Room: Minos I</td><td>WS1 & WS3 Session VI - Tissue Platforms for disease modelling and drug testing, chair: A. Markaki, Room: Minos II</td><td>WS-EMERGE 15:00-17:00 (APOLLON)</td></tr>
<tr><td>(WS1-Invited) Densely and Selectively Functionalized Graphenes for Energy Storage and Catalysis
Aristides Bakandritsos
Palacký University Olomouc and Technical University of Ostrava</td><td colspan="2">(WS1-Invited) Nanomedicine: Human Clinical Results with Nanomaterials
Thomas Webster
School of Health Sciences and Biomedical Engineering, Hebei University of Technology, Tianjin</td></tr>
</table>

15:30-15:45	Nanostructures of graphitic carbon nitride (g-C3N4) for optosensing applications Spyros Kokkotos[1,2], Evangelia Vasilaki[1,3], Maria Vamvakaki[1,3], Argyro Klini[1] [1]IESL/FORTH, N. Plastira 100, GR 700 13, Heraklion, Crete, Greece [2]Department of Physics, University of Crete, GR 700 13, Heraklion, Crete, Greece [3]Department of Materials Science and Technology, University of Crete, GR 700 13, Heraklion, Crete, Greece	**Cytotoxicity effect of zinc oxide (ZnO) nanoparticles under static and dynamic culture conditions** Eleftheria Babaliari[1]*, Dionysios Xydias[1,2], Maria Kefalogianni[1,3], Anna Pantelaiou[1,4,5], Sotiris Psilodimitrakopoulos[1], Paraskevi Kavatzikidou[1], Anthi Ranella[1] and Emmanuel Stratakis[1,3] [1]Foundation for Research and Technology – Hellas (F.O.R.T.H.), Institute of Electronic Structure and Laser (I.E.S.L.), Heraklion, Crete, Greece [2]Department of Materials Science and Technology, University of Crete, Heraklion, Crete, Greece [3]Department of Physics, University of Crete, Heraklion, Crete, Greece [4]University of Crete, Heraklion, Crete, Greece [5]Technical University of Crete, Heraklion, Crete, Greece
15:45-16:00	**Monitoring Volatile Signatures in Food, Health and Environment Applications** Jonathan Beauchamp Fraunhofer IVV, Freising, Germany	**Viscosity influence on human hepatoma tumor spheroids formation in core-shell alginate-carboxymethylcellulose microcapsules** Xuan Peng,[1]* Željko Janićijević,[1] Sandy Lemm,[1] Markus Laube,[1] Jens Pietzsch,[1] Michael Bachmann,[1] Larsa Baraban[1] [1]Helmholtz-Zentrum Dresden-Rossendorf, Institute of Radiopharmaceutical Cancer Research, 01328 Dresden, Germany
16:00-16:15	**Chitosan-Modified Polyethyleneimine Nanoparticles for Enhancing the Carboxylation Reaction and Plants' CO_2 Uptake** Cyril Routier[1*], Lorenzo Vallan[2], Yohann Daguerre[3], Marta Juvany[3], Emin Istif[2], Daniele Mantione[2,4], Cyril Brochon[2], Georges Hadziioannou[2], Åsa Strand[5], Torgny Näsholm[3], Eric Cloutet[2], Eleni Pavlopoulou[2,6], and Eleni Stavrinidou[1,3] *[1]Laboratory of Organic Electronics, Department of Science and Technology, Linköping University, SE-60174, Norrköping, Sweden.* *[2]Laboratoire de Chimie des Polymères Organiques (LCPO–UMR 5629), Université de Bordeaux, Bordeaux INP, CNRS, F-33607 Pessac, France.* *[3]Umeå Plant Science Centre, Department of Forest Genetics and Plant Physiology, Swedish University of Agricultural Sciences, SE-90183 Umeå, Sweden.* *[4]POLYMAT, University of the Basque Country UPV/EHU, 20018 San Sebastián, Spain* *[5]Umeå Plant Science Centre, Department of Plant Physiology, Umeå University, SE 901-87 Umeå, Sweden.* *[6]Institute of Electronic Structure and Laser, Foundation for Research and Technology—Hellas, P.O. Box 1527, 71110 Heraklion Crete, Greece.*	**In vitro cytotoxicity of polymeric-based theranostic nanocarriers for drug delivery in central nervous system disorders** Magdalena Procner[1]*, Marta Szczęch[2], Magdalena Regulska[1], Monika Leśkiewicz[1], Krzysztof Szczepanowicz[2], Władysław Lasoń[1], Agnieszka Basta-Kaim[1] and Piotr Warszyński[2] [1]Maj Institute of Pharmacology, Polish Academy of Sciences, Krakow, Poland [2]Jerzy Haber Institute of Catalysis and Surface Chemistry, Polish Academy of Sciences, Krakow, Poland

