

PROGRAM

Tuesday 5 July 2022

10:30-11:00 (Crystall Hall)	Welcome and Opening Remarks Prof. S. Logothetidis, NN22 Chairman
11:00-11:30 KEYNOTE (L)	Engineering the Neuro-electronic Interface with Nanoscale Tools Prof. Andreas Offenhaeuser, Forschungszentrum Juelich, Germany
11:30-13:00	WS1 Session 1 (Crystal Hall) Chair: A. Christou
11:30-12:00 INVITED (V)	Simulating experimental techniques: Kelvin Probe Force Microscopy J.P. Connolly ¹ , J. Alvarez ¹ , J.-P. Kleider ¹ , M. Da Lisca ^{1,2} , V. Donchev ³ , Ahmed Nejm ⁴ ¹ GEEPs, Génie Electrique et Electronique de Paris, 91192, Gif-sur-Yvette, France ² IPVF, Institut Photovoltaïque d'Île-de-France, 30 route Départementale 128, F91120, France ³ Faculty of physics, Sofia University, blvd. James Bourchier, 5, 1164 Sofia, Bulgaria ⁴ Silvaco Europe, Cambridge, UK
12:00-12:30 INVITED (L)	Adhesion lithography for the fabrication of nanogap electronics H. Faber, K. Loganathan, A. D. Scaccabarozzi, E. Yarali, A. Seikhhan, E. Yengel, T.D. Anthopoulos King Abdullah University of Science and Technology (KAUST), Physical Science and Engineering Division, KAUST Solar Center (KSC), Thuwal 23955-6900, Saudi Arabia
12:30-12:45 (L) YRA Applicant	High-efficiency perovskite-organic blend light-emitting diodes featuring self-assembled monolayers as hole-injecting interlayers D. Gkeka ¹ , M. Gedda ¹ , M. I. Nugraha ¹ , A. D. Scaccabarozzi ¹ , E. Yengel ¹ , Y. Lin ¹ , J. I. Khan ¹ , I. Hamilton ² , F. Laquai ¹ , D. D. C. Bradley ² and T. D. Anthopoulos ¹ ¹ King Abdullah University of Science and Technology (KAUST), KAUST Solar Center (KSC), Thuwal 23955-6900, Saudi Arabia ² King Abdullah University of Science and Technology (KAUST), Division of Physical Sciences and Engineering, Thuwal 23955-6900, Saudi Arabia
12:45-13:00 (L)	Chemiresistive Water Quality Sensors Based on Surface-Modified Percolation Networks of Nanocarbons P. Kruse Department of Chemistry and Chemical Biology, McMaster University Canada

13:00-14:30	Lunch Break	NN22 Posters	Exhibition	Networking
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14:30-15:00 KEYNOTE (V)	Strategies for designing novel weakly-interacting heterostructures K. Sarakinos, University of Helsinki, Finland		15:00-16:30	WS1 Nanophotonics (Crystal Hall) Chair: V. Sivakov
15:00-16:30	WS2 Thin Films (Dock Six 1) Chair: S. Kassavetis		15:00-15:30 INVITED (L)	NEBULA project: Combining BTO based plasmonic modulators with Neuromorphic Augmented Receivers for higher than 100Gbaud Intra- and Inter- Data Center Interconnects K. Vyrsoinos, Aristotle University of Thessaloniki, Greece
15:00-15:30 INVITED (V)	Competitive crystalline/amorphous and selective growth modes: New opportunities to manipulate the properties of functional surfaces and devices D. Horwat, C. de Melo, A. Borroto Université de Lorraine, CNRS, IJL, F-54000 Nancy, France		15:30-16:00 INVITED (L)	Redox Probe for Bio-thiol Detection Using Photoluminescent CdTe Quantum Dot-Polynitroxylated Albumin Composite B. Zhang ¹ , P. Zou ¹ , J. Li ¹ , D. Lu ¹ , X.-j. Wang ² , and L. Ma ² ¹ Ministry of Education Key Laboratory for Cross-Scale Micro and Nano Manufacturing, Nanophotonics and Biophotonics Key Laboratory of Jilin Province, School of Science, Changchun University of Science and Technology, Changchun 130022, China. ² Department of Physics & Astronomy, Georgia Southern University, Statesboro, GA 30460, USA
15:30-16:00 INVITED (L)	Defect engineering in highly conductive ZnO nanowires grown by chemical bath deposition E. Sarigiannidou ¹ , J. Villafuerte ^{1,2} , J. Kioseoglou ³ , F. Donatini ² , J. Pernot ² , V. Consonni ¹ ¹ Univ. Grenoble Alpes, CNRS, Grenoble INP, LMGP, F-38000 Grenoble, France ² Univ. Grenoble Alpes, CNRS, Grenoble INP, Institut NEEL, F-38000 Grenoble, France ³ Physics Department, Aristotle University of Thessaloniki, 54124 Thessaloniki, Greece		16:00-16:15 (V)	Realistic models of nanoscale parametric amplifiers driven by radiation-induced dispersion force modulation: Novel accelerometry applications F. Pinto ¹ Department of Aerospace Engineering, Faculty of Engineering, Izmir University of Economics, Türkiye
16:00-16:15 (V) YRA Applicant	Photoswitchable thin films and biocompatible photoresponsive aero-polymers fabricated via initiated chemical vapor deposition (iCVD) M. H. Burk ¹ , S. Rehders ¹ , T. Strunskus ¹ , R. Herges ² , C. Selhuber-Unkel ³ , R. Adelung ⁴ , F. Faupel ¹ and S. Schröder ¹ ¹ Chair for Multicomponent Materials, Faculty of Engineering Kiel, Kaiserstr. 2, 24143 Kiel, Germany. ² Otto-Diels-Institute for Organic Chemistry, Kiel University, Otto-Hahn-Platz 4, 24118 Kiel, Germany. ³ Institute for Molecular Systems Engineering, Heidelberg University, Germany. ⁴ Chair for Functional Nanomaterials, Faculty of Engineering Kiel, Kaiserstr. 2, 24143 Kiel, Germany.			

