

TIME	Sunday 7 <sup>th</sup> September	
19:00-21:00	REGISTRATION (at the Registration Desk in Candia Maris Hotel)	
TIME	Monday 8 <sup>th</sup> September	
8:00-14:00	REGISTRATION (at the Registration Desk in Candia Maris)	
09:00-09:20	Conference Opening Ceremony (Room: Minos West)	
	Nanomaterials and Applications I, Chair: I. Konidakis, Moderator E. Agapaki Room: Minos West	Bioelectronics I, Chair: P. Kavatzikidou, Moderator, E. Kanakousaki Room: Minos East
09:20-09:45	(Invited) Metal nanoparticles, clusters, single atom or their combinations for sustainable catalysis Paolo Fornasiero Dept. of Chemical and Pharmaceutical Sciences, ICCOM-CNR and INSTM, Trieste, Italy	(Invited) Synthetic and Bioderived Electroactive 3D Architectures Enabling Smart Wound Care and Therapeutic Intervention Charalampos Pitsalidis <sup>1,2</sup> <sup>1</sup> Department of Physics, Khalifa University of Science & Technology, Abu Dhabi, UAE <sup>2</sup> Advanced Research and Innovation Center (ARIC), Khalifa University of Science & Technology, Abu Dhabi, UAE
09:45-10:00	Comparative Adsorption Performance of Regionally Derived Bacterial Nanocellulose (BNC) in Wastewater Remediation Ogujuba Solomon <sup>1,2</sup> , Kudratkhojayeva Medinakhon <sup>3</sup> , Martina DiSessa <sup>1,2</sup> , Sandra Pucciarelli <sup>2</sup> <sup>1</sup> . Scuola Universitaria Superiore (IUSS), Pavia, Italy <sup>2</sup> . University of Camerino, Camerino, Italy <sup>3</sup> . Tashkent State Technical University, Tashkent, Uzbekistan	Clinically Effective Scar Treatment via a siRNA Transdermal Gene Silencing Technology: From Bench to Bedside and Beyond Timothy Tan School of Chemistry, Chemical Engineering and Biotechnology Nanyang Technological University Singapore

10:00-10:15	<p><b>Advanced Optical Waveguide Design via Encapsulation of 2,4,6-Triphenylpyrylium Chloride in Oxide Glasses</b>  <u>Eleni Agapaki</u><sup>1</sup>, Ioannis Konidakis<sup>1</sup>, Egor Evlyukhin<sup>1</sup>, Klytaimnistra Katsara<sup>1</sup>, Georgios Kenanakis<sup>1</sup>, David King<sup>2</sup>, Haesook Han<sup>2</sup>, Pradip K. Bhowmik<sup>2</sup> and Emmanuel Stratakis<sup>1</sup></p> <p><sup>1</sup> Institute of Electronic Structure and Laser (IESL), Foundation for Research and Technology-Hellas (FORTH), Heraklion-Crete, Greece  <sup>2</sup> Department of Chemistry and Biochemistry, University of Nevada Las Vegas, Las Vegas, United States</p>	<p><b>Natural lignocellulose scaffolds for sustainable electronics</b>  Rakesh R. Nair, <u>Klara Haenisch</u>, Niloofar Saeedzadeh Khaanghah, Hrisheekesh Thachoth Chandran</p> <p>Dresden Integrated Center for Applied Physics and Photonic Materials (IAPP) and Institute for Applied Physics, Technische Universität Dresden, Dresden, Germany</p>	
10:15-10:30	<p><b>Laser-Induced Graphene: A Scalable 3D Material Advancing Proton Exchange Membrane Water Electrolysis for High-Efficiency Green Hydrogen Generation</b>  <u>Maria Pervolaraki</u><sup>1</sup>, Theodora Gounela<sup>1</sup>, Sofía Luján<sup>2</sup>, Alba Rubí<sup>2</sup>, Bruno Branco<sup>2</sup>, Diogo Garcia<sup>2</sup>, Emmanuel Stratakis<sup>1</sup></p> <p><sup>1</sup>Institute of Electronic Structure and Laser (IESL), Foundation for Research and Technology (FORTH), Heraklion, Crete, Greece  <sup>2</sup>Unit of Functional Printing and Embedded Devices, Technology Centre of Catalonia, Eurecat, Mataró, Spain</p>	<p><b>On-fiber printed polymeric tapers for chronically implantable neural interfaces</b>  <u>Stella Aslanoglou</u><sup>1*</sup>, Barbara Spagnolo<sup>1</sup>, Cinzia Montinaro<sup>1</sup>, Alberto Perna<sup>2</sup>, João F. Ribeiro<sup>2</sup>, Claudia Latte Bovio<sup>1</sup>, Marco Pisanello<sup>3</sup>, Luca Berdondini<sup>2</sup>, Tommaso Fellin<sup>2</sup>, Ferruccio Pisanello<sup>1,†</sup>, Massimo De Vittorio<sup>1,4,5,†</sup></p> <p><sup>1</sup> Istituto Italiano di Tecnologia, Center for Biomolecular Nanotechnologies, Arnesano, Italy  <sup>2</sup> Istituto Italiano di Tecnologia, Center for Convergent Technologies, Genova, Italy  <sup>3</sup> OptogeniX s.r.l., Arnesano, Italy  <sup>4</sup> Dept. of Health Technology, Technical University of Denmark, Lyngby, Denmark  <sup>5</sup> Dip. di Ingegneria dell'Innovazione, Università del Salento, Lecce, Italy  †These authors jointly supervised the presented work</p>	
10:30-11:00	<b>COFFEE BREAK</b>		
	<p><i>BRIDGE Workshop - Nanocrystals I, Chair: A. Kostopoulou, Moderator: E. Agapaki</i>  Room: Minos West</p>		<p><i>Bioelectronics II, Chair: C. Pitsalidis, Moderator: M. Liapakis</i>  Room: Minos East</p>
11:00-11:25	<p style="text-align: center;">(Invited)  <b>Heterostructures involving Metal Halide Nanocrystals:</b></p>	11:00-11:25	<p style="text-align: center;">(Invited)</p>

	<p style="text-align: center;"><b>Synthesis, Growth Mechanisms, Reactivity</b></p> <p style="text-align: center;">Liberato Manna Dept. of Nanochemistry, Istituto Italiano di Tecnologia, Genova, Italy</p>		<p style="text-align: center;"><b>Point of care devices for the early diagnosis of brain stroke in the ambulance and at the triage emergency units: the POC4Triage project's biosensor</b></p> <p style="text-align: center;"><u>Giulio Rosati</u><sup>1*</sup>, Alejandra Ben Aissa Soler<sup>1</sup>, Ramon Santiago Herrera Rastrepo<sup>1</sup>, Ellen Yadira Cotrina Celis<sup>1</sup>, Robert S. Marks<sup>2,3</sup>, Ana Moya Lara<sup>1</sup></p> <p><sup>1</sup>Eurecat, Centre Tecnològic de Catalunya, Functional Printing and Embedded Devices Unit, Mataró, Spain</p> <p><sup>2</sup>Department of Biotechnology Engineering, Avram and Stella GoldsteinGoren, Ben-Gurion University of the Negev, Beer-Sheva, Israel</p> <p><sup>3</sup>The Ilse Katz Center for Nanoscale Science and Technology, Ben-Gurion University of the Negev, Beer-Sheva, Israel</p>
11:25-11:50	<p style="text-align: center;">(Invited)</p> <p style="text-align: center;"><b>Automated Nanomaterials Engineering</b></p> <p style="text-align: center;">Milena P. Arciniegas Nanochemistry, Italian Institute of Technology (IIT), Genoa, Italy</p>	11:25-11:40	<p style="text-align: center;"><b>Polydopamine-based molecular imprinting polymer electrochemical sensor for neopterin detection</b></p> <p style="text-align: center;">Elena Dilonardo* Institute of Nanotechnology, CNR-NANOTEC, Bari, Italy</p>
11:50-12:05	<p style="text-align: center;"><b>The Effect of Non-solvent Post-Processing Induced Structural and Morphological Changes on the Optoelectronic Properties of CsPbBr<sub>3</sub> Nanocrystals</b></p> <p style="text-align: center;"><u>Bapi Pradhan</u><sup>1*</sup>, Irina Skvortsova<sup>1,2</sup>, Sumea Klokic<sup>3</sup>, Amitrajit Mukherjee<sup>1</sup>, Alexis Villanueva-Antolí<sup>4</sup>, Andrés F. Gualdrón-Reyes<sup>4</sup>, Michael Paulus<sup>5</sup>, Christian Sternemann<sup>5</sup>, Heinz Amenitsch<sup>3</sup>, Iván Mora Seró<sup>4</sup>, Elke Debroye<sup>1</sup> Sara Bals<sup>2</sup>, Eduard Fron<sup>1</sup> and Johan Hofkens<sup>1</sup></p> <p style="text-align: center;"><sup>1</sup>KU Leuven, Heverlee, Belgium <sup>2</sup>University of Antwerp, Antwerp, Belgium <sup>3</sup>Graz University of Technology, Graz, Austria <sup>4</sup>Institute of Advanced Materials (INAM), Castellón, Spain <sup>5</sup>Technische Universität Dortmund, Dortmund, Germany</p>	11:40-11:55	<p style="text-align: center;"><b>A scalable approach for integrating microelectronics on tapered optical fiber-based neural interfaces</b></p> <p style="text-align: center;"><u>Claudia Latte Bovio</u><sup>1,*</sup>, Stella Aslanoglou<sup>1</sup>, Barbara Spagnolo<sup>1</sup>, Vincenzo Mariano, Mastronardi<sup>1,2</sup>, Sneha Pottekkad<sup>1,2</sup>, Ferruccio Pisanello<sup>1,2,+</sup>, Massimo de Vittorio<sup>1,2,3,+</sup></p> <p><sup>1</sup>Istituto Italiano di Tecnologia, Arnesano, Center for Biomolecular Nanotechnologies, Lecce, Italy</p> <p><sup>2</sup>Dipartimento di Ingegneria dell'Innovazione, Università del Salento, Lecce, Italy</p> <p><sup>3</sup>IDUN section, Department of Health Technology, Technical University of Denmark, Kongens Lyngby, Denmark</p>

12:05-12:20	<b>Exploring the Potential of Perovskites in Water-Based Batteries and Capacitors</b> <u>K. Brintakis<sup>1*</sup></u> , A. Kostopoulou <sup>1</sup> , D. Vernardou <sup>2</sup> , E. Stratakis <sup>1</sup> <sup>1</sup> Institute of Electronic Structure and Laser, Foundation for Research and Technology - Hellas, Heraklion, Crete, Greece <sup>2</sup> Dept of Electrical & Computer Engineering, School of Engineering, Hellenic Mediterranean University, Heraklion, Crete, Greece	11:55-12:10	
12:20-12:35	<b>In-depth TEM characterization of selective area epitaxy Zn<sub>3</sub>P<sub>2</sub> nanopyramids and thin films grown via MOCVD</b> <u>Francesco Salutari<sup>1</sup></u> , Maria Chiara Spadaro <sup>1,2</sup> , Simon Escobar Steinvall <sup>3</sup> , Aidas Urbonavicius <sup>3</sup> , Kimberly A. Dick <sup>3</sup> , Jordi Arbiol <sup>1,4</sup> <sup>1</sup> Catalan Institute of Nanoscience and Nanotechnology (ICN2), CSIC and BIST, Campus UAB, Bellaterra, Barcelona, Catalonia, Spain. <sup>2</sup> Department of Physics and Astronomy “Ettore Majorana”, University of Catania and CNR-IMM, Catania, Italy <sup>3</sup> Center for Analysis and Synthesis and NanoLund, Lund University, Lund, Sweden <sup>4</sup> ICREA, Barcelona, Catalonia, Spain	12:10-12:25	
	<b>Plenary Session I - Chairs: E. Stratakis &amp; E. Kymakis - Room: Minos West</b> Moderators: E. Agapaki & E. Kanakousaki		
12:40-13:20	<b>(Plenary I)</b> <b>Structural Nanomedicine: Blueprints for Better Drugs</b> Chad A. Mirkin Northwestern University, Department of Chemistry and International Institute for Nanotechnology, Evanston, IL, USA		
13:20-14:00	<b>(Plenary II)</b> <b>Human Nanomedicine: Eliminating Implant Failure in Over 30,000 Patients and Still Counting....</b> Thomas J. Webster <sup>1-4*</sup> <sup>1</sup> School of Health Sciences and Biomedical Engineering, Hebei University of Technology, Tianjin, China <sup>2</sup> Division of Pre-College and Undergraduate Studies, Brown University, Providence, RI USA <sup>3</sup> School of Engineering, Saveetha University, Chennai, India <sup>4</sup> CSO and co-founder, 12 start-up companies, Mansfield Bioincubator, Mansfield, MA, USA		