16:15-16:30	**Nano-sized Co-Ce catalysts for the preferential CO oxidation in hydrogen reach gases -influence of the support and preparation method** Silviya Zh. Todorova [1*], Bozhidar K. Grahovski, Diana G. Filkova, Iliyana Hristova, Hristo G. Kolev, Daniela B. Karashanova [1]Institute of Catalysis, Bulgarian Academy of Sciences, Acad. G. Bonchev St., Bldg. 11, 1113 Sofia, Bulgaria [2]Institute of Optical Materials and Technologies "Acad. Jordan Malinowski", Bulgarian Academy of Sciences, Acad. G. Bonchev St., Bldg. 109, 1113 Sofia, Bulgaria	**Cytotoxicity and Drug Release Assessment of the reduced graphene oxide films and ocular patches** Paraskevi Kavatzikidou[1]*, Phanee Manganas[1], Katerina Anagnostou[2], Evangelos Skoulas[1], Stella Maragkaki[1], Alexandra Manousaki1, Minas M. Stylianakis[1,2], Dimitrios M. Kosmidis[2], Vasileios Selimis[4], Ilias Maragkos[4], Ioannis M. Aslanides[4], Emmanuel Kymakis[2], Anthi Ranella[1], Emmanuel Stratakis[1] 1Institute of Electronic Structure and Laser, Foundation for Research and Technology – Hellas (FORTH-IESL), Heraklion, Crete, Greece [2]Electrical & Computer Engineering Department, Hellenic Mediterranean University, Heraklion, Crete, Greece [4]Emmetropia Mediterranean Eye Institute, Heraklion, Crete, Greece
16:30-16:45	**Cork based sensing platform for an inflammatory biomarker detection in Point-of-Care** Bárbara Correia,[a] Daniela Oliveira[a,b], Georgeta Vulpe[c], Ana P.M. Tavares[d], M. Goreti, F. Sales[d], Abel J. Duartee, Sanjiv Sharma[c] and Felismina T.C. Moreira [a,b]* [a]BioMark@ISEP-CEB/LABBELS, School of Engineering, Polytechnic of Porto, R. Dr. António Bernardino de Almeida, 431, 4249-015 Porto, [b]LabRISE-CIETI - School of Engineering, Polytechnic of Porto, R. Dr. António Bernardino de Almeida, 431, 4249-015 Porto, Portugal [c]Department of Biomedical Engineering, Faculty of Science and Engineering, Swansea University, Swansea SA1 8EN (UK) [d]BioMark@UC-CEB/LABBELS, Faculty of Sciences and Technology, University of Coimbra, R. Sílvio Lima, Pólo II, 3030-790 Coimbra, Portugal [e]REQUIMTE, School of Engineering, Polytechnic Institute of Porto, Porto, 4200-072, Portugal	**Development of a nano drug delivery system based on MCM-48 and polyoxometalates for poorly soluble drug, Glipizide** Debatrayee Dasgupta[1*] and Anjali Patel[1] [1]Department of Chemistry, Faculty of Science, The Maharaja Sayajirao University of Baroda, Vadodara, Gujarat-390 002, India

16:45-17:00	**Synthesis and characterization of cationic polymer-capped AuNPs for application in molecular diagnostics** Stylianos Grammatikos[1,2*], Ioannis Svoliantopoulos[1,3] and Electra Gizeli[1,2] [1]Institute of Molecular Biology and Biotechnology, Foundation for Research and Technology-Hellas, 100 N. Plastira Str., 70013 Heraklion, Greece [2]Department of Biology, University of Crete, 70013 Voutes, Heraklion, Greece [3]Department of Chemistry, University of Crete, 70013 Voutes, Heraklion, Greece	**Structural, Electrical, and Optical Properties of Organic-Inorganic Thin Films Based on Natural Alkaloids and Halometallates(II)** Lidija Androš Dubraja[1*], Mia Mesić[1] and Marko Dunatov[1] [1]Ruđer Bošković Institute, Zagreb, Croatia
	END OF DAY 4 OF NANOBIO2023 – ENJOY YOUR EVENING!	

<table>
<tr><th>TIME</th><th colspan="3">Friday 15th September</th></tr>
<tr><td>09:00-13:30</td><td colspan="3">REGISTRATION DESK - OPEN</td></tr>
<tr><td rowspan="2">09:00-9:45</td><td colspan="3">Plenary Session I – Chair: E. Kymakis & E. Stratakis – Room: Minos II</td></tr>
<tr><td colspan="3">(Plenary) Materials for Eco-Design Strategies for an Innovative Industry
Rodrigo Martins
CENIMAT|I3N and CEMOP/UNINOVA, Faculty of Sciences and Technology, NOVA University Lisbon, Portugal</td></tr>
<tr><td>09:45:10:30</td><td colspan="3">(Plenary) Thin Film Implants for Bioelectronic Medicine
George Malliaras
University of Cambridge, UK</td></tr>
<tr><td>10:30-11.15</td><td colspan="3">Presentation of NFFA-Europe and EMERGE Projects</td></tr>
<tr><td>11:15-11:45</td><td colspan="3">COFFEE BREAK (LOBBY BAR)</td></tr>
<tr><td rowspan="2">11:45-12:15</td><td>WS1 & WS3 Session II -Theranostics, Drug Delivery, Magnetic hyperthermia, Chair: K. Chrissopoulou, Room: Minos I</td><td>WS4 Session III - Emerging Printed Electronics and Bioelectronics, Chair: Maria Pervolaraki, Room: Minos II</td><td>WS-EMERGE
12:45-15:00
(please check additional information at the Conference site)</td></tr>
<tr><td>(WS1-Invited) Overcoming resistance to nano-immunotherapy in solid tumors
Triantafyllos Stylianopoulos
University of Cyprus</td><td colspan="2">(WS4-Invited) PyzoFlex® matrix: How to combine printed ferroelectric sensors and organic transistors for vital parameter, tactile pressure and proximity sensing
Barbara Stadlober[1], Andreas Petritz[1], Esther Karner-Petritz[1], Herbert Gold[1], Andreas Tschepp1, Martin Zirkl[1], Manfred Adler[1], Takafumi Uemura[2,3], Teppei Araki[2,3], Micael Charbonneau[4], Romain Coppard[4], Marco Fattori[5], Eugenio Cantatore[5], and Tsuyoshi Sekitani[2,3]
[1] Joanneum Research, Institute for Sensor, Photonics and Manufacturing Technologies, Weiz, Austria
[2] The Institute of Scientific and Industrial Research, Osaka University, Ibaraki, Osaka, Japan
[3] AIST Advanced Photo-Bio Lab, Photonics Center Osaka University, Suita, Osaka, Japan
[4] CEA-LITEN, Grenoble, France
[5] Eindhoven University of Technology, Department of Electrical Engineering, Eindhoven, The Netherlands</td></tr>
<tr><td>12:15-12:30</td><td>Hybrid Silver Iron Oxide Nanoflowers : Synthesis, characterization and their theranostic ability against glioblastoma
Sofia G. Nikolopoulou[a,b], Beata Kalska-Szostko, Anna Basa ,Eleni K.</td><td colspan="2">Aerosol jet-printed ion-selective electrodes for sweat monitoring
Jakub Krzemiński[1]*, Jan Dominiczak[1] and Dominik Baraniecki[1]</td></tr>
</table>