16:15-16:30 EU PROJECT	ZnO Nanowire Based Hydrogen Discrimination with SAW Sensors I. Nicolae ¹ , R. Mihalcea ¹ , D. Costea ² , C. Staicu ¹ , M. Serbanescu¹ , C. Viespe ¹ , E. Slushanschi ² and A. Marcu ¹ ¹ National Institute for Laser Plasma and Radiation Physics, Magurele 077125, Romania ² University 'Politehnica' of Bucharest, Bucharest 060042, Romania	16:15-16:30	
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16:30-17:00	Coffee Break	NN22 Posters	Exhibition	Networking
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17:00-18:00	Computational 2 (Dock Six 1) Chair: P. Kelires	17:00-18:00	WS3 Nanomedicine 1 (Crystal Hall) Chair: C. Gravidis
17:00-17:30 INVITED (L)	First-principles studies on advanced electronic materials L. Tsetseris Department of Physics, School of Applied Mathematical and Physical Sciences, National Technical University of Athens, Greece	17:00-17:30 INVITED (L)	Global health impacts of Nanotechnology Law: The Growth of Safernano Regulations and Guidelines I L Feitshans ¹ , P. Sabatier ² ¹ Director, ESI Safernano and Fellow in international Law of Nanotechnology European Scientific Institute Archamps Technopole Archamps 74201 France; Research Assistant, O'Neill Institute for National and Global Health Law Georgetown University Law Center Washington DC USA, and Invited Professor ISTERre University of Grenoble France ² President, European Scientific Institute and Professor Emeritus University of Grenoble
17:30-18:00 INVITED (L)	Deciphering the Nanoparticles by Atomic Level, Large-Scale Simulations J. Kioseoglou Department of Physics, Aristotle University of Thessaloniki GR-54124, Thessaloniki, Greece.	17:30-18:00 INVITED (V)	Amendable pseudoviral system for aiding research in SARS-CoV-2 evolution, diagnosis and therapeutics W. Huang ^{1,2} ¹ Department of Pathobiological Sciences, School of Veterinary Medicine, Louisiana State University, Baton Rouge, LA 70803, USA ² Department of Microbiology and Immunology, College of Veterinary Medicine, Cornell University, Ithaca, NY 14853, USA

18:30
UTC/GMT+3**PLENARY SESSION**
(V: FORUM, L: GRAND PIETRA)