14:00-15:00	<b>LUNCH BREAK</b>		
	<i>Nanomaterials Applications II, Chair: Milena P. Arciniegas, Moderator: E. Katsipoulaki Room: Minos West</i>		<i>Bio-nanomaterials I, Chair: E. Babaliari, Moderator: P. Daskalakis Room: Minos East</i>
15:00-15:25	<p style="text-align: center;"><b>(Invited)</b></p> <p style="text-align: center;"><b>Two-dimensional metal halide perovskite microcrystals: Heterostructures, optical properties and photonic functionality</b></p> <p style="text-align: center;">Martina Borreani<sup>1</sup>, Mehrdad Faraji<sup>1</sup>, Sudhir Saini<sup>1</sup>, Alexander Schleusener<sup>1</sup>, Lin-Han Li<sup>2</sup>, Miao-Ling Lin<sup>2</sup>, Ping-Heng Tan<sup>2</sup>, and <u>Roman Krahne</u><sup>1</sup></p> <p><sup>1</sup>Optoelectronics Group, Istituto Italiano di Tecnologia, Genova, Italy <sup>2</sup>State Key Laboratory of Superlattices and Microstructures, Institute of Semiconductors, Chinese Academy of Sciences, Beijing, China</p>	15:00-15:25	<p style="text-align: center;"><b>(Invited)</b></p> <p style="text-align: center;"><b>Single-Cell Nanoencapsulation: Past, Present, and Future</b></p> <p style="text-align: center;">Choi, I. S. Department of Chemistry, KAIST, Daejeon, Korea</p>
15:25-15:40	<p style="text-align: center;"><b>High Pressure, Light, and Biofunctionality: Toward a New Platform for Materials Research at Extreme Conditions at IESL</b></p> <p style="text-align: center;"><u>Egor Evlyukhin</u><sup>*1</sup>, Luc Museur<sup>2</sup>, Andreas Zerr<sup>3</sup>, Petrika Cifligu<sup>4</sup>, Emmanuel Stratakis<sup>1</sup></p> <p><sup>1</sup>Institute of Electronic Structure and Laser (IESL), Foundation for Research and Technology- Hellas (FORTH), Heraklion, Crete, Greece <sup>2</sup>Laboratoire de Physique des Lasers - LPL, CNRS, UMR 7538, Université Sorbonne Paris Nord, Villetaneuse, France <sup>3</sup>Laboratoire des Sciences des Procédés et des Matériaux, CNRS UPR 3407, Université Sorbonne Paris Nord, Alliance Sorbonne-Paris-Cité, Villetaneuse, France <sup>4</sup>Department of Physics and Astronomy, University of Nevada Las Vegas, Las Vegas, NV, USA</p>	15:25-15:50	<p style="text-align: center;"><b>(Invited)</b></p> <p style="text-align: center;"><b>Nanomaterials as antimicrobial agents</b></p> <p style="text-align: center;">Antonios G. Kanaras <sup>a, b</sup></p> <p><sup>a</sup> School of Physics and Astronomy, Institute for Life Sciences, University of Southampton, Southampton, UK <sup>b</sup> Current address: Department of Chemistry, School of Science, National and Kapodistrian University of Athens, Zografou, Greece</p>
15:40-15:55	<p style="text-align: center;"><b>Enabling Atomic-Scale Imaging of Fragile Materials through Dose-Efficient Ptychography</b></p> <p style="text-align: center;"><u>Tamazouzt Chennit</u><sup>1,2*</sup>, Hoelen Lalandec Robert<sup>1,2</sup>, Songge Li<sup>1,2</sup> and Jo Verbeeck<sup>1,2</sup></p>	15:50-16:05	<p style="text-align: center;"><b>(RECORDED PRESENTATION)</b></p> <p style="text-align: center;"><b>Electrospun Biopolymeric Nanofiber Systems for the Local Delivery of Natural Extracts: A Novel Approach for Oral Infections</b></p>

	<sup>1</sup> EMAT, University of Antwerp, Antwerp, Belgium <sup>2</sup> Nanolight Center of Excellence, University of Antwerp, Antwerp, Belgium		<u>Magdalena Paczkowska-Walendowska*</u> , Judyta Cielecka-Piontek Department of Pharmacognosy and Biomaterials, Poznan University of Medical Sciences, Poznań, Poland
15:55-16:10	<b>NIR-emitting electrochromic windows with red and green emission</b> <u>A. R. Queijo<sup>1*</sup></u> , A. Martins <sup>1</sup> , V. Graça <sup>1</sup> , E. Fortunato <sup>2</sup> , V. de Zea Bermudez <sup>3</sup> and R. Rego <sup>3</sup> <sup>1</sup> INESC-TEC - Uni. Invest. Externa, University of Trás-os-Montes e Alto Douro, Quinta de Prados, 5000-801 Vila Real, Portugal <sup>2</sup> CENIMAT/i3N, Departamento de Ciência dos Materiais, Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa, 2829-516 Lisboa, Portugal <sup>3</sup> Chemistry Department and CQ-VR, University of Trás-os-Montes e Alto Douro, Quinta de Prados, 5000-801 Vila Real, Portugal		
16:10-16:25	<b>Defects that Magnetize: Quantum Control of Spins in PtSe<sub>2</sub> and Heterostructures</b> <u>Ilias M. Oikonomou<sup>1,2*</sup></u> , Danielle Douglas-Henry <sup>2</sup> , Mohammadreza Daqiqshirazi <sup>1</sup> , Zdeněk Sofer <sup>3</sup> , Thomas Brumme <sup>1</sup> , Valeria Nicolosi <sup>2</sup> and Thomas Heine <sup>1,4</sup> <sup>1</sup> Chair of Theoretical Chemistry, TU Dresden, Dresden, Germany <sup>2</sup> CRANN & AMBER centers, Trinity College Dublin, Dublin, Ireland <sup>3</sup> Department of Inorganic Chemistry, UCT Prague, Prague, Czech Republic <sup>4</sup> CASUS, Helmholtz-Zentrum Dresden-Rossendorf, Görlitz, Germany & Institut Universitaire de France, 75231 Paris, France		
14:00-18.00	<b>Project Meeting GlaS-A-Fuel</b> Room: Pasiphae East		
	<b>END OF DAY 1 OF NANOBIO2025 – ENJOY YOUR EVENING!</b>		

TIME	Tuesday 9 <sup>th</sup> September	
8:00-10:00	<b>REGISTRATION</b> (at the Registration Desk in Candia Maris)	
	<i>Nanophotonics, Chair: G. Tsibidis, Moderator: D. Katrisioti</i> <i>Room: Minos West</i>	<i>Biofabrication I, Chair: A. Bakandritsos, Moderator: P. Daskalakis</i> <i>Room: Minos East</i>
09:00-09:25	<b>(Invited)</b> <b>Resonant Light Trapping in Nanoparticle Structures via Electromagnetic Coupling</b> Andrey B. Evlyukhin <sup>1,2*</sup> <sup>1</sup> Institute of Quantum Optics, Leibniz University Hannover, Hannover, Germany <sup>2</sup> Cluster of Excellence PhoenixD, Leibniz University Hannover, Hannover, Germany	<b>(Invited)</b> <b>High-Resolution 3D Printing with femtosecond lasers for Biomedical Applications</b> A. Ovsianikov Head of the Research Group 3D Printing and Biofabrication, Inst. Of Materials Science and Technology, TU Wien Austrian Cluster for Tissue Regeneration, Vienna, Austria
09:25-09:50	<b>(Invited)</b> <b>Multiphoton Lithography for Active 3D Micro-Optics</b> <u>Mangirdas Malinauskas</u> <sup>1*</sup> , Artūr Harnik <sup>1</sup> , Robertas Virkėtis <sup>2</sup> , Dominykas Dapšys <sup>1</sup> , Dimitra Ladika <sup>1</sup> , Simas Šakirzanova <sup>s2</sup> , and Greta Merkininkaitė <sup>2</sup> <sup>1</sup> Laser Research Center, Physics Faculty, Vilnius University, Vilnius, Lithuania <sup>2</sup> Institute of Chemistry, Faculty of Chemistry and Geosciences, Vilnius University, Lithuania	<b>(Invited)</b> <b>Additive Manufacturing and Bioprinting: From Tissue Engineered Implants to In vitro Models</b> Carlos Mota* Complex Tissue Regeneration Department, MERLN Institute for Technology-Inspired Regenerative Medicine, Maastricht University, Maastricht, The Netherlands
09:50-10:05	<b>Chiral propagation of plasmon polaritons in twisted anisotropic photonic heterostructures</b> <u>Ze-Hua Tao</u> <sup>1</sup> , Icaro R. Lavour <sup>2,3,4*</sup> , Hai-Ming Dong <sup>5*</sup> , Andrey Chaves <sup>3,1</sup> , David Neilson <sup>1</sup> , Milorad V. Milošević <sup>1*</sup> <sup>1</sup> Department of Physics and NANOLight Center of Excellence, University of Antwerp, Belgium	<b>3D-printed immersion micro optics for Life Science applications</b> <u>Marco Wende</u> <sup>1,2*</sup> , Amirbahador Zeynali <sup>3</sup> , Theresa Kühn <sup>3</sup> , Ada Bachmann <sup>1,2</sup> , Jule Grunewald <sup>1,2</sup> , Michael Heymann <sup>3</sup> , and Andrea Toulouse <sup>1,2</sup> <sup>1</sup> Institute of Applied Optics (ITO), University of Stuttgart, Stuttgart, Germany <sup>2</sup> Research Center SCoPE, University of Stuttgart, Stuttgart,



	<div><sup>2</sup> Instituto Federal de Educação, Ciência e Tecnologia do Rio Grande do Norte, Brazil</div> <div><sup>3</sup> Departamento de Física, Universidade Federal do Ceará, Brazil</div> <div><sup>4</sup> Department of Physics and NANOLight Center of Excellence, University of Antwerp, Belgium</div> <div><sup>5</sup> School of Materials and Physics, China University of Mining and Technology, China</div>	<div>Germany</div> <div><sup>3</sup>Institute of Biomaterials and Biomolecular Systems, University of Stuttgart, Stuttgart, Germany</div>	
10:05-10:20	<div><b>Deterministic Aperiodic Metasurfaces as Plasmonic Platforms for Polaritonic Systems</b></div> <div><u>Marzia Ferrera</u><sup>1*</sup>, Vincenzo Aglieri<sup>1</sup>, Xin Jin<sup>1</sup>, Thomas Girardet<sup>1</sup>, Jacopo Stefano Pelli Cresi<sup>1</sup>, Elena Ghidorsi<sup>1,2</sup>, Maria Ashraf<sup>1,2</sup>, Muhammad Sohaib<sup>1,2</sup>, and Andrea Toma<sup>1*</sup></div> <div><sup>1</sup>Istituto Italiano di Tecnologia, Genova, Italy</div> <div><sup>2</sup>Dipt. di Fisica, Università degli Studi di Genova, Genova, Italy</div>	<div><b>3D Bioprinted Cellulose Acetate-Hydroxyapatite Scaffolds for Bone Tissue Engineering</b></div> <div><u>Eleni Kanakousaki</u> <sup>1,2*</sup>, Panagiotis Daskalakis <sup>1,3</sup>, Paraskevi Kavatzikidou <sup>1</sup>, Stella Maragkaki <sup>1</sup>, George Kenanakis <sup>1</sup>, Emmanuel Stratakis <sup>1,4</sup> and Anthi Ranella <sup>1</sup></div> <div><sup>1</sup> Foundation for Reasearch and Technology – Hellas (FORTH) – Institute of Elecronic Structure and Laser (IESL)</div> <div><sup>2</sup> Biology Department, University of Crete, Greece</div> <div><sup>3</sup> School of Medicine, University of Crete, Greece</div> <div><sup>4</sup> Department of Physics, University of Crete, Greece</div>	
10:20-10:35	<div><b>Single Glass and Polymer Coated Microwire Photoactuators with Instant Response Times and Large Actuating Angles</b></div> <div><u>Ioannis Konidakis</u><sup>*</sup>, Harris Goniotakis and Emmanuel Stratakis</div> <div>Institution Institute of Electronic Structure and Laser (IESL), Foundation for Research and Technology - Hellas (FORTH)</div>	<div><b>Self-Oscillating Smart Bio-Nanomaterials for Mechanical Maturation of Human Induced Pluripotent Stem Cell-Derived Cardiomyocytes</b></div> <div><u>Michal Sarna</u><sup>1,*</sup>, Sylwia Bobis-Wozowicz<sup>2</sup>, Takafumi Enomoto<sup>3</sup> and Ryo Yoshida<sup>3</sup></div> <div><sup>1</sup>Department of Biophysics, Faculty of Biochemistry, Biophysics and Biotechnology, Jagiellonian University, Krakow, Poland</div> <div><sup>2</sup>Department of Cell Biology, Faculty of Biochemistry, Biophysics and Biotechnology, Jagiellonian University, Krakow, Poland</div> <div><sup>3</sup>Department of Materials Engineering, School of Engineering, The University of Tokyo, Bunkyo-ku, Japan</div>	
10:35-11:05	COFFEE BREAK		
	<div>BRIDGE Workshop - Nanomaterials Applications III, Chair: C. Brintakis, Moderator: E. Agapaki</div> <div>Room: Minos West</div>		<div>Bio-nanomaterials II, Chair: S. Aslanoglou, Moderator: M. Liapakis</div> <div>Room: Minos East</div>