	Efthimiadou[a,b] [a]Inorganic Chemistry Laboratory, Chemistry Department, National and Kapodistrian University of Athens, Panepistimiopolis, Zografou 157 71, Greece [b]Sol-Gel Lab, Institute of Nanoscience and Nanotechnology, NCSR "Demokritos", 153 41 Aghia Paraskevi Attikis, Greece	[1]Centre for Advance Materials and Technologies, Warsaw University of Technology
12:30-12:45	**Functional nanomaterials for combined tumor therapy** Mikhail V. Zyuzin[1*] [1]School of Physics and Engineering, ITMO University, St. Petersburg, Russian Federation	**Metal oxide transistors with unconventional tri-channel geometry for various sensing applications** Wejdan S. Alghamdi[1]*, Abhinav Sharma[1], and Thomas D. Anthopoulos[1] [1]King Abdullah University for Science and Technology
12:45-13:00	**HFn-mAb nanoconjugates-mediated anticancer activity in 3D tumor models** Linda Barbieri *, Davide Prosperi and Miriam Colombo NanoBioLab, Department of Biotechnology and Biosciences, University of Milano- Bicocca, Piazza della Scienza 2, 20126 Milan, Italy	**Metal Oxide Gas Sensors for Smart Food Packaging and Environmental Applications** E. Gagaoudakis[1*], A. Sfakianou[1,2] E. Mantsiou[1], L. Zouridi[1,3], E. Aperathitis[1], A. Papadakis[1,3], A. Badeka[4], M. G. Kontominas[4], M. Pervolaraki[1], E. Stratakis[1] and V. Binas[1,2] [1]Institute of Electronic Structure and Laser, Foundation for Research and Technology-Hellas, Heraklion, Greece [2]Department of Physics, University of Crete, Heraklion, Greece [3]Department of Materials Science and Technology, University of Crete, Heraklion, Greece [4]Department of Chemistry, University of Ioannina, Ioannina, Greece
13:00-13:15	**Design of versatile graphene oxide-based nanoconstructs with immunomodulatory activity** Despoina Despotopoulou[1]*, Maria Stylianou[2], Thomas Kisby[2], Neus Lozano[1], Kostas Kostarelos[1,2,3] [1]Catalan Institute of Nanoscience and Nanotechnology (ICN2), CSIC and BIST, Campus UAB, Bellaterra, 08193 Barcelona, Spain [2]Nanomedicine Lab, Faculty of Biology, Medicine, and Health, The University of Manchester, Manchester, M13 9PT, U.K. [3]National Graphene Institute, The University of Manchester, Booth Street East, Manchester, M13 9PL, U.K.	**Leaf electronics: Nature-based substrates and electrodes for organic electronic applications** Rakesh Rajendran Nair[1], Laura Teuerle[1], Jakob Wolansky[1], Hans Kleemann[1], and Karl Leo[1] Dresden Integrated Center for Applied Physics and Photonic Materials (IAPP) and Institute of Applied Physics, Dresden University of Technology (TUD)

13:15-13:30	**Bio-Nanomachine Interfaces in Externally Controllable Nanonetworks for Brain Tumour Management** Andreani D. Odysseos[1]*, Maria Kokonou[1], Theodoulakis Christofi[1], Abdul Quddious[2], Asif Bilal[2], Stavros Iezekiel[2], Costas Pitris[2] [1]EPOS-Iasis, R&D, Nicosia, Cyprus [2]University of Cyprus, Nicosia, Cyprus	**Biohybrid plants with self-assembled electronics as a platform for glucose sensing** Gwennaël Dufil[1]*, Daniele Mantione[2] and Eleni Stavrinidou[1], [1]Linköping University, [2]Polymat
13:30-15:00	**LUNCH BREAK (PASIPHAE ROOM)**	
15:00:16:00	**CONFERENCE CLOSING CEREMONY (STUDENT AWARDS & CLOSING REMARKS)**	
16:00-18:00	**SOCIAL ACTIVITY**	

POSTER PRESENTATION PROGRAM

POSTER SESSION will take place on DAY 3 of the Conference (15:00-17:00)
(as shown on the main NANOBIO2023 Program)