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

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10:30-11:00 KEYNOTE Chair: P. Kelires	Elementary band graphs: subgraphs and topological material properties I. Milošević, T. Vuković, N. Lazić, B. Nikolić, Z. Popović, M. Damnjanović , Faculty of Physics, University of Belgrade, Studentski trg 12, Serbia						
11:00-13:00	Computational 2 (Crystal Hall) Chair: P. Kelires	11:00-13:00	WS2 Thin Films 2 (Dock Six 2) Chair: C. Gravalidis	11:00-13:00	WS5 Graphene 1 (Timber Hall 1) Chair: G. Deligeorgis	11:00-13:00	WS3 Nanomedicine 2 (Dock Six 1) Chair: Y. Missirlis
11:00-11:30 INVITED (L)	DFT+Σ2 method for electron correlation effects at transition metal surfaces and nano-devices M. M. Radonjic ¹ , A. Droghetti ² , A. Halder ² , I. Rungger ³ , L. Chioncel ⁴ ¹ Institute of Physics Belgrade, University of Belgrade, Serbia ² School of Physics and CRANN, Trinity College, Ireland ³ National Physical Laboratory, United Kingdom ⁴ Theoretical Physics III, Center for Electronic Correlations and Magnetism, Institute of Physics, and Augsburg Center for Innovative Technologies, University of Augsburg, 86135 Augsburg, Germany	11:00-11:30 INVITED (V)	Controlled oxidation of VN thin films: a new and efficient method to get thermochromic VO₂ on large surfaces J.F. Pierson , D. Pilloud, A.C. Garcia-Wong, D. Mangin, F. Capon Institut Jean Lamour – Université de Lorraine Campus ARTEM, Nancy, France	11:00-11:30 KEYNOTE (L)	Self-consistent modelling of mid-IR optoelectronics based on graphene E. Lidorikis Department of Materials Science and Engineering, University of Ioannina, 45110 Ioannina, Greece Institute of Materials Science and Computing, University Research Center of Ioannina, 45110 Ioannina, Greece	11:00-11:30 INVITED (L)	A study of myoglobin and haemoglobin using vacuum and ambient pressure X-ray photoelectron spectroscopy W. Skinner ¹ , G. Kerherve ¹ , J. Ahlund ¹ , I. Mangialomini ¹ , D.J. Payne ^{1,2} ¹ Department of Materials, Imperial College London, Exhibition Road, London SW7 2AZ, UK ² Research Complex at Harwell, Harwell Science and Innovation Campus, UK
11:30-12:00 INVITED (L)	Topological quantum chemistry for quasi-one-dimensional systems with either translational or helical periodicity I. Milošević , S. Dmitrović, T. Vuković, M. Damnjanović Faculty of Physics, University of Belgrade, Studentski trg 12, Belgrade, Serbia	11:30-12:00 INVITED (L)	Innovative PVD ZrCu-based Thin film Metallic Glasses: from characterization to biomedical applications P. Steyer ¹ , F. Dupla ¹ , M. Prudent ² , A. Borroto ³ , S. Comby-Dassonneville ¹ , C. Der Loughian ¹ , F. Bourquard ² , J-P. Colombarier ² , F. Garrelie ² , J.F. Pierson ³ ¹ INSA Lyon, UCBL, CNRS, MATEIS Laboratory, University of Lyon, 69621 Villeurbanne, France ² Laboratoire Hubert Curien UMR CNRS 5516, University of Lyon, 42023 Saint-Etienne, France ³ Institut Jean Lamour, CNRS, University of Lorraine, F-54000 Nancy, France	11:30-11:45 EU-PROJECT (L)	Interaction of graphene-related materials with sensory neurons of the dorsal root ganglia L. Deleye ¹ , V. Castagnola ^{1,2} , M. Trevisani ¹ , F. Loiacono, E.V. Fernández-Pacheco, F. Benfenati ^{1,2} ¹ Center for Synaptic Neuroscience and Technology, Istituto Italiano di Tecnologia, Italy ² IRCCS San Martino Polyclinical Hospital, Genova, Italy ³ Immunology Operative Unit, IRCCS San Martino Polyclinical Hospital, 16132 Genoa, Italy ⁴ Facultad de Ciencias Químicas, Universidad Castilla La-Mancha, Ciudad Real, 13071 Spain	11:30-11:45 (V)	Sterilization processes for sensitive medical devices N. Karipidou ¹ , A.N. Tzavellas ² , N. Petrou ¹ , C. Katrilaka ¹ , M. Pitou ³ , E. Tsiridis ² , T. CholiPapadopoulou ^{3*} & A. Aggeli ^{1*} ¹ School of Chemical Engineering, Faculty of Engineering, Aristotle University of Thessaloniki ² Dpt of Orthopedics, School of Medicine, Aristotle University of Thessaloniki ³ School of Chemistry, Aristotle University of Thessaloniki, 54124 Thessaloniki, Greece
				11:45-12:00 (L)	Energetic bombardment and defect generation during magnetron-sputter-deposition of metal layers on graphene N. Pliatsikas ^{1,2} , F. Nadji Adjim ³ , O. Karabinaki ⁴ , M. Zarsheenas ¹ , G.A. Almyras ¹ , I. Shtepliuk ¹ , R. Yakimova ¹ , J. Arvanitidis ² , D. Christofilos ⁴ , K. Sarakinos ⁵ ¹ Department of Physics, Chemistry and Biology, Linköping University, Linköping, Sweden ² Physics Department, Aristotle University of Thessaloniki, Thessaloniki, GR 54 124, Greece ³ Department of Physics, University of Helsinki, P.O. Box 64, Helsinki FI-00014, Finland ⁴ School of Chemical Engineering & Physics Laboratory, Faculty of Engineering, Aristotle University of Thessaloniki, Thessaloniki, Greece ⁵ KTH Royal Institute of Technology, Department of Physics, Stockholm, Sweden	11:45-12:00 (L)	The electromagnetic wave absorption properties of the synthesized FeNi/ZnS nanocomposites S. Alikhanzadeh-Arani ¹ , H. Entezari ² , M. Almasi-Kashi ² ¹ Institute of Physics Polish Academy of Sciences, Warsaw, Poland ² Institute of Nanoscience and Nanotechnology, University of Kashan, Kashan, Iran