11:05-11:30	<p style="text-align: center;"><b>(Invited)</b> <b>Organic Hydrogen Sensors for the Future Hydrogen Industries</b> Thomas D. Anthopoulos Henry Royce Institute, Photon Science Institute, Dept. of Electrical and Electronic Engineering, The University of Manchester, Manchester, UK</p>	11:05-11:30	<p style="text-align: center;"><b>(Invited)</b> <b>Addressing Healthcare Disparities with Nanotechnology</b> Paul S. Weiss California NanoSystems Institute and Departments of Chemistry &amp; Biochemistry, Bioengineering, and Materials Science &amp; Engineering, UCLA, Los Angeles, USA</p>
11:30-11:55	<p style="text-align: center;"><b>(Invited)</b> <b>Making sense of gas sensing through analytical validation</b> Jonathan Beauchamp Fraunhofer Institute for Process Engineering and Packaging IVV, Freising, Germany</p>	11:30-11:55	<p style="text-align: center;"><b>(Invited)</b> <b>Non-viral cell transfection using nanoneedle injection technology: fabrication, mechanistic insights and key applications</b> N.H. Voelcker <sup>a,b,*</sup> <sup>a</sup> Monash Institute of Pharmaceutical Sciences, Monash University, Parkville, Australia <sup>b</sup> Melbourne Centre for Nanofabrication, Clayton, Australia</p>
11:55-12:10	<p style="text-align: center;"><b>Optimizing a perovskite-based gas sensor: Sensitivity, stability and selectivity</b> <u>A. Kostopoulou*</u>, K. Brintakis, A. Argyrou, E. Stratakis Institute of Electronic Structure and Laser, Foundation for Research and Technology-Hellas, Heraklion, Greece</p>	11:55-12:10	<p style="text-align: center;"><b>Single Atom Engineered Antibiotics Overcome Bacterial Resistance</b> <u>Aristides Bakandritsos<sup>1,2</sup></u>, David Panáček<sup>1,2</sup>, Jan Belza<sup>1</sup>, Milan Kolář<sup>3</sup>, Michal Otyepka<sup>1,4</sup>, and Radek Zbořil<sup>1,2</sup> <sup>1</sup>Regional Centre of Advanced Technologies and Materials, Czech Advanced Technology and Research Institute (CATRIN), Olomouc – Holic, Palacký, University Olomouc, Czech Republic<sup>2</sup>Nanotechnology Centre, Centre for Energy and Environmental Technologies, VŠB–Technical, University of Ostrava, Ostrava-Poruba, Czech Republic <sup>3</sup>Department of Microbiology, Faculty of Medicine and Dentistry, Palacký University, Olomouc, Czech Republic <sup>4</sup>IT4Innovations, VŠB–Technical University of Ostrava, Ostrava-Poruba, Czech Republic</p>
12:10-12:35	<p style="text-align: center;"><b>(Invited)</b> <b>2D Material-Based Photodetectors for Near-to-Far-Infrared Applications</b></p>	12:10-12:25	<p style="text-align: center;"><b>Exosomes detection using Graphene Field Effect Transistors</b></p>

	<p style="text-align: center;">Domenico De Fazio<sup>1*</sup></p> <p style="text-align: center;"><sup>1</sup>Department of Molecular Science and Nanosystems, Ca' Foscari University of Venice, Venice, Italy</p>		<p style="text-align: center;">G. Samara<sup>1,2,*</sup>, F. Katsaitis<sup>3</sup>, C. Karoussiotis<sup>3</sup>, D. Petrovykh<sup>4</sup>, J. Borme<sup>4</sup>, I. Sotiropoulos<sup>3</sup>, P. Dimitrakis<sup>1,5</sup></p> <p style="text-align: center;"><sup>1</sup>Institute of Nanoscience and Nanotechnology NCSR "Demokritos", Athens, Greece</p> <p style="text-align: center;"><sup>2</sup>Department of Physics, Aristotle University of Thessaloniki, Thessaloniki, Greece<sup>3</sup>Institute of Biosciences &amp; Applications NCSR "Demokritos", Athens, Greece</p> <p style="text-align: center;"><sup>4</sup>International Iberian Nanotechnology Laboratory, Braga, Portugal</p> <p style="text-align: center;"><sup>5</sup>Institute of Quantum Computing &amp; Quantum Technology, NCSR "Demokritos"</p>
	<p style="text-align: center;"><i>Plenary Session II - Chairs: E. Stratakis &amp; E. Kymakis - Room: Minos West</i></p> <p style="text-align: center;">Moderators: D. Katrisioti &amp; P. Daskalakis</p>		
12:35-13:15	<p style="text-align: center;"><b>(Plenary III)</b></p> <p style="text-align: center;"><b>Processing and applications of 2D nanomaterials inks</b></p> <p style="text-align: center;">Valeria Nicolosi</p> <p style="text-align: center;">Trinity College Dublin, School of Chemistry, CRANN, AMBER, I-Form, Dublin 2, Ireland</p>		
13:15-14:00	<p style="text-align: center;"><b>(Plenary IV)</b></p> <p style="text-align: center;"><b>Listening to light: Advances in optoacoustic imaging</b></p> <p style="text-align: center;">Vasilis Ntziachristos<sup>1,2*</sup></p> <p style="text-align: center;"><sup>1</sup> Chair of Biological Imaging, Central Institute for Translational Cancer Research (TranslaTUM), School of Medicine and Health &amp; School of Computation, Information and Technology, Technical University of Munich, Munich, Germany</p> <p style="text-align: center;"><sup>2</sup> Institute of Biological and Medical Imaging, Bioengineering Center, Helmholtz Zentrum, München, Neuherberg, Germany</p>		
14:00-15:00	<p style="text-align: center;"><b>LUNCH BREAK</b></p>		
	<p style="text-align: center;"><i>Bio-nanomaterials Characterization, Chair: A. Kanaras, Moderator: E. Kanakousaki</i></p> <p style="text-align: center;">Room: Minos East</p>		
15:00-15:25	<p style="text-align: center;"><b>(Invited)</b></p> <p style="text-align: center;"><b>Integrated Analytical Research Infrastructures impacting nano-biology research</b></p>		

	Giorgio Rossi Dipartimento di Fisica, Università di Milano, Italy
15:25-15:40	<b>Characterization of the delivery of nanoparticles</b> Neus Feliu Fachbereich Physik, Universität Hamburg, Hamburg, Germany
15:40-15:55	<b>Raman spectroscopy for characterization of brain thrombi</b> <u>Barbara Spagnolo</u> <sup>1,*</sup> , Michele Petracca <sup>1</sup> , Mohammadrahim Kazemzadeh <sup>1</sup> , Luciano Abbruzzese <sup>2</sup> , Massimo De Vittorio <sup>1,3, §</sup> , Emilio Lozupone <sup>4, §</sup> and Ferruccio Pisanello <sup>1, §</sup> <sup>1</sup> Istituto Italiano di Tecnologia, Center for Biomolecular Nanotechnologies, Arnesano, Lecce, Italy <sup>2</sup> Servizio di Immunoematologia e Medicina Trasfusionale, Azienda Ospedaliera Vito Fazzi, Lecce, Italy <sup>3</sup> Technical University of Denmark, Anker Engelunds Vej, Kongens Lyngby <sup>4</sup> Dipt. di Neuroradiologia, Azienda Ospedaliera Vito Fazzi, Lecce, Italy
15:55-16.10	<b>A fluorescent ratiometric potassium sensor based on IPG4-silica microparticles for selective detection and fluorescence imaging of potassium cations</b> <u>Francesco Colella</u> *, Stefania Forciniti, Valentina Onesto, Giuliana Grasso, Helena Luele, Giuseppe Gigli and Loretta L. del Mercato CNR NANOTEC, National council of research, c/o Campus Ecotekne, Lecce, Italy
16:10-16:25	<b>Nanoengineered Fullerene–PLA Films for Light-Triggered Biofouling Resistance</b> <u>Wanessa Melo</u> *, Gabrielė Saulėnienė, Monika Kirsnytė and Samuelis Dobilaitis State Research Institute Center for Physical Sciences and Technology (FTMC), Department of Functional Materials and Electronics, Vilnius, Lithuania
	<b>ENJOY YOUR AFTERNOON AND GET READY FOR THE DINNER</b>
20:00	<b>CONFERENCE GALA DINNER</b>
	<b>END OF DAY 2 OF NANOBIO2025</b>

TIME	<b>Wednesday 10<sup>th</sup> September</b>		
	<i>Workshop on Emerging PVs, Chair: C. Chochos, Moderator: M. Loizos</i> <i>Room: Minos West</i>		<i>Biofabrication II, Chair: E. Babaliari, Moderator: M. Liapakis</i> <i>Room: Minos East</i>

09:00-09:25	<p style="text-align: center;"><b>(Invited)</b> <b>Next-Generation Energy-Harvesting Systems Based on Metal Halide Perovskite Nanohybrids</b> Raquel E. Galian* Institute of Molecular Science, University of Valencia, Valencia, Spain</p>	09:00-09:25	<p style="text-align: center;"><b>(Invited)</b> <b>Real-Time Thermometry in Femtosecond Laser Microfabrication</b> <u>Amirbahador Zeynali</u><sup>2</sup>, Giuseppe Chirico<sup>1</sup>, Michael Heymann<sup>2</sup> <sup>1</sup>Department of Physics, University of Milano-Bicocca, Milano, Italy <sup>2</sup>IBBS, Institut für Biomaterialien und Biomolekulare Systeme, Universität Stuttgart, Stuttgart, Germany</p>
09:25-09:50	<p style="text-align: center;"><b>(Invited)</b> <b>Interface engineering strategies for robust and efficient PSCs</b> Polycarpos Falaras Institute of Nanoscience and Nanotechnology, National Centre for Scientific Research “Demokritos”, Athens, Greece</p>	09:25-09:50	<p style="text-align: center;"><b>(Invited)</b> <b>Laser-ablative processing for biomedical and tissue engineering applications</b> Joseph Chaussard, Adrien Casanova and <u>Ahmed Al-Kattan*</u>, Aix Marseille University, CNRS, LP3 UMR 7341, Campus de Luminy, Marseille cedex 9, France</p>
09:50-10:05	<p style="text-align: center;"><b>Comprehensive High-Throughput DFT Study of Intrinsic Defects and Dopability in p-type Zn<sub>3</sub>P<sub>2</sub> for Photovoltaic Applications</b> <u>Nico Kawashima</u><sup>1,2*</sup> and Silvana Botti<sup>1</sup> <sup>1</sup>RC-FEMS &amp; ICAMS, Faculty of Physics and Astronomy, Ruhr University Bochum, Germany <sup>2</sup>IFTO, Faculty of Physics and Astronomy, Friedrich-Schiller University Jena, Germany</p>	09:50-10:05	<p style="text-align: center;"><b>Architecturally Simple Organic Photodiodes for High Performance and Advanced Functionalities</b> <u>Hrisheekesh Thachoth Chandran</u><sup>1,2</sup>, Johannes Benduhn<sup>1</sup>, Karl Leo<sup>1</sup> and Gang Li<sup>2</sup> <sup>1</sup>Dresden Integrated Center for Applied Physics and Photonic Materials (IAPP), TU Dresden, Germany <sup>2</sup>Department of Electrical and Electronic Engineering, Research Institute for Smart Energy (RISE), The Hong Kong Polytechnic University, Hong Kong SAR</p>
10:05-10:20	<p style="text-align: center;"><b>A volatile additive to control crystallization of CuInS<sub>2</sub> quantum dots</b> Thomas Stergiopoulos Institute of Nanoscience and Nanotechnology, NCSR Demokritos, Athens, Greece</p>	10:05-10:20	<p style="text-align: center;"><b>Metal Oxide-Doped Elastomers for Catheter Photodecontamination</b> Darragh Lavelle<sup>1</sup>, Ross MacLeod<sup>1</sup>, John Selkirk<sup>1</sup>, Jade Teixeira<sup>1</sup>, Ruth Brown<sup>1</sup>, David T. Griffin<sup>2</sup>, Michelle Maclean<sup>1,2</sup> and <u>Mairi E. Sandison</u><sup>1*</sup> <sup>1</sup>Dept of Biomedical Engineering, University of Strathclyde, Glasgow, UK</p>