	WORKSHOP 1 **NANOMATERIALS AND NANOMEDICINE**
P1	**Three SiO_2 layered approach for stable and PL active $CsPbBr_3$@SiO_2 nanocrystals biological agents** Markella Splinaki[1*], Konstantina Alexaki[1], Konstantinos Brintakis[1], Paraskevi Kavatzikidou[1], Anthi Ranella[1], Athanasia Kostopoulou[1]and Emmanuel Stratakis[1,2] [1] Institute of Electronic Structure & Laser (IESL) Foundation For Research And Technology Hellas (FORTH),Heraklion, Greece [2]University of Crete, Department of Physics, Heraklion, Greece
P2	**Electrospinning of short peptides and characterization through Hyperspectral Raman spectroscopy** Matteo Bottiglieri[1], Konstantina Mitropoulou[1], Maria L. Gelmi[2] and Alexander M. Bittner[1,3] [1]CIC nanoGUNE, (BRTA) Tolosa Hiribidea 76, 20018 Donostia-San Sebastián, Spain [2]Dipartimento di Scienze Farmaceutiche, Università degli Studi di Milano, Via Mangiagalli 25, 20131 Milano (Italy) [3]Ikerbasque Basque Foundation for Science, Pl. Euskadi 5, 48009 Bilbao, Spain
P3	**Photoactive singlet oxygen generating nanofibrous membrane for biomedical applications** Petra Křtěnová[1*], Vojtěch Liška[1], Robert Willimetz[1] and Jiří Mosinger[1] [1]Faculty of Science, Charles University, Hlavova 2030, 128 43, Prague 2, Czech Republic
P4	**In Vitro And Ex Vivo Examinations Of The Antiplatelets And Antimicrobial Properties Of Functionalized Silver Nanoparticles As A Potential Coating For Cardiovascular Devices** Iwona Inkielewicz-Stepniak[1*], Anna Szczoczarz[1] and Elzbieta Megiel[2] [1]Medical University of Gdansk, Gdansk, Poland [2]University of Warsaw, Warsaw, Poland
P5	**Conformational Effects of Gold Nanoparticle Exposure on Enzyme Creatine Phosphokinase** Taneeka Anand[1*], Mahima Unnikrishnan[2] and Catherine J. Murphy[2] [1]University of California, Los Angeles, California, United States [2]University of Illinois, Urbana-Champaign, Illinois, United States

P6	**Biological evaluation of TiO2-based photocatalytic nanoparticles** Evangelia Tsitsou[1,2], Athina Papadopoulou[1,2], Maria Theodosiou[1,2], Elena Charalampous[1], Maria Kourmousi[1], Panagiotis Tzevelekidis[1], Christina-Anna Mitsopoulou[1] and Eleni K. Efthimiadou[1,2]* [1]Department of Chemistry, National and Kapodistrian University of Athens, Athens, Greece [2]Institute of Nanoscience and Nanotechnology, NCSR "Demokritos", Athens, Greece
P7	**Biomimetic Lipid Nanoparticles for Tumor-Targeted RNA Delivery** S.Garbujo[1]*, C.Baioni[1], F.Magni2, M.Colombo[1], D.Peer[3] and D.Prosperi[1] [1]Department of Biotechnology and Bioscience, University of Milano-Bicocca, Milan, Italy [2]School of Medicine and Surgery, University of Milano-Bicocca, Vedano al Lambro, Italy [3]The Shmunis School of Biomedicine and Cancer Research, Tel Aviv University, Tel Aviv, Israel
P8	**Evaluation of HFn-mAb nanoconjugates-mediated anticancer activity in 3D tumor models** Barbieri L., Rizzuto MA., Pellecchia F., Andreotti C., Colombo M., Prosperi D NanoBioLab, Department of Biotechnology and Biosciences, University of Milano- Bicocca, Piazza della Scienza 2, 20126, Milan, Italy
P9	**Transdermal electrochemical sensing: combining microneedles with molecularly imprinted polymers for point-of-care testing** Daniela Oliveira[1, 2, 3, 4]*, Bárbara P. Correia[1, 2], Sanjiv Sharma[3] and Felismina T. C. Moreira[1, 2]* [1]BioMark@ISEP-CEB/LABBELS, School of Engineering, Polytechnic of Porto, R. Dr. António Bernardino de Almeida, 431, 4249-015 Porto [2]CIETI - LabRISE-School of Engineering, Polytechnic of Porto, R. Dr. António Bernardino de Almeida, 431, 4249-015 Porto, Portugal [3]Faculty of Sciences and Technology, University of Coimbra, R. Sílvio Lima, Pólo II, 3030-790 Coimbra, Portugal [4]Department of Biomedical Engineering, Faculty of Science and Engineering, Swansea University, Swansea SA1 8EN, U.K.
P10	**Redox-Active Enzyme Conjugates on DNA Origami Nanoscaffolds for Bioelectrochemistry** Diana Soukarie[1], Jokin Yeregui[1,2], Alexander Bittner[1] and Ibon Santiago*[1] [1]CIC nanoGUNE BRTA, Donostia-San Sebastián 20018, Spain [2]KTH Royal Institute of Technology, Stockholm, Sweden
P11	**Sustainable recycling of spent automotive catalysts** S. Todorova[1*], Z. Cherkezova-Zheleva[1], D. Paneva[1], I. Yakoumis[2] and K. Sakkas[3] [1]Institute of Catalysis, Bulgarian Academy of Sciences, Acad. G. Bonchev St., Bldg. 11, 1113 Sofia, Bulgaria, [2]MONOLITHOS Catalysts and Recycling Ltd, Athens, Greece [3]YS Cypriot Catalysts Ltd., Psevdas, Cyprus
P12	**New polymeric nanoparticles as platform in drug delivery field** Giustra M.D.[1*], Bolis L[1]., Barbieri L.[1], Baioni C., Spena F.[1], Prosperi D[1], Colombo M.[1] [1]NanoBioLab, Department of Biotechnology and Bioscience, University of Milano Bicocca, Milan, Italy