12:00-12:30 INVITED (V)	<p>Linear dispersions in low-dimensional structures: the role of crystalline symmetries, time reversal, and spin-orbit coupling</p> <p>N. Lazić¹, V. Damljanović², M. Damnjanović³, ...</p> <p>¹ NanoLab, Faculty of Physics, University of Belgrade, Serbia</p> <p>² Institute of Physics Belgrade, University of Belgrade, Serbia</p> <p>³ Serbian Academy of Sciences and Arts, Serbia</p>	12:00-12:30 INVITED (L)	<p>Transparent conducting and thermoelectric properties of thin films of p-type copper based compounds</p> <p>Y. Thimont¹, L. Presmanes, I. Sinnarasa, P. Darnige, P. Tailhades, A. Barnabé CIRIMAT, Université de Toulouse, CNRS, Université Toulouse 3 – Paul Sabatier, France</p>	12:00-12:15 (L)	<p>Thin-film assembly of few-layer nanosheet networks: transport properties and chemiresistive sensing</p> <p>S.P. Ogilvie¹, H.J. Wood¹, M.J. Large¹, A. Amorim Graf¹, K. Clifford¹, P.J. Lynch¹, G. Garcia², Y. Cao, N.A. Martin², I. Jurewicz³, A.B. Dalton¹</p> <p>¹ University of Sussex, Brighton, UK</p> <p>² National Physical Laboratory, Teddington, UK</p> <p>³ University of Surrey, Guildford, UK</p>	12:00-12:15 (L)	<p>Cell based drug delivery systems</p> <p>X. Koutsoumpou^{1,2}, V. Lenders^{1,2}, C. Maksoudian^{1,2}, S.J. Soenen^{1,2}, B. B. Manshian^{1,2}</p> <p>¹ Translational Cell and Tissue Research Unit, Department of Imaging and Pathology, K, Belgium</p> <p>² NanoHealth and Optical Imaging Group, Department of Imaging and Pathology, Belgium</p>
				12:15-12:30 (L)	<p>Evaluation of Strain and Doping in 2D Materials by Raman Spectroscopy</p> <p>F. Lee¹, M. Tripathi¹, S. Ogilvie¹, A. Amorim Graf¹, P. Lynch¹, M. Large¹, J. Parthenios², K. Papagelis^{2,3}, R. Garriga⁴, E. Muñoz⁵, A. Dalton¹</p> <p>¹ Department of Physics and Astronomy, University of Sussex, Brighton BN1 9RH, United Kingdom</p> <p>² Institute of Chemical Engineering Sciences, Foundation for Research and Technology- Hellas (FORTH/ICE-HT), Patras GR26504, Greece</p> <p>³ School of Physics, Department of Solid State Physics, Aristotle University of Thessaloniki, Thessaloniki 54124, Greece</p> <p>⁴ Departamento de Química Física, Universidad de Zaragoza, 50009 Zaragoza, Spain</p> <p>⁵ Instituto de Carboquímica ICB-CSIC, Zaragoza, Spain</p>	12:15-12:30 (L)	<p>Studying nano-bio interactions in live animals using nano-imaging</p> <p>B. B. Manshian^{1,2}, M. Izci³, C. Maksoudian³, K. Buttiens³, T. Chu³, S.J. Soenen^{2,3}</p> <p>¹ Cell and Tissue Research Unit, KULeuven, Belgium</p> <p>² Leuven Cancer Institute, KULeuven, Belgium</p> <p>³ NanoHealth and Optical Imaging Group, KULeuven, Belgium</p>
12:30-12:45 (L)	<p>Unraveling the atomic structure and reconstruction mechanisms of carburized W(110) by ab initio calculations</p> <p>Ye Wang, V. Zadin, A. Kyritsakis</p> <p>¹ Institute of Technology, University of Tartu Nooruse 1, 50411 Tartu, Estonia</p>	12:30-12:45 (V)	<p>Active and passive solutions for HPDE smart and sustainable packaging: barriers and sensing systems</p> <p>F. Gomes^{1*}, A. Monteiro¹, L. Truta¹, A. Faria¹, M. Dias², C. Natal², C. Roque², B. Penha³, T. Simões³, J. Redol³</p> <p>¹ CeNTI – Centre for Nanotechnology and Smart Materials, Portugal</p> <p>² Associate Laboratory i4HB - Institute for Health and Bioeconomy, Chemistry Department, NOVA School of Science and Technology, Portugal; UCIBIO – Applied Molecular Biosciences Unit, Department of Chemistry, NOVA School of Science and Technology, NOVA University LisbonPortugal</p> <p>³ Neutroplast - Portugal</p>	12:30-12:45 (L)	<p>Size-dependent porosity defines conductivity in liquid-exfoliated nanosheet networks</p> <p>Hannah J. Wood¹, Sean P. Ogilvie¹, Aline Amorim Graf¹, Keiran Clifford¹, Jeremy M. Thorpe¹, Jonathan P. Salvage², Peter J. Lynch¹, Matthew J. Large¹, Alan B. Dalton¹</p> <p>¹ University of Sussex, Brighton, United Kingdom</p> <p>² University of Brighton, Brighton, United Kingdom</p>	12:30-12:45 (L)	<p>Calcium Phosphate Nanoparticles in Diagnostic and Therapeutic Applications – From Tomography and Microscopy to Activating the Immune System</p> <p>S. Kollenda, M. Epple</p> <p>Inorganic Chemistry and Centre for Nanointegration Duisburg-Essen (CENIDE), University of Duisburg-Essen, Essen, Germany</p>