			<sup>2</sup> The Robertson Trust Laboratory for Electronic Sterilisation Technologies, Department of Electronic and Electrical Engineering, University of Strathclyde, Glasgow, UK
10:20-10:35	<p><b>Memristive switching in mixed-halide perovskite transistors</b>  <u>Konstantinos Rogdakis</u><sup>a,b</sup>, George Psaltakis<sup>a</sup>, Konstantinos Chatzimanolis<sup>a</sup>, Konstantinos Blazakis<sup>a</sup>, Leadros Spachis<sup>a</sup> and Emmanuel Kymakis<sup>a,b</sup></p> <p>a Department of Electrical &amp; Computer Engineering, Hellenic Mediterranean University (HMU), Heraklion, Crete, Greece  b Institute of Emerging Technologies (i-EMERGE) of HMU Research Center, Heraklion, Crete, Greece</p>	10:20-10:35	<p><b>Synthetic Microbiome Platform for Living Cell Medicine</b>  <u>Valeriia Kravchik</u><sup>1*†</sup>, Rawan Zaatry<sup>2†</sup>, Naama Geva-Zatorsky<sup>2,3</sup> and Ramez Daniel<sup>1</sup></p> <p><sup>1</sup> Department of Biomedical Engineering Technion—Israel Institute of Technology, Technion City, Haifa, Israel<sup>2</sup>  Department of Cell Biology and Cancer Science, Rappaport Technion Integrated Cancer Center (RTICC), Rappaport Faculty of Medicine, Technion – Israel Institute of Technology, Haifa, Israel  <sup>3</sup> CIFAR, MaRS Centre, Toronto, Canada  <sup>†</sup> These authors contributed equally</p>
10:35-11:00	<p style="text-align: center;"><b>(Invited)</b>  <b>Semiconducting Polymers for Organic Electronics</b>  <u>A. K. Andreopoulou</u>,<sup>1</sup> K. C. Andrikopoulos,<sup>1</sup> C. Anastasopoulos,<sup>1</sup>  S. Giosi,<sup>1</sup> M. Karra,<sup>1</sup> K. Koumoutsou,<sup>1</sup> J. K. Kallitsis<sup>1</sup>  <sup>1</sup><i>Department of Chemistry, University of Patras, 26504 Patras, Greece</i></p>	10:35-10:55	<p><b>Development of innovative MIP based sensors for liquid biopsy</b>  <u>Giulia Siciliano</u><sup>1,2*</sup>, M.S. Chiriaco<sup>2</sup>, F. Ferrara<sup>2</sup>, A. Turco<sup>2</sup>, S. Romano<sup>3</sup>, G. Zito<sup>3</sup>, L. De Stefano<sup>3</sup>, V. Nocerino<sup>3</sup>, L. Velardi<sup>4</sup>, M.A. Signore<sup>4</sup>, A. Colombelli<sup>4</sup>, M. Esposito<sup>2</sup>, G. Gigli<sup>1</sup> and E. Primiceri<sup>2</sup></p> <p><sup>1</sup>University of Salento, Dept. of Experimental Medicine, Lecce, Italy  <sup>2</sup>Institute of Nanotechnology, CNR-Nanotec, Lecce, Italy  <sup>3</sup>Institute of Applied Sciences and Intelligent Systems (ISASI), National Research Council (CNR), Napoli, Italy  <sup>4</sup>Institute for Microelectronics and Microsystems, CNR-IMM, Lecce, Italy</p>
11:00-11:30	<b>COFFEE BREAK</b>		
	<p><i>Workshop on Emerging PVs, Chair: K. Rogdakis, Moderator: K. Anagnostou</i>  Room: Minos West</p>		<p><i>Nanoparticles I, Chair: W. Parak, Moderator: E. Kanakousaki</i>  Room: Minos East</p>
11:30-11:55	<b>(Invited)</b>		<b>(Invited)</b>

	<p><b>Efficient Structures And Processes for Upscaling of Perovskite Modules and Tandems</b> T. Aernouts<sup>1,2,3*</sup></p> <p><sup>1</sup>mo-imomec, Thin Film PV Technology, Imec, Genk, Belgium <sup>2</sup>EnergyVille, Thor Park 8320, 3600 Genk, Belgium <sup>3</sup>Hasselt University, Hasselt, Belgium</p>	<p><b>Magnetic Nanoparticles for magnetic hyperthermia, cancer immune therapy and cell tracking</b> Teresa Pellegrino Italian Institute of Technology, Genoa, Italy</p>
11:55-12:20	<p><b>(Invited)</b> <b>Enabling the Factory Floor: Industrially Relevant Strategies for All-Printed Carbon-based Perovskite Photovoltaics</b> D.A. Chalkias,<sup>1,2</sup> A. Nikolakopoulou,<sup>1</sup> A. Mourtzikou,<sup>2</sup> <u>E. Stathatos</u><sup>1</sup></p> <p><sup>1</sup>Nanotechnology &amp; Advanced Materials Laboratory, Department of Electrical and Computer Engineering, University of the Peloponnese, Patras, Greece <sup>2</sup>Brite Hellas S.A., Patras Science Park, Rio-Patras, Greece</p>	<p><b>(Invited)</b> <b>Immunomodulatory Nanoplexes: Polycationic and Lipid-Based Platforms for Targeted Drug and Nucleic Acid Delivery</b> Maryam Tabrizian<sup>1,2,3*</sup></p> <p><sup>1</sup>Biomedical Engineering, McGill university, Montreal Canada <sup>2</sup>Faculty of Dental Medicine and Oral Health Sciences, McGill University, Montreal, Canada <sup>3</sup>Department of Anatomy and Cell Biology, McGill University, Montreal, Canada</p>
12:20-12:35	<p><b>Unveiling the Impact of Molecular Doping on the Efficiency and Optoelectronic Properties of Fully Printed Flexible Organic Solar Cells</b> <u>A. Paliagkas</u><sup>1,2*</sup>, C. Stavraki<sup>1,2</sup>, C. Kapnopoulos<sup>1,2</sup>, A. Zachariadis<sup>1,2</sup>, S. Logothetidis<sup>1,2,3</sup>, A. Laskarakis<sup>1</sup></p> <p><sup>1</sup>Nanotechnology Lab LTFN, Department of Physics, Aristotle University of Thessaloniki, Thessaloniki, Greece <sup>2</sup>Centre of Excellence for Organic, Printed Electronics &amp; NanoTechnologies (COPE-Nano), Thermi, Thessaloniki, Greece <sup>3</sup>Organic Electronic Technologies P.C. (OET) 20th KM Thessaloniki - Tagarades, 57001, Thermi, Thessaloniki, Greece</p>	<p><b>Biological Activity of Silver Nanoparticles Stabilized with Low-Molecular-Weight Polyphenols Against Mouse Neuroblastoma (N2A) Cells</b> <u>Piotr Smoleń</u><sup>1*</sup>, Anna Barbasz<sup>2</sup>, Natalia Piergies<sup>3</sup>, Piotr Niemiec<sup>4</sup>, Magdalena Oćwieja<sup>1</sup></p> <p><sup>1</sup>Jerzy Haber Institute of Catalysis and Surface Chemistry, PAS, Krakow, Poland <sup>2</sup>Department of Biochemistry and Biophysics, Institute of Biology and Earth Sciences, University of the National Education Commission, Krakow, Poland <sup>3</sup>Institute of Nuclear Physics PAS, Krakow, Poland <sup>4</sup>Faculty of Mathematics and Natural Sciences, Department of Chemistry, University of Applied Sciences in Tarnow, Tarnow, Poland</p>
12:35-12:50	<p><b>Outdoor Evaluation of Perovskite Photovoltaics: Long-Term Stability and Performance</b> <u>Georgios Viskadourous</u><sup>1*</sup>, Konstantinos Rogdakos<sup>2</sup>, Emmanuel Spiliarotis<sup>3</sup>, Ioannis Kalogerakis<sup>4</sup> and Emmanuel Kymakis<sup>5</sup></p> <p><sup>1,2</sup>E-SYNERGY PPC, Heraklion, Greece</p>	<p><b>Targeting tumor associated macrophages (TAM) with vectorized magnetic nanoparticles for anticancer therapies</b> <u>Chloé Bazile</u><sup>*</sup>, Véronique Gigoux and Mary Poupot</p> <p>Inserm UMR1037-Cancer Research Center of Toulouse ERL 5294 CNRS Univ. Toulouse III, France</p>



	1,2,3,4,5 Nanomaterials for Emerging Devices (Nano@HMU), Hellenic Mediterranean University, Heraklion, Greece	
12:50-13:00	<p><b>Towards scalable synthesis of high-quality Zn<sub>3</sub>P<sub>2</sub> thin films for photovoltaic applications</b></p> <p><u>Aidas Urbonavicius</u><sup>1*</sup>, Francesco Salutari<sup>2</sup>, Sebastian Lehmann<sup>1</sup>, Maria Chiara Spadaro<sup>2,3,4</sup>, Jordi Arbiol<sup>2,5</sup>, Kimberly Dick<sup>1</sup> and Simon Escobar Steinvall<sup>1</sup></p> <p><sup>1</sup>Center for Analysis and Synthesis, and NanoLund, Lund, Sweden  <sup>2</sup>Catalan Institute of Nanoscience and Nanotechnology (ICN2), Barcelona, Catalonia, Spain  <sup>3</sup>Department of Physics and Astronomy “Ettore Majorana”, Catania, Italy  <sup>4</sup>CNR-IMM, Catania, Italy  <sup>5</sup>ICREA, Barcelona, Catalonia, Spain</p>	<p><b>Boron-10-doped carbon dots for neutron capture therapy – a theranostic nanosystem for the treatment of glioblastoma multiforme</b></p> <p><u>Duarte Almeida</u><sup>1,2,3*</sup>, Renata Maia<sup>3</sup>, Maria Lobita<sup>3</sup>, Hélder A. Santos<sup>3</sup> and Gil Gonçalves<sup>1,2</sup></p> <p><sup>1</sup>TEMA – Centre for Mechanical Technology and Automation, Department of Mechanical Engineering, University of Aveiro, Aveiro, Portugal  <sup>2</sup> Intelligent Systems Associate Laboratory (LASI), Guimarães, Portugal  <sup>3</sup> Department of Biomedical Engineering, University Medical Center of Groningen, University of Groningen, Groningen, The Netherlands</p>
13:00-13:15	<p><b>Fabrication of Fully Printed Flexible Perovskite Solar Modules and Investigation of Stability and Degradation Mechanisms</b></p> <p><u>C. Stavraki</u><sup>1,2*</sup>, S. Kassavetis<sup>1,2</sup>, C. Kapnopoulos<sup>1,2</sup>, A. Zachariadis<sup>1,2</sup>, E. Paraschoudi<sup>1,2</sup>, A. Paliagkas<sup>1,2</sup>, E. Mekeridis<sup>3</sup>, A. Laskarakis<sup>1,2</sup>, S. Logothetidis<sup>1,2,3</sup></p> <p><sup>1</sup>Nanotechnology Lab LTFN, Department of Physics, Aristotle University Of Thessaloniki, Thessaloniki (Greece)  <sup>2</sup>Centre of Excellence for Organic, Printed Electronics &amp; Nanotechnologies (COPE-Nano), Themi, Thessaloniki (Greece)  <sup>3</sup>Organic Electronic Technologies P.C. (OET), Themi, Thessaloniki (Greece)</p>	<p><b>Assessing the cytotoxicity of zinc oxide (ZnO) nanoparticles across static and dynamic cultures</b></p> <p><u>Eleftheria Babaliari</u><sup>1*</sup>, Dionysios Xydias<sup>1,2</sup>, Maria Kefalogianni<sup>1,3</sup>, Anna Pantelaoui<sup>1,4,5</sup>, Sotiris Psilodimitrakopoulos<sup>1</sup>, Paraskevi Kavatzikidou<sup>1</sup>, Anthi Ranella<sup>1</sup> and Emmanuel Stratakis<sup>1,3</sup></p> <p><sup>1</sup>Foundation for Research and Technology – Hellas (F.O.R.T.H.), Institute of Electronic Structure and Laser (I.E.S.L.), Heraklion, Crete, Greece  <sup>2</sup>Department of Materials Science and Technology, University of Crete, Heraklion, Crete, Greece  <sup>3</sup>Department of Physics, University of Crete, Heraklion, Crete, Greece  <sup>4</sup>University of Crete, Heraklion, Crete, Greece  <sup>5</sup>Technical University of Crete, Heraklion, Crete, Greece</p>
13:15-13:30	<p><b>Lead-free, optoelectronic memristive perovskite solar cells for self-powered neuromorphic edge computing</b></p> <p><u>Michalis Loizos</u><sup>1*</sup>, Konstantinos Chatzimanolis<sup>1</sup>, Katerina Anagnostou<sup>1</sup>, Kyriakos Mouratis<sup>1</sup>, Konstantinos Rogdakakis<sup>1,2</sup>, and Emmanuel Kymakis<sup>1,2</sup></p> <p><sup>1</sup>Department of Electrical and Computer Engineering, Hellenic Mediterranean University (HMU), Heraklion, Crete, Greece</p>	<p><b>Advanced Oxygen Sensing Platforms for Live Imaging and Hypoxia Mapping in Complex Cell Systems and Tumor Microenvironment</b></p> <p><u>Stefania Forciniti</u><sup>1</sup>, Giuliana Grasso<sup>1</sup>, Helena Luele<sup>1</sup>, Valentina Onesto<sup>1</sup>, Anna Chiara Siciliano<sup>1</sup>, Francesco Colella<sup>1</sup>, Lara Pierantoni<sup>2,3</sup>, David Caballero<sup>2,3</sup>, Giuseppe Gigli<sup>1,4</sup>, Rui L. Reis<sup>2,3</sup>, Joaquim M. Oliveira<sup>2,3</sup>, Loretta L. del Mercato<sup>1</sup></p>