P13	**Structural polymorphism research of alverine citrate** Magdalena Janczura[1,2], Natalia Rosiak[2] and Judyta Cielecka-Piontek[2*] [1]Synteza sp. z o.o., Poznan, Poland [2]Department of Pharmacognosy and Biomaterials, Faculty of Pharmacy, Poznań University of Medical Sciences, Poznan, Poland
P14	**Design of Experiment approach to design space designating of the Hot Melt Extrusion process** Magdalena Paczkowska-Walendowska[1*], Anna Stasiłowicz-Krzemień[1], Natalia Rosiak[1], Judyta Cielecka-Piontek[1] [1]Department of Pharmacognosy and Biomaterials, Faculty of Pharmacy, Poznan University of Medical Sciences, Poznan, Poland
P15	**Application of electrospun nanofibers to increase the solubility and permeability of resveratrol-rich extracts from red vine leaves** Magdalena Paczkowska-Walendowska[1*], Andrzej Miklaszewski[2], Judyta Cielecka-Piontek[1] [1]Department of Pharmacognosy and Biomaterials, Faculty of Pharmacy, Poznan University of Medical Sciences, Poznan, Poland [2]Faculty of Mechanical Engineering and Management, Institute of Materials Science and Engineering, Poznan University of Technology, Poznan, Poland
P16	**Cobalt catalysts supported on Al_2O_3 and SiO_2 VOC oxidation and PROX process-influence of the support** S. Todorova[1], I. Yordanova[1*], A. Naydenov[2], D. Filkova[1], B. Grahovski[1], H. Kolev[1] [1]Institute of Catalysis, Bulgarian Academy of Sciences, Acad. G. Bonchev St., bl. 11, 1113 Sofia, Bulgaria [2]Institute of General and Inorganic Chemistry, Bulgarian Academy of Sciences, Acad. G. Bonchev St., bl. 11, 1113 Sofia, Bulgaria
P17	**pH responsive biohybrid BSA-poly(DPA) nanoparticles for interlysosomal drug delivery** Maria Papageorgiou[1*], Lina Papadimitriou[1], Alexis Theodorou[2], Errika Voutyritsa[2], Argyri Papagiannaki[2], Kelly Velonia[2] and Anthi Ranella[1] [1]*Institute of Electronic Structure and Laser (IESL), Foundation of Research and Technology-Hellas(FORTH),Heraklion, Crete, Greece* [2]*Department of Materials Science and Technology, University of Crete, Heraklion, Crete, Greece*
P18	**Revelation of tooth structural integrity at the microcrack site by combining X-ray tomography with photoluminescence and machine learning** Irma Dumbryte[1*], Maria Androulidaki[2], Donatas Narbutis[3], Elena Jasiuniene[4], Arturas Vailionis[5], Saulius Juodkazis[6], and Mangirdas Malinauskas[7] [1]Institute of Odontology, Vilnius University, Vilnius, Lithuania [2]Microelectronics Research Group, Institute of Electronic Structure & Laser, Foundation for Research and Technology FORTH-Hellas, Heraklion, Crete, Greece [3]Institute of Theoretical Physics and Astronomy, Vilnius University, Vilnius, Lithuania [4]Ultrasound Research Institute, Kaunas University of Technology, Kaunas, Lithuania [5]Stanford Nano Shared Facilities, Stanford University, Stanford, USA [6]Optical Sciences Centre and ARC Training Centre in Surface Engineering for Advanced Materials (SEAM), School of Science, Swinburne University of Technology, Hawthorn, Australia [7]Laser Research Center, Vilnius University, Vilnius, Lithuania

P19	**Nanotechnology patenting activity in Greece** K. Glynou[1*], C. Andrikopoulou[1], A. Thymiopoulos[1] [1] Hellenic Industrial Property Organization (OBI), Athens, Greece
P20	**Lead-free metal halide perovskites for gas detection** A.Argyrou[1,2],*, K. Brintakis[1], E. Gagaoudakis[1], V. Binas[1], A. Kostopoulou[1], E. Stratakis[1,3] [1] Institute of Electronic Structure and Laser, Foundation for Research & Technology- Hellas, P.O. Box 1527, Vassilika Vouton, 70013 Heraklion, Greece [2] University of Crete, Department of Chemistry, Vassilika Vouton, 70013 Heraklion, Greece [3] University of Crete, Department of Physics, Vassilika Vouton, 70013 Heraklion, Greece