12:45-13:00 (L)	<p>The interplay between local and global dynamics for nano-filaments using computer simulations I.Andricioaei Departments of Chemistry, and of Physics and Astronomy, University of California, Irvine, USA</p>	12:45-13:00 (L)	<p>Investigation of persistent photoconductance and related electron mobility in thin IGZO layers with the PDL Hall technique A. Bojtor^{1,2}, G. Parada¹, P. Túttó¹, H. Korka¹, F. Korsós¹ ¹ Semilab Co. Ltd., Hungary ² Department of Physics, Institute of Physics, Budapest University of Technology and Economics, Hungary</p>	12:45-13:00 (L)	<p>Tunable synthetic reduced graphene oxide scaffolds elicit high levels of glioblastoma interconnectivity in vitro C.J. Brown¹, T. Simon², C. Cilibrasi³, P.J. Lynch¹, R.W. Harries¹, A.A. Graf¹, M.J. Large¹, S.P. Ogilvie¹, J.P. Salvage⁴, A.B. Dalton¹, G. Giamas³, A.A.K. King¹ ¹ Department of Physics and Astronomy, University of Sussex, Brighton, BN1 9QH, UK. ² Department of Translational Genomics, Keck School of Medicine, University of Southern California, Los Angeles, CA, USA ³ Department of Biochemistry and Biomedicine, University of Sussex, Brighton, BN1 9QG, UK ⁴ School of Pharmacy and Biomolecular Sciences, University of Brighton, BN2 4GJ, UK</p>	12:45-13:00 (L)	<p>Calcium phosphate nanoparticles as transporters of proteins into cells K. Kostka, M. Epple Inorganic Chemistry and Center of Nanointegration Duisburg-Essen (CENIDE), Faculty of Chemistry, University of Duisburg-Essen, Germany</p>
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13:00-14:30	Lunch Break	NN22 Posters	Exhibition	Networking
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14:30-15:00 KEYNOTE (L) (Crystal Hall)	<p>Development of Functional Surfaces with Controllable Wettability and Water Adhesion S. H. Anastasiadis^{1,2} ¹ FORTH-IESL, Greece ² Department of Chemistry, University of Crete, Crete, Greece</p>	14:30-15:00 KEYNOTE (L) (Timber Hall 1)	<p>Twistronics: electronic and phononic properties of twisted multilayered 2D materials E. Kaxiras, Z. Zhu, M. Angeli, D. T. Larson Department of Physics & 2School of Engineering and Applied Sciences, Harvard University, U.S.A</p>		
15:00-16:30	<p>Computational 4 (Crystal Hall) Chair: P. Kelires</p>	15:00-16:30	WS5 Graphene 2 (Timber Hall 1) Chair: E. Lidorikis	15:00-16:30	I3D 1 (Dock Six 1) Chair: R. Kargl
15:00-15:30 INVITED (L)	<p>Predicting the failure of two-dimensional silica glasses F. Font-Clos¹, M. Zanchi¹, S. Hiemer², S. Bonfanti¹, R. Guerra¹, M. Zaiser², S. Zapperi¹ ¹ Center for Complexity and Biosystems, Department of Physics, University of Milan, via Celoria 16, 20133 Milan, Italy ² Institute of Materials Simulation, Department of Materials Science Science and Engineering, Friedrich-Alexander-University, Germany</p>	15:00-15:30 INVITED (L)	<p>Next generation electronics using low dimensionality nanomaterials G. Deligeorgis^{1,2}, F. Iacovella¹, G. Fanourakis^{1,3}, D.M. Kosmidis¹, A. Provias^{1,2}, N. Armaou^{1,2}, A. Papadopoulou¹ ¹ IESL, FORTH, Greece ² Department of Physics, University of Crete Greece ³ Department of Materials Science and Technology, University of Crete, Greece</p>	15:00-15:30 INVITED (L)	<p>Nanoscribe: An overview from sub-micron and to high speed 3D printing Alexander Legant Nanoscribe GmbH & Co. KG, Germany</p>
15:30-16:00 INVITED (V)	<p>Computational modeling of complex polymeric nanostructured materials across scales: From atoms to macroscopic properties V. Harmandaris Computation-based Science and Technology Research Center, The Cyprus Institute, 2121 Nicosia, Cyprus, & Department of Mathematics and Applied Mathematics, University of Crete, GR-71409, & IACM FORTH, GR-71110 Heraklion, Crete, Greece.</p>	15:30-16:00 INVITED (V)	<p>Environmental effects on the electric transport and the photoresponse in 2D-materials based FETs A. Di Bartolomeo, E. Faella, F. Giubileo, K. Intonti, A. Kumar, A. Pelella, L. Viscardi Department of Physics E. R. Caianiello, University of Salerno, and CNR-SPIN, Italy</p>	15:30-15:45 (L)	<p>3D-printed metasurfaces for potential energy harvesting applications at 2.4 GHz Z. Viskadourakis¹, E. Tamiolakis², O. Tsilipakos¹, A. C. Tasolamprou¹, E. N. Economou^{1,2} and G. Kenanakis¹ ¹ IESL, FORTH), Greece. ² Physics Department, University of Crete, Greece</p>
				15:45-16:00 (V)	<p>HAPTIC Digital 3D printing on textile surfaces for high volume footwear manufacturing T.W. Schmidt, X.S. Jiang, J.Y. Zeng Key Lab for Sport Shoes Upper Materials of Fujian Province , Fujian Huafeng New Material Co., Ltd., Putian, Fujian, China</p>

<p>16:00-16:15 (L)</p>	<p>Modeling laser – dynamic release layer interactions in laser induced forward transfer M. O. Cernaianu¹, P. Ghenuche¹, T. Lippert^{2,3}, A. Palla-Papavlu⁴ ¹ Extreme Light Infrastructure - Nuclear Physics (ELI-NP) / Horia Hulubei National Institute of Physics and Nuclear Engineering, Romania ² Laboratory of Inorganic Chemistry, Department of Chemistry and Applied Biosciences, ETH Zurich, 8093 Zurich, Switzerland ³ Laboratory for Multiscale Materials Experiments, Paul Scherrer Institut, 5232 Villigen PSI, Switzerland ⁴ National Institute for Lasers, Plasma, and Radiation Physics, Lasers Department, Romania</p>	<p>16:00-16:15 (L)</p>	<p>Two dimensional MoS2 DC Field Effect Transistor for switching applications F. Iacovella¹, G. Fanourakis^{1,2}, E. del Corro³, M. Delgà³, C. Schaefer³, J. A. Garrido³, M. Sledzinska³, C. M. Sotomayor Torres³ and D. Deligeorgis^{1,2} ¹ IESL, FORTH, Greece ² Department of Physics, University of Crete, Greece ³ Catalan Institute of Nanoscience and Nanotechnology (ICN2), CSIC and BIST, Campus UAB, Bellaterra, 08193 Barcelona, Spain</p>	<p>16:00-16:15 (L)</p>	<p>Fully printed single-layer functional PCB via digital hybrid printing of polymer and molten metal Z. Khan¹, R. Zengerle^{1,2}, P. Koltay^{1,2,3}, S. Kartmann^{1,2}, Z. Shu^{1,2} ¹ Laboratory for MEMS Applications, IMTEK – Department of Microsystems Engineering, University of Freiburg, Germany ² Hahn-Schickard, Germany ³ Freiburg Center for Interactive Materials and Bioinspired Technologies (FIT), Germany</p>
<p>16:15-16:30</p>		<p>16:15-16:30 (L)</p>	<p>Unified Charge Control Model for MoS2 FET A. Mounir¹, B. Iniguez¹, F. Iime¹, T. Knobloch², T. Grasser², ¹ Rovira I Virgili University Tarragona, Spain ² Institute for Microelectronics (TU Wien), Vienna, Austria</p>	<p>16:15-16:30 (L)</p>	