	<sup>2</sup> Institute of Emerging Technologies, University Research and Innovation Center, HMU, Heraklion, Crete, Greece	<sup>1</sup> Institute of Nanotechnology – NANOTEC, Consiglio Nazionale delle Ricerche (CNR), Lecce, Italy; <sup>2</sup> 3B's Research Group, I3Bs – Research Institute on Biomaterials, Biodegradables and Biomimetics, University of Minho, Guimarães, Portugal <sup>3</sup> ICVS/3B's - PT Government Associate Laboratory, Braga/Guimarães, Portugal <sup>4</sup> Department of Experimental Medicine, University of Salento, Lecce, Italy
13:30-13:55	<p style="text-align: center;">(Invited)</p> <p style="text-align: center;"><b>Rational design of new conjugated polymers with main chain chirality for efficient optoelectronic devices: Carbo [6] Helicene and indacenodithiophene copolymers as model compounds</b></p> <p style="text-align: center;">Christos L. Chochos<sup>1,2*</sup></p> <p><sup>1</sup> Institute of Chemical Biology, National Hellenic Research Foundation, Athens, Greece <sup>2</sup> Advent Technologies SA., Stadiou Str, Patras, Platani, Greece</p>	<p><b>3D Pancreatic Cancer models with integrated optical pH sensors for noninvasive metabolism monitoring and drug screening</b></p> <p>Siciliano Anna Chiara<sup>1*</sup>, Forciniti Stefania<sup>2</sup> and del Mercato Loretta L<sup>2</sup></p> <p><sup>1</sup>Department of Mathematics and Physics Ennio de Giorgi, University of Salento, via Arnesano, Lecce, Italy <sup>2</sup>CNR Nanotec, National Council of Research, c/o Campus Ecotekne, Lecce, Italy</p>
14:00-15:00	<p style="text-align: center;"><b>LUNCH BREAK</b></p> <p style="text-align: center;"><b>All the Poster Presenters of POSTER SESSION could place their Poster on the Poster Stands</b></p>	
	<p><i>Workshop on Emerging PVs, Chair: E. Stathatos, Moderator: M. Loizos</i></p> <p style="text-align: center;"><i>Room: Minos West</i></p>	<p><i>Nanoparticles II, Chair: T. Pellegrino, Moderator: M. Kefalogianni</i></p> <p style="text-align: center;"><i>Room: Minos East</i></p>
15:00-15:25	<p style="text-align: center;">(Invited)</p> <p style="text-align: center;"><b>Standardizing data, workflows, and executions in a modelling platform for organic electronic materials and processes</b></p> <p style="text-align: center;">Eleftherios Lidorikis</p> <p>Department of Materials Science &amp; Engineering, University of Ioannina, Ioannina, Greece</p>	<p>15:00-15:25</p> <p style="text-align: center;">(Invited)</p> <p style="text-align: center;"><b>Hybrid nanoparticles for delivery</b></p> <p style="text-align: center;">Wolfgang J. Parak</p> <p>Universität Hamburg, Hamburg, Germany</p>
15:25-15:50	<p style="text-align: center;">(Invited)</p> <p style="text-align: center;"><b>Material and Device Engineering Concepts for Enhancing the Performance of Inverted Perovskite Photovoltaics</b></p> <p style="text-align: center;">Stelios A. Choulis</p>	<p>15:25-15:40</p> <p style="text-align: center;"><b>Cell-membranes derived nanoparticles as biomimetic strategy in precision medicine</b></p>

	Department of Mechanical Engineering and Materials Science and Engineering, Cyprus, University of Technology, Molecular Electronics and Photonics Research Unit, Limassol, Cyprus		<u>Clara Baldari</u> <sup>1*</sup> , Claudia Leone <sup>2</sup> , Gabriella Leccese <sup>3</sup> , Claudia De Stradis <sup>2</sup> , Giuseppe Gigli <sup>1,3</sup> , Gabriele Maiorano <sup>3</sup> , Ilaria E. Palamà <sup>3</sup> <sup>1</sup> Department of Experimental Medicine, University of Salento, Lecce, Italy <sup>2</sup> Department of Mathematics and Physics, University of Salento, Lecce, Italy <sup>3</sup> Institute of Nanotechnology, National Research Council (CNR-NANOTEC), Lecce, Italy
15:50-16:05	<b>Two-Dimensional Nanomaterials Materials for Energy Devices</b> <u>Katerina Anagnostou</u> <sup>1*</sup> , Christos Polyzoidis <sup>1</sup> , Michalis Loizos <sup>1</sup> , Kyriakos Mouratis <sup>1</sup> , Konstantinos Rogdakis <sup>1,2</sup> , Emmanuel Kymakis <sup>1,2</sup> <sup>1</sup> Department of Electrical & Computer Engineering, Hellenic Mediterranean University (HMU), Heraklion, Greece <sup>2</sup> Institute of Emerging Technologies (i-EMERGE), of HMU Research Center, Heraklion, Greece	15:40-15:55	<b>Towards smart scaffolds for 3D cell culture models: Polymeric nanoparticles as reporters in hydrogel beads</b> <u>Nikolas Galensowske</u> <sup>1*</sup> , Xuan Peng <sup>1</sup> , Andreas Schurig <sup>2</sup> , Dietmar Appelhans <sup>2</sup> and Larysa Baraban <sup>1</sup> <sup>1</sup> Helmholtz-Zentrum Dresden-Rossendorf, Institute of Radiopharmaceutical Cancer Research, Dresden, Germany <sup>2</sup> Leibniz-Institut für Polymerforschung Dresden, Dresden, Germany
16:05-18:00	<b>POSTER SESSION</b> <b>To all Poster Presenters – Please be by your Poster at all times!</b>		
15:00-17:00	<b>DEMOSAXIA WORKSHOP</b> <b>Advanced Synergies for Pilot Demonstration Towards Industrial Innovation in Widening Countries (DEMOSAXIA)</b> <b>(CALL: HORIZON-WIDERA-2023-ACCESS-04, GA 101160387)</b> <i>Room: Pasiphae East</i>		
	<b>END OF DAY 3 OF NANOBIOS2025</b>		

TIME	<b>Thursday 11<sup>th</sup> September</b>
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	<i>Advanced Materials, Chair: M. Pervolaraki, Moderator: E. Agapaki Room: Minos West</i>		<i>Nanotechnology in Healthcare I, Chair: P. Kavatzikidou, Moderator: M. Liapakis Room: Minos East</i>
09:00-09:25	<b>(Invited)</b> <b>Advanced Materials and AI to Answer Sustainable Society Demands</b> <u>Rodrigo Martins*</u> , P. Barquinha, L. Pereira, E. Carlos, A. Kiazadeh, M. Mendes E. Fortunato CENIMAT/i3N, Department of Materials Science, NOVA School of Science and Technology, NOVA University Lisbon (FCT-NOVA) and CEMOP/UNINOVA, Campus de Caparica, Caparica, Portugal	09:00-09:25	<b>(Invited)</b> <b>Self-assembled conductive fibres in live cells</b> Guglielmo Lanzani <sup>1,2</sup> <sup>1</sup> Center for Nanoscience and Technology, Istituto Italiano di Tecnologia, Milano, Italy <sup>2</sup> Dep.t of Physics, Politecnico di Milano, Milano, Italy
09:25-09:50	<b>(Invited)</b> <b>IAM4EU – the co-programmed public private partnership for Advanced Materials under Horizon Europe</b> Eva-Kathrin Schillinger Secretary General IAM-I, Rue Belliard 40, 1040 Brussels, Belgium	09:25-09:40	<b>Ionic Liquid-Assisted Assembly of Human Platelet Lysate-Based Nanoparticles for Antibody Encapsulation</b> <u>Julián Fuentes</u> <sup>1,2</sup> , Cátia F. Monteiro <sup>1</sup> , Ana Beloqui <sup>2</sup> , Catarina A. Custódio <sup>1*</sup> , João F. Mano <sup>1*</sup> <sup>1</sup> CICECO – Aveiro Institute of Materials, Department of Chemistry, University of Aveiro, Campus Universitário de Santiago, Aveiro, Portugal <sup>2</sup> POLYMAT – University of the Basque Country UPV/EHU, Donostia – San Sebastián, Spain
09:50-10:15	<b>(Invited)</b> <b>The molecular approach to multifunctional 2D electronics: from high-performance pressure sensors to neuromorphic logics</b> Paolo Samorì ISIS, University of Strasbourg & CNRS, Strasbourg, France	09:40-09:55	<b>Bio-reconfigurable Impedance based Electronic Platform for Multiplexing Virus Diagnostic</b> <u>Arianna Adelaide Maurina</u> <sup>1*</sup> , Cainã De Oliveira Figares <sup>1</sup> , Francesco Damin <sup>2</sup> , Chiara Capelli <sup>2</sup> , Laura Sola <sup>2</sup> , Elena Criscuolo <sup>3</sup> , Nicola Clementi <sup>3</sup> , Giorgio Ferrari <sup>1</sup> , Marco Sampietro <sup>1</sup> <sup>1</sup> Politecnico di Milano, Milan, Italy <sup>2</sup> SCITEC-CNR, Milan, Italy <sup>3</sup> Vita-Salute San Raffaele University, Milan, Italy
10:15-10:40	<b>(Invited)</b>	09:55-10:10	