	WORKSHOP 2 **ORGANIC AND PEROVSKITE PHOTOVOLTAICS**
P21	**Functionalized MXenes for Stable Halide Perovskite Solar Cells** Ashitha Paingott Parambil[1], Masoud Karimipour[1], Kenedy Tabah Tanko[1], Sonia Ruiz Raga[1], Monica Lira-Cantu[1],* [1]Catalan Institute of Nanoscience and Nanotechnology (ICN2), CSIC and the Barcelona Institute of Science and Technology (BIST). Building ICN2, Campus UAB E-08193, Bellaterra, Barcelona, Spain. E-Mail: monica.lira@icn2.cat
P22	**Bulk and Micro-Photoluminescence Studies of Perovskites** Georgios N. Arvanitakis[1*], Stuart A. J. Thomson[1] [1]Edinburgh Instruments, Livingston, United Kingdom
P23	**A thiol-based salt for surface passivation in perovskite solar cells** Spyros Orfanoudakis[1,3], Filippos Harlaftis[1], Konstantina Gkini[1], Lazaros Theofylaktos[1], Apostolos Kalafatis[1], Georgia Basina[1], Lida Givalou[1], Maria Konstantakou[1], Athanasios G. Kontos[2], Thomas Stergiopoulos[1]* 1Institute of Nanoscience and Nanotechnology, NCSR Demokritos, 15341, Aghia Paraskevi, Athens, Greece 2Department of Physics, National Technical University of Athens, 15780, Zografou, Athens, Greece
P24	**An efficient approach for controlling the crystallization, strain, and defects of the perovskite film in hybrid perovskite solar cells through antisolvent engineering.** Nikolaos Tzoganakis [1*], Konstantinos Chatzimanolis[1], Emmanuel Spiliarotis[1], George Veisakis[1], Dimitris Tsikritzis[1] and Emmanuel Kymakis[1] [1]Department of Electrical & Computer Engineering, Hellenic Mediterranean University (HMU), Heraklion 71410, Crete, Greece
P25	**Incorporating TDMs and NFAs into indoor Organic Photovoltaics – The IntoPV Project** Marinos Tountas, Christos Polyzoidis, Emmanuel Kymakis Department of Electrical & Computer Engineering, Hellenic Mediterranean University

P26	**Emerging Sb2S3 absorber for planar chalcogenide solar cells via optimized SbAc3*TU*DMF route** L. Theofylaktos[1,2]*, L. Gkivalou[1,] K. Gkini[1], S. Orfanoudakis[1], A. Kalafatis[1], G. Basina[1], P. Dallas[1], P. Tsipas[1], V. Psycharis[1] and T. Stergiopoulos[1] [1]Institute of Nanoscience and Nanotechnology, National Centre for Scientific Research "Demokritos", 15310 Ag. Paraskevi, Athens, Greece [2]Department of Chemistry, School of Natural Sciences, Aristotle University of Thessaloniki, 54124, Thessaloniki, Greece.
P27	**Improving stability of α-FAPbI3 solar cells by tailoring SnO2/perovskite interface with 2D g-C3N4** Konstantina Gkini[1]*, Spiros Orfanoudakis[1,2] and Thomas Stergiopoulos[1] [1]Institute of Nanoscience and Nanotechnology, NCSR Demokritos, Athens, Greece [2] School of Applied Mathematical and Physical Sciences, NTUA, Athens, Greece
P28	**Two-step ligand exchange strategy for $AgBiS_2$ conductive thin-films for photovoltaic applications** A. Kalafatis[1,2*], L. Theofylaktos[1], S. Orfanoudakis[1,3], L. Gkivalou[1], K. Gkini[1], G. Basina[1], M. Konstantakou[1], P. Dallas[1], T. Stergiopoulos[1] *[1]Institute of Nanoscience & Nanotechnology, National Centre of Scientific Research"Demokritos", 15310 Agia Paraskevi, Greece* *[2]Université de Bordeaux, F-33405 Talence Cedex, France*
P29	**Integrated system for finding installation places and inspection the performance of large photovoltaic parks in real time with IR-image processing by autonomous aerial vehicle (drone) with the help of mini weather station** G. Viskadouros[1*,] E. Astrakianakis [2], Z. Sarris[3] and E. Kymakis[1] 1 Hellenic Mediterranean University 2 Entec Green Economy Consultants (E. Astrakianakis & SIA EE) 3 ALTUS LSA

	WORKSHOP 3 **TISSUE ENGINEERING & REGENERATIVE MEDICINE**
P30	**PDMS hydrophobicity tailoring by surface modifications based on zwitterionic coatings** Nicoleta Dumitrescu*, Anca Bonciu, Simona Nistorescu, Laurentiu Rusen and Valentina Dinca National Institute for Lasers, Plasma and Radiation Physics
P31	**Mesenchymal stem cells interaction with hierarchical textured surfaces obtained by laser processing** Valentina Dinca[1*], Livia Elena Sima[2], Icriverzi Madalina[2], Laurentiu Rusen [1], Anca Bonciu[1], Anca Roseanu[2] [1]National Institute for Laser, Plasma and Radiation Physics, 409 Atomistilor, 077125, Magurele, Romania [2]Institute of Biochemistry of the Romanian Academy, Bucharest, Romania