16:30-17:00

Coffee Break

NN22 Posters

Exhibition

Networking

17:00-18:15	WS5 Graphene 3 (Timber Hall 1) Chair: E. Lidorikis	17:00-18:30	WS4 Bioelectronics 1 (Crystal Hall) Chair: Francesco De Angelis	17:00-18:30	I3D 2 (Dock Six 1) Chair: A. Legant
17:00-17:30 INVITED (L)	Hybrid Graphene/Silicon Integrated Photodetectors Ilya Goykhman Technion- Israel Institute of Technology, Israel	17:00-17:30 KEYNOTE (L)	Nanostructured devices for recording bio-electrical and bio-chemical activities in living cells F. De Angelis Italian Institute of Technology, Italy	17:00-17:30 INVITED (L)	Additive manufacturing of biomimetic vascular tissue models R. Kargl ^{1,2} , F. Lackner ¹ , I. Knechtli, ¹ T. Mohan ^{1,2} , J Stana, ³ N. Tsilimparis, ³ K. Stana Kleinschek ¹ ¹ Institute of Chemistry and Technology of Biobased System (IBioSys), Graz University of Technology, Austria ² Laboratory for Characterisation and Processing of Polymers, University of Maribor, Slovenia ³ Department of Vascular Surgery, Ludwig Maximilians University Munich, Germany
17:30-17:45 (L)	Fabrication of sensors based on graphene via laser direct transfer M. Filipescu, A. Bonciu, S. Brajnicov, A. Palla-Papavlu A. National Institute for Laser, Plasma, and Radiation Physics, Laser Department, Atomistilor St. 409, ZIP 077125, Magurele, Romania	17:30-18:00 INVITED (V)	Novel Origami Foil Based Microfluidic Chip for DNA Amplification and Multiplex Detection Fabricated by High-throughput R2R UV-NIL A. Linhardt ¹ : A. Haase ¹ , M. Arocena ¹ , S.Rodriguez Muina ¹ , S. Németh ² , M. Sonnleitner ³ , B. Stadlober ¹ ¹ JOANNEUM RESEARCH Forschungsgesellschaft mbH - Materials, A-8160 Weiz, Austria ² ViennaLab Diagnostics GmbH, Austria, 3Genspeed Biotech GmbH, Austria	17:30-17:45 (L)	Surface texture of biopharmaceutical equipment: Understand the differences between conventional and additive manufacturing techniques Á. Morales-López ¹ , K. Marteleur ² , A. Finne-Wistrand ¹ ¹ KTH Royal Institute of Technology, Department of Fibre and Polymer Technology, School of Engineering Sciences in Chemistry, Biotechnology and Health, Teknikringen, 56-58, SE 10044 Stockholm, Sweden ² Cytiva Björkgatan 30, SE 75184 Uppsala, Sweden
17:45-18:00 (V)	Light Emission Mechanisms from Graphene: a Review A. Beltaos ¹ Centre for Science, Athabasca University, 1 University Drive, Athabasca, Alberta, Canada			17:45-18:00 (V)	Development of 3D printed ceramic monolithic structures and membranes for gas separation applications E.M. Pechlivani ¹ , G. Kastrinaki ² , C. Zisis ¹ , A. Asimakopoulou ² , D. Koutsonikolas ² , D. Tzouvaras ¹ , E. Kikkinides ³ ¹ Information Technologies Institute, Centre for Research & Technology Hellas, 57001 Thessaloniki, Greece ² Chemical Process & Energy Resources Institute, Centre for Research & Technology Hellas, 57001 Thessaloniki, Greece ³ Department of Chemical Engineering, Aristotle University of Thessaloniki, 54124 Greece
18:00-18:15 (L)	Size-dependent packing in nanosheet networks yields record-high electrical conductivities K. Clifford University of Sussex, UK	18:00-18:15 (L)	PDMS-integrated Plasmonic Sensor as Flexible Chip for Metal Enhanced Fluorescence Biosensing and Imaging A. Campu, I. Muresan, A. M. Craciun, S. Astilean, M. Focsan Nanobiophotonics and Laser Microspectroscopy Center, Interdisciplinary Research Institute in Bio-Nano-Sciences, Babes-Bolyai University, 42 Treboniu Laurean Str., Cluj-Napoca 400271, Romania	18:00-18:15 (V)	3D Printed Inconel mechanical response related to Volumetric Energy Density E.M Pechlivani ¹ , L. Melidis ² , A.K. Kampouris ³ , K. Katakalos ² , T. Kontodina ¹ , D. Tzouvaras ¹ , A.A. Konstantinidis ³ ¹ Information Technologies Institute, Centre for Research & Technology Hellas, 57001 Thessaloniki, Greece ² Laboratory of Experimental Strength of Materials and Structures, School of Civil Engineering, Faculty of Engineering, Aristotle University of Thessaloniki, 54124 Thessaloniki, Greece ³ Laboratory of Engineering Mechanics, School of Civil Engineering, Faculty of Engineering, Aristotle University of Thessaloniki, 54124 Thessaloniki, Greece
		18:15-18:30 (L) YRA Applicant	Disposable Plasmonics for Biosensing and Chiral SERS M. Kartau, A. Karimullah University of Glasgow, Glasgow, G12 8QQ, UK		