	<b>2D Material Inks Enabled by Supramolecular Chemistry: From Synthesis to Applications</b> Cinzia Casiraghi Department of Chemistry, University of Manchester, Manchester, UK		
10:40-11:10	<b>COFFEE BREAK</b>		
	<i>Micro-nano Fabrication, Chair: M. Pervolaraki, Moderator: E. Katsipoulaki</i> Room: Minos West	<i>Nanotechnology in Healthcare II, Chair: G. Lanzani Moderator: M. Kefalogianni</i> Room: Minos East	
11:10-11:35	<p style="text-align: center;">(Invited)</p> <b>Laser-surface processing for green Hydrogen energy storage</b> I. Poimenidis <sup>2</sup> , A. Klini <sup>1</sup> , M. Konsolakis <sup>2</sup> , S.D. Moustazis <sup>2</sup> , <u>P.A. Loukakos</u> <sup>1*</sup> <sup>1</sup> Foundation for Research and Technology - Hellas, Heraklion, Greece <sup>2</sup> Technical University of Crete, Chania, Greece	<p style="text-align: center;">(Invited)</p> <b>Conformable Electronics for Biomedical Applications</b> Gianluca Fiori Dipartimento di Ingegneria dell'Informazione, Universita' di Pisa, Italy	
11:35-11:50	<p style="text-align: center;"><b>Micro and Nanofabricated, functional surfaces and devices</b></p> Kosmas Ellinas* Laboratory of Advanced Functional Materials and Nanotechnology, Department of Food Science and Nutrition, School of the Environment, University of the Aegean, Lemnos, Greece	<p style="text-align: center;"><b>Advanced GO-Based Hydrogels for Controlled Hyaluronic Acid Release in Knee Osteoarthritis Treatment</b></p> Roya Binaymotlagh <sup>*1</sup> , Laura Chronopoulou <sup>1,2</sup> , Damiano Petrilli <sup>1</sup> , Francesca Sciandra <sup>3</sup> , Francesco Amato <sup>1</sup> , Andrea Giacomo Marrani <sup>1</sup> , <u>Cleofe Palocci</u> <sup>1,2*</sup> <sup>1</sup> Department of Chemistry, Sapienza University – Italy <sup>2</sup> Research Center for Applied Sciences to the safeguard of Environment and Cultural Heritage (CIABC) Sapienza University of Rome, Rome, Italy <sup>3</sup> SCITEC-Consiglio Nazionale delle Ricerche – Italy	
11:50-12:05	<p style="text-align: center;"><b>Ultrafast Laser Nanostructuring of Molybdenum Thin Films: Thickness Effects on High-Spatial Frequency LIPSS Formation</b></p> <u>Stella Maragkaki</u> <sup>1</sup> , Matina Vlahou <sup>1,2</sup> , George Perrakis <sup>1</sup> , George D. Tsibidis <sup>1</sup> and Emmanuel Stratakis <sup>1,3</sup> <sup>1</sup> Institute of Electronic Structure and Laser (IESL), Foundation for Research and Technology (FORTH), Heraklion, Crete, Greece	<p style="text-align: center;"><b>Instrument-on-a-chip for Attoampere Detection</b></p> <u>Cainã de Oliveira Figares*</u> , Arianna Adelaide Maurina, Francesco Zanetto, Marco Sampietro and Giorgio Ferrari Politecnico di Milano, Milan, Italy	

	<sup>2</sup> Department of Material Science and Technology, University of Crete, Heraklion, Greece <sup>3</sup> Department of Physics, University of Crete, Heraklion, Greece	
12:05-12:20	<p><b>Double-Pulse Femtosecond Laser Fabrication of Highly Ordered Periodic Structures on Au Thin Films Enabling Low-Cost Plasmonic Applications</b></p> <p>Fotis Fraggelakis <sup>1</sup>, Panagiotis Lingos <sup>1</sup>, <u>George D. Tsibidis</u> <sup>1*</sup>, Emma Cusworth <sup>2</sup>, Nicholas Kay <sup>2</sup>, Laura Fumagalli <sup>2</sup>, Vasyl G. Kravets <sup>2</sup>, Alexander N. Grigorenko <sup>2</sup>, Andrei V. Kabashin <sup>3</sup>, and Emmanuel Stratakis <sup>1,5</sup></p> <p><sup>1</sup>Institute of Electronic Structure and Laser (IESL), Foundation for Research and Technology (FORTH), Heraklion, Crete, Greece  <sup>2</sup>Department of Materials Science and Technology, University of Crete, Heraklion, Greece  <sup>3</sup>Department of Physics and Astronomy, Manchester University, Manchester, U.K.  <sup>4</sup>Aix Marseille Univ, CNRS, LP3, Marseille, France  <sup>5</sup>Department of Physics, University of Crete, Heraklion, Greece</p>	<p><b>Unraveling the mechanisms of complexation and thermal stabilization of a model protein/polyelectrolyte system</b></p> <p>Sisem Ektirici <sup>1*</sup>, Vagelis Harmandaris <sup>1,2,3</sup> and <u>Anastassia N. Rissanou</u> <sup>4*</sup></p> <p><sup>1</sup>Computation-Based Science and Technology Research Center, The Cyprus Institute, Cyprus  <sup>2</sup>Department of Mathematics and Applied Mathematics, University of Crete, Heraklion, Greece  <sup>3</sup>Institute of Applied and Computational Mathematics, Foundation for Research and Technology Hellas, IACM/FORTH, Heraklion, Greece  <sup>4</sup>Theoretical &amp; Physical Chemistry Institute, National Hellenic Research Foundation, Athens, Greece</p>
12:20-12:35	<p><b>Laser printing of luminescent YAG:Ce 3D microstructures</b></p> <p><u>A. Harnik</u> <sup>1</sup>, R. Virkētis <sup>2</sup>, D. Dapšys <sup>1</sup>, D. Ladika <sup>1</sup>, G. Merkininkaitė <sup>2</sup>, S. Šakirzanovas <sup>2</sup>, M. Malinauskas <sup>1</sup></p> <p><sup>1</sup>Laser Research Center, Faculty of Physics, Vilnius University, Vilnius, Lithuania  <sup>2</sup>Institute of Chemistry, Faculty of Chemistry and Geosciences, Vilnius University, Vilnius, Lithuania</p>	
	<p style="text-align: center;"><i>Plenary Session III- Chair: E. Stratakis &amp; E. Kymakis - Room: Minos West</i>  Moderators: E. Katsipoulaki &amp; M. Kefalogianni</p>	
12:40-13:20	<p style="text-align: center;"><b>(Plenary V)</b>  <b>Supercharging Immunotherapy Through Nanotechnology: Chemical Structure Matters</b>  Natalie Artzi  Institute for Medical Engineering and Science, Massachusetts Institute of Technology (MIT), Massachusetts &amp; Hansjörg Wyss Institute for Biologically Inspired Engineering, Medical Faculty, Harvard University, Boston, USA</p>	

13:20-14:00	<p style="text-align: center;"><b>(Plenary VI)</b>  <b>Automated Atomic Scale Data Analysis and Modelling for (Scanning) Transmission Electron Microscopy</b>          Jordi Arbiol<sup>1,2</sup>  <sup>1</sup>Catalan Institute of Nanoscience and Nanotechnology (ICN2), Barcelona, Catalonia, Spain  <sup>2</sup>ICREA, Barcelona, Catalonia, Spain</p>
14:00-15:00	<b>LUNCH BREAK</b>
	<i>Bio-nanomaterials III, Chair: G. Fiori, Moderator: E. Kanakousaki</i> <i>Room: Minos East</i>
15:00-15:25	<p style="text-align: center;"><b>(Invited)</b>  <b>Engineering neuromorphic biomaterials for neuroelectronic applications</b>          Francesca Santoro          Institute of Biological Information Processing – Bioelectronics, Forschungszentrum Jülich, Germany, Neuroelectronic Interfaces, RWTH Aachen University, Germany</p>
15:25-15:40	<p style="text-align: center;"><b>Living Electrical Wires: Investigating the Highly Conductive Structures of Cable Bacteria at the Nanoscale</b>  <u>Cosimo Tommasi</u><sup>1*</sup>, Silvia Hidalgo Martinez<sup>2</sup>, Filip Meysman<sup>2</sup> and Herre van der Zant<sup>1</sup>  <sup>1</sup>Dept of Quantum Nanoscience, Kavli Institute of Nanoscience, Delft Uni of Technology, Delft, The Netherlands  <sup>2</sup>Department of Biology, University of Antwerp; Antwerp, Belgium</p>
All day	<p style="text-align: center;"><b>Project Meeting SOLARUP</b>  <i>Room: Pasiphae East</i></p>
	<b>END OF DAY 4 OF NANOBIO2025</b>

<b>TIME</b>	<b>Friday 12<sup>th</sup> September</b>
	<i>DYNASTY Workshop and Summer School in 2D Materials, Chair: G. Kioseoglou, Moderator: E. Katsipoulaki</i> <i>Room: Minos West</i>
09:00-09:40	<p style="text-align: center;"><b>(Invited Tutorial Lecture)</b>  <b>Exciton Formation in 2D Semiconductors</b></p>

	<p>K. Mourzidis<sup>1</sup>, V. Jindal<sup>1</sup>, M. Glazov<sup>2</sup>, A. Balocchi<sup>1</sup>, L. Lombez<sup>1</sup>, D. Lagarde<sup>1</sup>, P. Renucci<sup>1</sup>, C. Robert<sup>1</sup>, T. Taniguchi<sup>3</sup>, K. Watanabe<sup>4</sup>, S. Francoeur<sup>5</sup> and <u>X. Marie</u><sup>1,6</sup></p> <p><sup>1</sup>Université de Toulouse, INSA-CNRS-UPS, LPCNO, Toulouse, France  <sup>2</sup>Ioffe Institute, 26 Polytechnicheskaya, Saint Petersburg, Russia  <sup>3</sup>International Center for Materials Nanoarchitectonics, National Institute for Materials Science, Tsukuba 305-00044, Japan  <sup>4</sup>Research Center for Functional Materials, National Institute for Materials Science, Tsukuba, Japan  <sup>5</sup>RQMP and Département de génie physique, Polytechnique Montréal, Montréal, Québec, Canada  <sup>6</sup>Institut Universitaire de France, Paris, France</p>
09:40-10:05	<p style="text-align: center;"><b>(Invited)</b></p> <p style="text-align: center;"><b>Elastic Screening of Pseudogauge Fields in Graphene</b></p> <p style="text-align: center;">Cristophe De Beule<sup>1,2</sup>, Robin Smeyers<sup>2</sup>, Wilson Nieto, Eugene Mele<sup>1</sup>, and <u>Lucian Covaci</u><sup>2*</sup></p> <p><sup>1</sup>Department of Physics and Astronomy, University of Pennsylvania, Philadelphia, Pennsylvania, USA  <sup>2</sup>Department of Physics and NANOLight Center of Excellence, University of Antwerp, Antwerp, Belgium</p>
10:05 -10:30	<p style="text-align: center;"><b>(Invited)</b></p> <p style="text-align: center;"><b>Topochemical reactions from monoelemental Xenes to MXenes</b></p> <p style="text-align: center;">Zdenek Sofer</p> <p style="text-align: center;">Dept. of Inorganic Chemistry, University of Chemistry and Technology Prague, Prague, Czech Republic</p>
10:30-10:55	<p style="text-align: center;"><b>(Invited)</b></p> <p style="text-align: center;"><b>Alloy-Driven Tuning of Bandgap, Spin-Orbit Splitting and Phonon Energy in 2D Mo-Based TMDs</b></p> <p style="text-align: center;">Panayiotis Spiliotakis<sup>1,2</sup>, Eirini Katsipoulaki<sup>1,3</sup>, Danae Katrisioti<sup>1,2</sup>, Konstantinos Mourzidis<sup>4</sup>, Takashi Taniguchi<sup>5</sup>, Kenji Watanabe<sup>6</sup>, Georgios Kopidakis<sup>1,2</sup>, Emmanuel Stratakis<sup>1,3</sup>, Xavier Marie<sup>4,7</sup>, George Kioseoglou<sup>1,2</sup> and <u>Ioannis Paradisanos</u><sup>1*</sup></p> <p><sup>1</sup> Institute of Electronic Structure and Laser, Foundation for Research and Technology-Hellas, Heraklion, Greece  <sup>2</sup> Department of Materials Science and Engineering, University of Crete, Heraklion, Greece  <sup>3</sup> Department of Physics, University of Crete, Heraklion, Greece  <sup>4</sup> Université de Toulouse, INSA-CNRS-UPS, LPCNO, Toulouse, France  <sup>5</sup> Research Center for Materials Nanoarchitectonics, National Institute for Materials Science, Tsukuba, Japan  <sup>6</sup> Research Center for Electronic and Optical Materials, National Institute for Materials Science, Tsukuba, Japan  <sup>7</sup> Institut Universitaire de France, Paris, France</p>
10:55-11:25	<b>COFFEE BREAK</b>