P32	**Mechanosensitivity of Aged Mesenchymal Stem Cells (MSCs)** Anna Maria Kapetanaki[1*], Monica P Tsimbouri[2], Matthew Dalby[2] and Massimo Vassalli[1] [1]Centre of Cellular Microenvironment, James Watt School of Engineering, University of Glasgow, UK [2]Centre for Cell Engineering, Institute for Molecular, Cell and Synthesis Biology, College of Medical, Veterinary and Life Sciences, University of Glasgow, UK
P33	**Moving towards UFP – Chemical and Toxicological Characterization of Brake Wear Particles below PM_1** Bozhena Tsyupa[1,3]*, Chiara Emma Campiglio[2], Alessandro Mancini[3], Andrea Bonfanti[3], Manuela Teresa Raimondi[1], Andrea Remuzzi[2] [1]Department of Chemistry, Materials and Chemical Engineering "G. Natta", Politecnico di Milano, Italy [2]Department of Biomedical Engineering, Istituto di Ricerche Farmacologiche Mario Negri IRCCS, Bergamo, Italy [3]Materials Engineering & Laboratories, GCF Research & Development, Brembo S.p.A, Stezzano, Italy
P34	**3D printing of polylactic acid/cuttlefish bone biocomposites** Aikaterini Gialouri[1*] and Nikolaos Bouropoulos[1,2] [1]Department of Materials Science, University of Patras, 26504 Rio, Patras, Greece [2]Foundation for Research and Technology Hellas, Institute of Chemical Engineering and High Temperature Chemical Processes, 26504 Patras, Greece
P35	**Studies of cells behavior on printed graphene layers and patterns with variable composition, morphology and macrogeometry** Weronika Sosnowicz Centre for Advanced Materials and Technologies CEZAMAT, Warsaw, Poland
P36	**Modeling PML-mediated Glioblastoma Growth Dynamics: Insights from Spheroid-Based Studies and Brain Tissue Slice Implantation** *E. Makrigiannaki[1,2], M. Tampakaki[1,3,4], E. Tzamali[1], G. Zacharakis[3], K. Sidiropoulou[5,6], V. Sakkalis[1], J. Papamatheakis[5,6] [1]Foundation for Research and Technology Hellas, ICS, Heraklion, Greece [2]University of Crete, School of Medicine, Heraklion Crete, Greece [3]Foundation For Research and Technology-Hellas, IESL, Heraklion Crete, Greece [4] University of Zurich, Faculty of Science, Zurich, Switzerland [5]Department of Biology, University of Crete, Heraklion, Greece [6]Foundation for Research and Technology-Hellas, IMBB, Heraklion, Greece

	WORKSHOP 4 **EMERGING PRINTED ELECTRONICS AND BIOELECTRONICS**

P37	**Challenges in Printing Ion-Selective Sensors on Skin-Compatible Films** Izabela Wojciechowska[1*], Filip Budny [1], Andrzej Pepłowski[1] and Małgorzata Jakubowska[1] [1]Warsaw University of Technology, Warsaw, Poland
P38	**New Methylpyridine Dyes with Benzyl Bromides and Methyl Iodides for Fluorescent Labels** Stela Minkovska[1]* and Georgi B. Hadjichristov[2] [1]Institute of Catalysis, Bulgarian Academy of Sciences, Sofia, Bulgaria [2]Georgi Nadjakov Institute of Solid State Physics, Bulgarian Academy of Sciences, Sofia, Bulgaria
P39	**Photoswitchable photochromic spirooxazines for optical sensing** Stela Minkovska[1]* and Georgi B. Hadjichristov[2] [1]Institute of Catalysis, Bulgarian Academy of Sciences, Sofia, Bulgaria [2]Georgi Nadjakov Institute of Solid State Physics, Bulgarian Academy of Sciences, Sofia, Bulgaria
P40	**3D/2D Heterostructure mixed halide perovskite resistance memories enabled by perfluorinated spacer cations with enhanced retention and endurance characteristics** Michalis Loizos[1], Konstantinos Rogdakis[1,2]*, Weifan Luo[3], Patricia A. Gaina[3], Jovana V. Milić[3]*, and Emmanuel Kymakis[1,2]* *[1] Department of Electrical Computer Engineering, Hellenic Mediterranean University (HMU), Heraklion, Greece* *[2] Institute of Emerging Technologies (i-EMERGE) of HMU Research Center, Heraklion, Greece* *[3]Adolphe Merkle Institute, University of Fribourg, Switzerland.*
P41	**Enhancing Aqueous Dispersibility and Stability of Electrochemically Exfoliated Graphene Using Porphyrin-Based Surfactants: A New Approach against Graphene's Hydrophobicity** Evangelos Sotiropoulos1*, Katerina Anagnostou1*, Konstantinos Rogdakis1, Athanasios Coutsolelos2, Emmanuel Kymakis1 [1]Department of Electrical & Computer Engineering, Hellenic Mediterranean University (HMU), Heraklion 71410, Crete, Greece [2] Laboratory of Bioinorganic Chemistry, Department of Chemistry, University of Crete (UoC), Voutes University Campus, Heraklion 70013, Crete, Greece
P42	**Printed Graphene-based Moisture Energy Generators and Humidity Sensors** Katerina Anagnostou[1]*, Massimo Urban[2] , George Veisakis[1], Ioannis Kalogerakis[1], George Viskadouros[1], Konstantinos Rogdakis[1], , Giulio Rosati[2], Arben Merkoçi[2,3], Emmanuel Kymakis[1] [1]Department of Electrical & Computer Engineering, Hellenic Mediterranean University (HMU), Heraklion 71410, Crete, Greece [2]Catalan Institute of Nanoscience and Nanotechnology, BIST, and CSIC, Edifici ICN2 Campus UAB, 08193 Bellaterra, Barcelona, Spain [3]ICREA, Passeig Lluís Companys 23 08010 Barcelona, Spain