Thursday 7 July 2022

10:30-13:00	WS2 Nanoengineering (Timber Hall 2) Chair: S. Kassavetis	10:30-13:00	WS3 Nanomedicine 3 (Dock Six 1) Chair: K. G. Kousoulas	10:30-13:00	WS4 Bioelectronics 2 (Timber Hall 1) Chair: P. Gkoupidenis		
10:30-11:00 INVITED (L)	Single-molecule chemical reactions probed by atomic force microscopy Shadi Fatayer ^{1,2} ¹ Applied Physics Program, King Abdullah University of Science and Technology, Saudi Arabia ² IBM Research – Zurich, Switzerland	10:30-11:00 INVITED (L)	From multi-omics profiling and machine learning to the design of pharmacogenomics-based clinical trials in cardiovascular precision medicine I.S. Vizirianakis Laboratory of Pharmacology, School of Pharmacy, Aristotle University of Thessaloniki, 54124 Thessaloniki, Greece; and Department of Life and Health Sciences, University of Nicosia, CY-1700 Nicosia, Cyprus	10:30-11:00 INVITED (L)	The route towards an organic liquid retina nano-prosthesis G. Lanzani Polytechnic University of Milan, Italy		
11:00-11:15 (L)	Fire Retardants Polymer Nanocomposites with Nanoparticles E. Kicko-Walczak, G. Rymarz, I. Gajlewicz Institute for Engineering of Polymer Materials and Dyes in Toruń, Skłodowskiej-Curie 55 POLAND	11:00-11:30 INVITED (L)	Utility of a Recombinant HSV-1 Vaccine Vector for Personalized Cancer Vaccines I.K. Uche ¹ , B.A. Stanfield ¹ , P.J.F. Rider ¹ and K.G. Kousoulas ^{1,2} ¹ Division of Biotechnology and Molecular Medicine, School of Veterinary Medicine, Baton Rouge, LA and ² Stanley S. Scott Cancer Center, LSU Health Sciences Center, New Orleans, LA.	11:00-11:30 INVITED (V)	Organic photovoltaics for wireless wide-area retinal stimulation D. Ghezzi EPFL, Switzerland	11:00-13:00	I3D 3 3D Bioprinting (Dock Six 2) Chair: I. Zergioti
11:15-11:30 (L)	A Novel Pathway for the Construction of Core-Shell Photocathodes for PEC Applications L. Trinh, K. Bienkowski, R. Solarska Centre of New Technology, University of Warsaw, Poland					11:00-11:30 KEYNOTE (V)	3D-Printing and Sustainable Research V. Prasad Shastri Institute for Macromolecular Chemistry, University of Freiburg Stefan-Meier Str. 31, Freiburg, 79104 Germany
11:30-11:45 (L)	Multimetallic Nanostructures for Electrochemical Sensing Applications A. Arvinte Centre of Advanced Research in Bionanoconjugates and Biopolymers, „Petru Poni” Institute of Macromolecular Chemistry, Romania	11:30-11:45 (L)	Transition-metal based nanomaterials for in vivo imaging and theranostic applications C.M. Uritu ¹ , G.D. Stanciu ¹ , B. Dragoi ² , R. Ghiarasi ³ , A. Coroaba ³ , M. Pinteala ³ , B.I. Tamba ¹ ¹ Centre for Advanced Research and Development in Experimental Medicine (CEMEX), “Grigore T. Popa” University of Medicine and Pharmacy, Romania ² TRANSCEND Centre, Regional Institute of Oncology, Romania ³ Centre of Advanced Research in Bionanoconjugates and Biopolymers, “Petru Poni” Institute of Macromolecular Chemistry, Romania	11:30-12:00 INVITED (V)	Nanoscale effects in organic transistors for bioelectronics F. Biscarini ^{1,2} , S. Drakopoulou ² , M. Murgia ^{1,3} , M. Di Lauro ¹ , M. Bianchi ¹ , C. Albonetti ^{1,3} ¹ Center for Translational Neurophysiology - Istituto Italiano di Tecnologia Via Fossato di Mortara 17-19, 44100 Ferrara, Italy ² Life Sciences Dept. – Università di Modena e Reggio Emilia Via Campi 103, 41125 Modena, Italy ³ Institute for Nanostructured Materials – Consiglio Nazionale delle Ricerche (CNR-ISMN) Via Gobetti 101, 40129 Bologna, Italy	11:30-12:00 INVITED (L)	Laser Induced Forward Transfer as an enabling bioprinting technology C. Kryou ¹ , P. Karakaidos ² , A. Hatzia Apostolou ³ , A. Klinakis ² , and I. Zergioti ¹ ¹ School of Applied Mathematical and Physical Sciences, National Technical University of Athens, Athens, Greece ² Biomedical Research Foundation Academy of Athens, Greece ³ Department of Naval Architecture, School of Engineering, University of West Attica, Greece
11:45-12:00 (V)	Study of copper and zinc oxide-based thin-film heterostructures synthesized by magnetron sputtering: properties and features of formation S. Pashayan ¹ , R. Avetisyan ² , S. Zlotski ³ , V. Anishchik ³ ¹ Institute for Physical Research of NAS of Armenia, Ashtarak-2, 0203, Armenia ² Institute of Radiophysics&Electronics, NAS of Armenia, Alikhanian br.,1, Ashtarak,0203, Armenia ³ Belarusian State University, Minsk, Belarus	11:45-12:00 (V)	Intrinsically chiral gold nanoparticles in etching based plasmonic Enzyme-Linked Immunosorbent Assay (pELISA) J. Kowalski ¹ , N. Kowalska ¹ , F. Bandalewicz ¹ , W. Lewandowski ¹ Faculty of Chemistry, University of Warsaw, Poland				