	<i>DYNASTY Workshop and Summer School in 2D Materials, Chair: I. Paradisanos, Moderator: D. Katrasioti Room: Minos West</i>
11:25-12:05	<p style="text-align: center;"><b>(Invited Tutorial Lecture)</b>  <b>Tuning the optoelectronic properties of 2D-TMDs via dielectric engineering</b>  George Kioseoglou  Institute of Electronic Structure and Laser, Foundation for Research and Technology-Hellas, Heraklion, Greece  and  Department of Materials Science and Engineering, University of Crete, Heraklion, Greece</p>
12:05-12:45	<p style="text-align: center;"><b>(Invited Tutorial Lecture)</b>  <b>Low dose electron microscopy imaging, one electron at a time</b>  Johan Verbeeck<sup>1,2*</sup>  <sup>1</sup>EMAT, University of Antwerp, Antwerp, Belgium  <sup>2</sup>Nanolight Center of Excellence, University of Antwerp, Antwerp, Belgium</p>
12:45-13:10	<p style="text-align: center;"><b>(Invited)</b>  <b>Twist-angle tuned second harmonic generation in 2D transition metal dichalcogenide homo- and heterobilayers</b>  <u>Sotiris Psilodimitrakopoulos*</u>, Leonidas Mouchliadis and Emmanuel Stratakis  Foundation for Research and Technology (FORTH), Heraklion, Crete, Greece</p>
13:10-13:35	<p style="text-align: center;"><b>(Invited)</b>  <b>Exploring 2D materials with theory and simulation</b>  Georgios Kopidakis  Department of Materials Science and Engineering, University of Crete  Institute for Electronic Structure and Laser, Foundation for Research and Technology - Hellas</p>
13:35-13:50	<p style="text-align: center;"><b>Silicon nanoantennas for tailoring the optical properties of MoS<sub>2</sub> monolayers</b>  <u>Danae Katrasioti<sup>1,2*</sup></u>, Peter R. Wiecha<sup>3</sup>, Aurélien Cuche<sup>4</sup>, Sotiris Psilodimitrakopoulos<sup>1</sup>, Guilhem Larrieu<sup>3</sup>, Jonas Müller<sup>3</sup>, Vincent Larrey<sup>5</sup>, Bernhard Urbaszek<sup>6</sup>, Xavier Marie<sup>7,8</sup>, Emmanuel Stratakis<sup>1</sup>, George Kioseoglou<sup>1,2</sup>, Vincent Paillard<sup>4</sup>, Jean-Marie Pomirol<sup>4</sup>, and Ioannis Paradisanos<sup>1</sup>  1 Institute of Electronic Structure and Laser, Foundation for Research and Technology - Hellas, Heraklion, Crete, Greece  2 Department of Materials Science and Engineering, University of Crete, Heraklion, Crete, Greece  3 LAAS-CNRS, Université de Toulouse, Toulouse, France  4 CEMES-CNRS, Université de Toulouse, Toulouse, France</p>

	5 CEA-LETI, Université Grenoble-Alpes, Grenoble, France 6 Institute of Condensed Matter Physics, Technische Universität Darmstadt, Darmstadt, Germany 7 Université de Toulouse, INSA-CNRS-UPS, LPCNO, Toulouse, France
14:00-15:00	<b>LUNCH BREAK</b>
	<i>DYNASTY Workshop and Summer School in 2D Materials, Chair: S. Psilodimitrakopoulos, Moderator: D. Katrisioti</i> <i>Room: Minos West</i>
15:00-15:25	<p style="text-align: center;">(Invited)</p> <p style="text-align: center;"><b>Atomic-Scale Imaging of Moiré Superlattices in Twisted Transition Metal Oxide Membranes</b></p> <p><u>N. Gauquelin</u><sup>1*</sup>, W. S. Hansen<sup>2</sup>, A. De Backer<sup>1</sup>, E. Dollekamp<sup>2</sup>, J. M. G. Lastra<sup>2</sup>, J.M. Mangeri<sup>2</sup>, T. Chennit<sup>1</sup>, A. Annys<sup>1</sup>, J. Hidding<sup>2</sup>, S. van Aert<sup>1</sup>, J. Verbeeck<sup>1</sup>, N. Pryds<sup>2</sup></p> <p><sup>1</sup>EMAT and Nanolight Center of Excellence, Department of Physics, University of Antwerpen, Antwerpen, Belgium  <sup>2</sup>Department of Energy Conversion and Storage, Technical University of Denmark, Kongens Lyngby, Denmark</p>
15:25-15:40	<p style="text-align: center;"><b>Engineering carrier density and exciton polarization in WSe<sub>2</sub> monolayers via photochlorination</b></p> <p><u>Eirini Katsipoulaki</u><sup>1,2*</sup>, George Vailakis<sup>1,3</sup>, I. Demeridou<sup>1</sup>, D. Karfaridis<sup>4</sup>, P. Patsalas<sup>4</sup>, K. Watanabe<sup>5</sup>, T. Taniguchi<sup>6</sup>, D. Lagarde<sup>7</sup>, V. Vindal<sup>7</sup>, K. Mourtzidis<sup>7</sup>, X. Marie<sup>7</sup>, M. Glazov<sup>9</sup>, I. Paradisanos<sup>1</sup>, G. Kopidakis<sup>1,3</sup>, G. Kioseoglou<sup>1,3</sup>, and E. Stratakis<sup>1,2</sup></p> <p><sup>1</sup>Institute of Electronic Structure and Laser, Foundation for Research and Technology-Hellas, Heraklion, Greece  <sup>2</sup>Department of Physics, University of Crete, Heraklion, Greece  <sup>3</sup>Department of Materials Science and Technology, University of Crete, Heraklion, Greece  <sup>4</sup>Department of Physics, Aristotle University of Thessaloniki, Thessaloniki, Greece  <sup>5</sup>Research Center for Electronic and Optical Materials, National Institute for Materials Science, Tsukuba, Japan  <sup>6</sup>Research Center for Materials Nanoarchitectonics, National Institute for Materials Science, Tsukuba, Japan  <sup>7</sup>Université de Toulouse, INSA-CNRS-UPS, LPCNO, Toulouse, France  <sup>8</sup>Institut Universitaire de France, Paris, France  <sup>9</sup>Ioffe Institute, Saint Petersburg, Russia</p>
All day	<b>Progress Meeting 3GPV-4INDUSTRY</b> <i>Room: Pasiphae East</i>
15:40 -16:10	<b>CONFERENCE CLOSING CEREMONY</b> <b>(STUDENT AWARDS &amp; CLOSING REMARKS)</b> <i>Room: Minos West</i>

## POSTER PRESENTATION PROGRAM

POSTER SESSION will take place on DAY 3 of the Conference (16:00-18:00)  
 (as shown on the main NANOBI02025 Program)

### SESSION – BIO-NANOMATERIALS

P1	<p style="text-align: center;"><b>Surface modification approaches for obtaining multifunctional surfaces in dentistry applications</b></p> <p style="text-align: center;"><u>Valentina Dinca*</u>, Anca Bonciu, Luminita-Nicoleta Dumitrescu and Laurentiu Rusen National Institute for Lasers, Plasma and Radiation Physics Magurele, Romania</p>
P2	<p style="text-align: center;"><b>miR-1-3p Enhances VEGF Secretion and Fibroblast Function in Diabetic Wound Healing</b></p> <p style="text-align: center;"><u>Maria Zaatreh<sup>1*</sup></u>, Caroline Faour<sup>2</sup>, Hiba Yaseen<sup>2</sup>, Liron Eldor<sup>2</sup> and Morir Khamaisi<sup>2</sup> <sup>1</sup>Technion – Israel Institute of Technology, Haifa, Israel <sup>2</sup>Rambam Health Care Campus, Haifa, Israel</p>
P3	<p style="text-align: center;"><b>Transient absorption spectroscopy of the Fucoxanthin-Chlorophyll <i>a/c</i> (FCPs) Proteins of the Marine Diatoms <i>Fragilariopsis sp</i> and <i>P. tricornutum</i></b></p> <p style="text-align: center;"><u>P.A. Loukakos<sup>1*</sup></u>, C. Andreou<sup>2</sup> and C. Varotsis<sup>2</sup> <sup>1</sup>Foundation for Research and Technology - Hellas, Heraklion, Greece <sup>2</sup>Cyprus University of Technology, Limassol, Cyprus</p>
P4	<p style="text-align: center;"><b>Tumoral cell identification by label-free machine learning spectroscopy</b></p> <p style="text-align: center;">P. H. R. Amaral<sup>1</sup>, M. I. N. da Silva<sup>1</sup>, L. M. de Andrade<sup>2</sup> and <u>J. C. González<sup>1,*</sup></u> <sup>1</sup>Department of Physics, Institute of Exact Sciences, Federal University of Minas Gerais, Belo Horizonte, Brazil <sup>2</sup>Laboratory of Cellular Biology, Department of Morphology, Federal University of Minas Gerais, Belo Horizonte, Brazil</p>

P5	<p style="text-align: center;"><b>Non-specific optical sensing for label-free diagnosis of the effects of COVID-19 in semen</b></p> <p style="text-align: center;">V. Baliza<sup>1</sup>, M. H. Furtado<sup>2,3,4</sup>, T. O. Farias<sup>4</sup>, J. C. B. Sepulveda<sup>1</sup>, V. H. S de Paiva<sup>1</sup>, <u>M. I. N. da Silva<sup>1,*</sup></u>, P. H. R. Amaral<sup>1</sup>, L. M. de Andrade<sup>4</sup>, S. M. S. N. Lacerda<sup>4</sup>, G. M. J. Costa<sup>4</sup> and J. C. González<sup>1</sup></p> <p style="text-align: center;"><sup>1</sup>Department of Physics, Institute of Exact Sciences, Federal University of Minas Gerais, Belo Horizonte, Brazil  <sup>2</sup>MF Male Fertility Clinic, Belo Horizonte, Brazil  <sup>3</sup>Hospital Mater Dei, Urology and Human Reproduction Department, Belo Horizonte, Brazil  <sup>4</sup>Laboratory of Cellular Biology, Department of Morphology, Federal University of Minas Gerais, Belo Horizonte, Brazil</p>
P6	<p style="text-align: center;"><b>Silver Nanostructures for Antimicrobial and Light-Activated Therapies</b></p> <p style="text-align: center;"><u>Lucie Suchánková<sup>1*</sup></u>, Lucie Válková<sup>2</sup>, Renata Večeřová<sup>3</sup>, Libor Kvítek<sup>1</sup> and Aleš Panáček<sup>1</sup></p> <p style="text-align: center;"><sup>1</sup>Palacky University, Faculty of Science, Department of Physical Chemistry, Olomouc, Czech Republic  <sup>2</sup>Palacky University, Faculty of Medicine and Dentistry, Department of Biophysics, Olomouc, Czech Republic  <sup>3</sup>Palacky University, Faculty of Medicine and Dentistry, Department of Microbiology, Olomouc, Czech Republic</p>
P7	<p style="text-align: center;"><b>In vitro cytotoxicity of thin-film neural probes based on reduced graphene oxide</b></p> <p style="text-align: center;"><u>Sarka Hradilova<sup>1*</sup></u>, Miquel Madrid Gimeno<sup>2</sup>, Tomas Malina<sup>1</sup>, Tana Zavodna<sup>1</sup>, Katerina Polakova<sup>1</sup></p> <p style="text-align: center;"><sup>1</sup>Palacky Univ Olomouc, Czech Adv Technol &amp; Res Inst CATRIN, Reg Ctr Adv Technol &amp; Mat RCPTM, Olomouc, Czech Republic  <sup>2</sup>Catalan Institute of Nanoscience and Nanotechnology (ICN2), CSIC and BIST, Campus UAB, Bellaterra, Spain</p>
P8	<p style="text-align: center;"><b>Dual Optimization of Geometry and Bioactivity in Melt Electrowritten Scaffolds for Cardiac Tissue Engineering</b></p> <p style="text-align: center;"><u>M. Amini<sup>1*</sup></u>, J. Valdes-Fernandez<sup>2</sup>, F. Prósper<sup>2</sup>, M.M. Mazo<sup>2*</sup>, and A. Bittner<sup>1*</sup></p> <p style="text-align: center;"><sup>1</sup> Self-assembly group, CIC Nanogune, San Sebastián, 20018, Spain  <sup>2</sup> Clinic department of the university of nanvara, Pamplona, 31008, Spain</p>
P9	<p style="text-align: center;"><b>Investigating Surfactant–Alginate Interactions: Towards the Design of Nanostructured Bio-Based Hydrogels</b></p> <p style="text-align: center;"><u>Khuram shehzad Khan<sup>1*</sup></u>, Carlo Carandente Coscia<sup>2</sup>, Matilde Tancredi<sup>2</sup>, Gerardino D’Errico<sup>2</sup>, Luigi Paduano<sup>2</sup></p> <p style="text-align: center;"><sup>1</sup> Department of Molecular Sciences for Earth and Space (MOSES), Scuola Superiore Meridionale, Italy  <sup>2</sup> Department of Chemical Sciences, University of Naples Federico II, Complesso Universitario Monte Sant’Angelo, Naples, Italy</p>
P10	<p style="text-align: center;"><b>Dose-dependent effects of ZnO nanoparticles on freshwater microalgae under salinity stress</b></p> <p style="text-align: center;"><u>Alexander Gusev<sup>1,2*</sup></u>, Olga Zakharova<sup>1,2</sup> and Inna Vasyukova<sup>1</sup></p> <p style="text-align: center;"><sup>1</sup> Derzhavin Tambov State University, Tambov, Russia  <sup>2</sup> National University of Science and Technology «MISIS», Moscow, Russia</p>
P11	<p style="text-align: center;"><b>A smart drug delivery against drug resistant cancer cells using super-functionalized carbon nanotubes</b></p> <p style="text-align: center;"><u>Prachi Ghoderao<sup>a,b*</sup></u>, Angelika Mielcarek<sup>b</sup>, Sanjay Sahare<sup>c</sup>, Hanna Dams-Kozłowska<sup>a,b</sup></p> <p style="text-align: center;"><sup>a</sup> Department of Cancer Immunology, Poznan University of Medical Sciences, Poznan, Poland</p>