WORKSHOP 5 NANOPHOTONICS & BIOPHOTONICS	
P43	**Non-linear optical microscopy correlates the age-dependent nuclear lipid droplets deposition with cellular aging in *Caenorhabditis elegans*** Meropi Mari[1]*, George Filippidis[1], Konstantinos Palikaras[2], Christina Ploumi[3], Andrea Princz[3] and Nektarios Tavernarakis[3] [1]Institute of Electronic Structure and Laser, Foundation for Research and Technology, Heraklion 71110, Crete, Greece [2]Department of Physiology, Medical School, National and Kapodistrian University of Athens, Athens 11527, Athens, Greece [3]Institute of Molecular Biology and Biotechnology Foundation for Research and Technology, Heraklion 71110, Crete, Greece
P44	**Fabrication of laser-induced periodic structures on polycarbonate by UV ultrashort pulses** Matina Vlahou[1,2], Nektaria Protopapa[1,3], Stella Maragkaki[1], George D. Tsibidis[1] and Emmanuel Stratakis[1,3] [1]Institute of Electronic Structure and Laser (IESL), Foundation for Research and Technology (FORTH), N. Plastira 100, Vassilika Vouton, 70013, Heraklion, Crete, Greece [2]Department of Materials Science and Technology, University of Crete, 71003 Heraklion, Crete, Greece [3]Department of Physics, University of Crete, 71003 Heraklion, Crete, Greece
P45	**A low-cost, label-free microfluidic scanning flow cytometer system for the characterization of particles** Maryamsadat Ghoreishi[1,2]*, Riccardo Reale[1], Giovanna Peruzzi[1], Giancarlo Ruoccco[1,2], and Marco Leonetti[1,3] [1]Center for Life Nano- & Neuro-Science, Italian Institute of Technology, Rome, Italy [2]Sapienza University of Rome, Rome, Italy [3] Institute of Nanotechnology, Consiglio Nazionale delle Ricerche, Rome, Italy

WORKSHOP 6 2D MATERIALS AND DEVICES	
P46	**Anisotropic Third Harmonic Generation in Two-Dimensional SnS** George Miltos Maragkakis[1,2]*, Sotiris Psilodimitrakopoulos[1], Leonidas Mouchliadis[1], Abdus Salam Sarkar[1], Andreas Lemonis[1], George Kioseoglou[1,3] and Emmanuel Stratakis[1,2] [1]Institute of Electronic Structure and Laser, Foundation for Research and Technology-Hellas, Heraklion Crete 71110, Greece [2]Department of Physics, University of Crete, Heraklion Crete 71003, Greece [3]Department of Materials Science and Technology, University of Crete, Heraklion Crete 71003, Greece
P47	**Surface modification of Ti-6Al-4V for medical applications** M.Benčina,[1,2,3] N.Rawat,[2] A. Iglič,[2,3] V. Kralj-Iglič,[3] A. Vesel, [1] I. Junkar[1]

	[1]Department of Surface Engineering, Jožef Stefan Institute, Ljubljana, Slovenia; [2]Laboratory of Physics, Faculty of Electrical Engineering, University of Ljubljana, Ljubljana, Slovenia; [3]Laboratory for Clinical Biophysics, Faculty of Health Sciences, University of Ljubljana, Ljubljana, Slovenia
P48	**Electrodeposited Graphene Oxide- Cu electrodes for Aqueous Zinc- energy storage devices** N. Kavousanos 1,2*, M. Apostolopoulou[1], K. Brintakis[2], A. Kostopoulou[2], E. Stratakis[2], D. Vernardou[1] 1Hellenic Mediterranean University (H.M.U.), Heraklion, Greece 2 Institute of Electronic Structure and Laser, Foundation for Research and Technology-Hellas (FORTH), Heraklion, Greece
VARIOUS WORKSHOPS	
P49 (WS4)	**Establishing Polydioxanone as a flexible resorbable sensor platform** Finn Jaekel[1]*, Sarah Spitzner[1], Hans Kleemann[1], Dennis Wahl[2], Daniel Bockler[2], Eberhard Grambow[2], Sebastian Hinz[2], Clemens Schafmayer[2], Jochen Hampe[3] [1]Dresden Integrated Center for Applied Physics and Photonic Materials (IAPP), Dresden, Germany, [2]Department of General, Visceral, Thoracic, Vascular and Transplantation Surgery, Rostock University Medical Center, Rostock, Germany, [3]University Hospital Carl Gustav Carus at the Technical University of Dresden, Dresden, Germany
P50 (WS1)	**Ozone decomposition over manganese-based catalysts in gas phase** Petya Karakashkova[1*], Katerina Zaharieva[2], Silvia Dimova[3] [1]Institute of Catalysis, Bulgarian Academy of Sciences, Sofia, Bulgaria“Acad. G. Bonchev” St., Block 11, 1113 Sofia, Bulgaria [2]Institute of Mineralogy and Crystallography “Acad. I. Kostov” Bulgarian Academy of Sciences, “Acad. G. Bonchev” St.Block 107, 1113 Sofia, Bulgaria [3]Institute of Polymers, Bulgarian Academy of Sciences, “Acad. G. Bonchev” St., Block 103A, 1113 Sofia, Bulgaria
P51 (WS4)	**Printed Microelectrode Arrays: Advancing Electrophysiological Research with Aerosol-Jet Printing Technology** Dominik Baraniecki [1]*, Jakub Krzemiński [1], Jan Dominiczak [1] and Małgorzata Jakubowska [1] *[1]Warsaw University of Technology, Warsaw, Poland*
P52 (WS1)	**MOFs as a key to safer agriculture: Sensing and Remediation for Pesticide Health Management** Marianna I. Kotzabasaki1*, Giasemi K. Angeli2, Chrysanthos Maraveas1 and Thomas Bartzanas1 *1Agricultural University of Athens, Department of Natural Resources and Agricultural Engineering, Athens, Greece* *2National Hellenic Research Foundation, Theoretical and Physical Chemistry Institute*

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