	<sup>b</sup> Department of Diagnostics and Cancer Immunology, Greater Poland Cancer Centre, Poznan, Poland <sup>c</sup> Faculty of Chemistry, Adam Mickiewicz University in Poznań, Poznań, Poland <sup>d</sup> Faculty of Physics and Astronomy, Adam Mickiewicz University in Poznań, Poznań, Poland
P12	<p style="text-align: center;"><b>Fibroblast, macrophage modulation and bacteria hindering through surface modification strategies</b></p> <p style="text-align: center;">Andreea Mariana Negrescu <sup>a</sup>, Simona Nistorescu <sup>a,b</sup>, Anca Bonciu <sup>b</sup>, <u>Laurentiu Rusen</u> <sup>b</sup>, Nicoleta Dumitrescu <sup>b</sup>, Anisoara Cimpean and <u>Valentina Dinca</u> <sup>b*</sup></p> <p style="text-align: center;"><sup>a</sup> Faculty of Biology, University of Bucharest, Splaiul Independenței 91-95, 050095 Bucharest, Romania  <sup>b</sup> National Institute for Lasers, Plasma, and Radiation Physics</p>
P13	<p style="text-align: center;"><b>Electrospun Nanofiber Oral Films of Buckwheat Rutin: Overcoming Solubility Limitations and Enhancing Biological Performance</b></p> <p style="text-align: center;"><u>Anna Stasiłowicz-Krzemień</u> <sup>1*</sup>, Milica Radan <sup>2</sup>, Natalia Rosiak <sup>1</sup>, Katarina Šavikin <sup>2</sup>, Judyta Cielecka-Piontek <sup>1,3</sup></p> <p style="text-align: center;"><sup>1</sup> Department of Pharmacognosy and Biomaterials, Poznan University of Medical Sciences, Poznań, Poland  <sup>2</sup> Institute for Medicinal Plants Research “Dr. Josif Pančić”, Belgrade, Serbia  <sup>3</sup> Department of Pharmacology and Phytochemistry, Institute of Natural Fibres and Medicinal Plants, Poznan, Poland</p>
P14	<p style="text-align: center;"><b>Magnetic Nanoclusters for Alzheimer’s Disease Theranostics</b></p> <p style="text-align: center;"><u>Argiris Kolokithas Ntoukas</u> <sup>1*</sup>, Jiri Drab <sup>1,2</sup>, Ondrej Soukup <sup>3</sup>, Jan Korabecny <sup>3</sup>, Sarka Hradilova <sup>1</sup>, and Katerina Polakova <sup>1</sup></p> <p style="text-align: center;"><sup>1</sup> Czech Advanced Technology and Research Institute (CATRIN), Regional Centre of Advanced Technologies and Materials, Palacký University Olomouc, Olomouc, Czech Republic  <sup>2</sup> Department of Medical Biophysics, Faculty of Medicine, Palacký University Olomouc, Olomouc, Czech Republic  <sup>3</sup> Biomedical Research Centre, University Hospital Hradec Kralove, Hradec Kralove, Czech Republic</p>
P15	<p style="text-align: center;"><b>Myricetin-Loaded Electrospun Nanofibers: Amorphization Strategy to Enhance Antioxidant Properties</b></p> <p style="text-align: center;">Natalia Rosiak <sup>1</sup>, Wojciech Rydyger <sup>1</sup>, Andrzej Miklaszewski, <u>Judyta Cielecka-Piontek</u> <sup>1*</sup></p> <p style="text-align: center;"><sup>1</sup> Department of Pharmacognosy and Biomaterials, Poznan University of Medical Sciences, Poznań, Poland  <sup>2</sup> Faculty of Materials Engineering and Technical Physics, Inst. of Materials Science and Engineering, Poznan University of Technology, Poznan, Poland</p>
P16	<p style="text-align: center;">Auxetic Scaffolds via Multiphoton Lithography for Neuroregeneration</p> <p style="text-align: center;"><u>Andreas Parlanis</u> <sup>1,2,*</sup>, Elena Oikonomou <sup>1,2</sup>, Maria Farsari <sup>1</sup>, Anthi Ranella <sup>1</sup></p> <p style="text-align: center;"><sup>1</sup> Foundation for Research and Technology - Hellas (FORTH), Institute of Electronic Structure and Laser (IESL), Heraklion, Greece  <sup>2</sup> Department of Biology, University of Crete, Heraklion, Greece</p>
P17	<p style="text-align: center;"><b>Iron Carbide Nanoparticles for Enhancing CAR-T Cell Therapy in Metastatic Melanoma: Dual Hyperthermia and Surface Engineering</b></p> <p style="text-align: center;"><u>Chiara Puccinelli</u> <sup>*</sup>, Lorenzo Riccio, Laura Maggini and Davide Bonifazi</p> <p style="text-align: center;">University of Vienna, Faculty of Chemistry, Vienna, Austria</p>

P18	<b>Bridging Synthetic Biology and Bioelectronics via Chemical Reactions</b> <u>Nour Zoaby</u> , Noa Aflalo, Emanuel Ber, Eilam Yalon, & Ramez Daniel Technion, Israel Institute of Technology, Haifa, Israel
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## SESSION - NANOMATERIALS

P19	<b>Hybrid Energy Harvesting System: Integrating Teng and Solar for Electricity Generation</b> Duarte Rafael Salgado de Almeida TEMA – Centre for Mechanical Technology and Automation, Dept. of Mechanical Engineering, University of Aveiro, Campus de Santiago, Aveiro, Portugal
P20	<b>Precision Micromachining with Tailored Laser Beams in Amplitude and Phase</b> <u>Maria Pervolaraki</u> <sup>1</sup> , George Tsibidis <sup>1</sup> , Martin Osbild <sup>2</sup> , Simon Goldmann <sup>2</sup> , Paul Buske <sup>3</sup> , Benjamin Lauer <sup>4</sup> and Emmanuel Stratakis <sup>1</sup> <sup>1</sup> Institute of Electronic Structure and Laser (IESL), Foundation for Research and Technology (FORTH), Heraklion, Greece <sup>2</sup> Fraunhofer Institute for Laser Technology ILT, Aachen, Germany <sup>3</sup> Chair for Technology of Optical Systems (TOS) – RWTH Aachen University, Aachen, Germany <sup>4</sup> Thyssenkrupp Steel Europe AG (TKSE), Duisburg Germany
P21	<b>Precision Laser-Engineered Aesthetic Photo-Rechargeable Storage Cell</b> <u>Maria Pervolaraki</u> <sup>1</sup> , Styliani Maragkaki <sup>1</sup> , George Tsibidis <sup>1</sup> , Marinos Tountas <sup>2</sup> , Dimitrios Tsikritzis <sup>2</sup> , Emmanuel Kymakis <sup>2</sup> , Emmanuel Stratakis <sup>1</sup> <sup>1</sup> Institute of Electronic Structure and Laser (IESL), Foundation for Research and Technology (FORTH), Heraklion, Greece <sup>2</sup> Department of Electrical & Computer Engineering, Hellenic Mediterranean University, Estavromenos, Heraklion, Greece
P22	<b>Aesthetically Patterned Semitransparent Perovskite Photovoltaics for Ambient Applications</b> M. Tountas <sup>1</sup> , <u>E. D. Koutsouroubi</u> <sup>1*</sup> , D. Tsikritzis <sup>1</sup> , S. Maragkaki <sup>2</sup> , E. Stratakis <sup>2</sup> and E. Kymakis <sup>1</sup> <sup>1</sup> Department of Electrical & Computer Engineering, Hellenic Mediterranean University (HMU), Heraklion, Greece <sup>2</sup> Institute of Electronic Structure and Laser (IESL), Foundation for Research and Technology-Hellas (FORTH), Heraklion, Greece
P23	<b>Electronic transport in Te nanorolls</b> E. R. Viana <sup>1</sup> , N. Cifuentes <sup>2</sup> , M. I. N. da Silva <sup>2</sup> and <u>J. C. González</u> <sup>2,*</sup> <sup>1</sup> Department of Physics, Technological Federal University of Parana, Curitiba, Brazil

	<sup>2</sup> Department of Physics, Federal University of Minas Gerais, Belo Horizonte, Brazil
P24	<p style="text-align: center;"><b>Additive with Beneficial Solvent and Solid Types for Efficient and Stable Organic Solar Cells</b></p> <p style="text-align: center;">Changduk Yang</p> <p style="text-align: center;">School of Energy and Chemical Engineering, Ulsan National Institute of Science and Technology (UNIST), 50 UNIST-gil, Ulju-gun, Ulsan, South Korea</p>
P25	<p style="text-align: center;"><b>Reverse Pilloti-Inspired Evaporator for Enhanced Interfacial Evaporation and Salt Rejection in Sustainable Water Purification</b></p> <p style="text-align: center;"><u>Dong geon Lee</u><sup>1*</sup> and Won san Choi<sup>2</sup></p> <p style="text-align: center;"><sup>1</sup> Hanbat National University, Daejeon, Republic of Korea</p> <p style="text-align: center;"><sup>2</sup> Hanbat National University, Daejeon, Republic of Korea</p>
P26	<p style="text-align: center;"><b>Laser Synthesis of Nanostructures for Electrochemical Analytical Systems</b></p> <p style="text-align: center;"><u>Elena Schlein</u><sup>1*</sup>, Yuriy Zholudov<sup>2</sup>, Volodymyr Vasylykovskyi<sup>3</sup>, Mykola Slipchenko<sup>4</sup>, Boris Chichkov<sup>1</sup> and Andrey Evlyukhin<sup>1</sup></p> <p style="text-align: center;"><sup>1</sup>Leibniz University Hannover, Hannover, Germany</p> <p style="text-align: center;"><sup>2</sup>Kharkiv National University of Radio Electronics, Kharkiv, Ukraine</p> <p style="text-align: center;"><sup>3</sup>Julius Maximilian University of Würzburg</p> <p style="text-align: center;"><sup>4</sup>National Technical University “Kharkiv Polytechnic Institute”, Kharkiv, Ukraine</p>
P27	<p style="text-align: center;"><b>Self-Cleaning Underwater Anti-Oil-Fouling Filters with Partially Dissoluble Surfaces for Enhanced Interfacial Oil/Water Separation</b></p> <p style="text-align: center;"><u>Eun Jin Kim</u><sup>1*</sup>, Won San Choi<sup>2</sup></p> <p style="text-align: center;"><sup>1</sup> Hanbat National University, Daejeon, Republic of Korea</p> <p style="text-align: center;"><sup>2</sup> Hanbat National University, Daejeon, Republic of Korea</p>
P28	<p style="text-align: center;"><b>Precisely Engineered Alginate Capsules via a Facile Strategy for Advanced Multifunctional Applications</b></p> <p style="text-align: center;"><u>Seung Hee Han</u><sup>1*</sup>, Won San Choi<sup>2</sup></p> <p style="text-align: center;"><sup>1</sup>Hanbat National University, 125, Daejeon, Republic of Korea</p> <p style="text-align: center;"><sup>2</sup>Hanbat National University, 125, Daejeon, Republic of Korea</p>
P29	<p style="text-align: center;"><b>Surface Modification of Polydopamine Particles with Polyethyleneimine Brushes for Enhanced Stability and Reduced Fragmentation</b></p> <p style="text-align: center;"><u>Eun Jin Kim</u> and Won San Choi*</p> <p style="text-align: center;">Dept of Chemical and Biological Engineering, Hanbat National University, 125 Dongseodaero, Yuseong-gu, Daejeon, Republic of Korea</p>



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