12:00-12:15 (L)	Thiol-Ene Ionogels with Octakis(acryloxypropyl) Silsesquioxane K. Szczesniak, A. Lewandowska, P. Gajewski, M. Robakowska, A. Marcinkowska, Department of Polymers, Faculty of Chemical Technology, Institute of Chemical Technology and Engineering, Poznan University of Technology, Poland	12:00-12:15 (L)	Small molecule pattern recognition using MinION®-Nanopores I. Quint ^{1,2} , J. Simantzik ¹ , W. Schary ¹ , M. Kohl ¹ and H.P. Deigner ^{1,2,3} ¹ Institute of Precision Medicine, Furtwangen University, Germany ² Department of Pharmaceutical and Medicinal Chemistry, Institute of Pharmaceutical Sciences, Germany ³ EXIM Department, Fraunhofer Institute IZI (Leipzig), Germany	12:00-12:15 (L)	Development of 3D organic polymer dendrites as neuromorphic device K. Janzakova ¹ , M. Ghazal ¹ , A. Kumar ² , Y. Coffinier ¹ , S. Pecqueur ¹ , F. Alibart ^{1,2} ¹ Institut d'Électronique, Microélectronique et Nanotechnologie (IEMN), CNRS, France. ² Laboratoire Nanotechnologies & Nanosystèmes (LN2), CNRS, Université de Sherbrooke, Canada.	12:00-12:30 INVITED (L)	Global health impacts of nanotechnology law: Nanoregulations governing food Dr. Ilise Feitshans JD and ScM and DIR ¹ , Director, ESI SAFERNANO European Scientific Institute, Archamps France AND Research Assistant O Neill Institute for National and Global Health Law Georgetown University Law Center Washington DC USA
12:15-12:30 (V)	Mesoporous Assemblies of CdIn₂S₄ Nanocrystals Decorated with Ni₂P Nanosheets as Efficient Photocatalysts for Solar Hydrogen Production E. K. Andreou, I. Vamvasakis G. S. Armatas Department of Materials Science and Technology, University of Crete, Greece	12:15-12:30 (L)	Metal-based Nanoparticles as innovative tools to face antimicrobial resistance K. Giannousi & C. Dendrinou-Samara Laboratory of Inorganic Chemistry, Department of Chemistry, Aristotle University of Thessaloniki, Thessaloniki, 54124, Greece	12:15-12:30 (V)	A hybrid piezoelectric and electrostatic energy harvester for scavenging arterial pulsations I. Sobianin ¹ , S. Psoma ¹ , J. Johnson ¹ , I. Jowers ¹ , A. Tourlidakis ² ¹ School of Engineering & Innovation, The Open University, UK ² School of Engineering, University of Western Macedonia, Greece		
12:30-12:45 (V)	Photoelectrochemical properties of WO₃/BiVO₄/Ag₂O V. Cristino Department of Chemical, Pharmaceutical and Agricultural Sciences, University of Ferrara, Italy	12:30-12:45 (V)	Biosilica from rice husk: process optimization from lab- to pilot-scale F. Gomes, F. Miranda, A. Moreira, M. Oliveira, V. Bouça, A. Barros, J. Oliveira, M. Ornelas CeNTI, Centre for Nanotechnology and Smart Materials, Portugal	12:30-12:45 (V)	Real-time reaction monitoring of liquids on the chip-scale B. Hinkov ¹ , G. Marschick ¹ , F. Pilat ¹ , M. David ¹ , A. Schwaighofer ² , P. L. Souza ^{1,3} , B. Schwarz ¹ , D. Ristanic ¹ , L. Lux ² , H. Detz ^{1,4} , A. M. Andrews ¹ , B. Lendl ² and G. Strasser ¹ ¹ Institute of Solid State Electronics & Center for Micro- and Nanostructures, Technische Universität, Austria ² Institute of Chemical Technologies & Analytics, Technische Universität Wien, Vienna, Austria ³ LabSem-CETUC, Pontificia Universidade Católica do Rio de Janeiro, Rio de Janeiro, Brazil ⁴ CEITEC, Brno University of Technology, Brno, Czech Republic	12:30-12:45 (L)	Biomechanical performances of PCL/HA micro- and macro-porous lattice scaffolds for tissue engineering application produced by LPBF M.L. Gatto ¹ , P. Mengucci ² , M. Furlani ³ , A. Giuliani ³ , E. Santecchia ¹ , S. Spigarelli ¹ ¹ Department DIISM, Polytechnic University of Marche, Italy ² Department SIMAU, Polytechnic University of Marche, Italy ³ Department of Clinical Science, Polytechnic University of Marche, Italy
12:45-13:00 (V)	Mesoporous II-VI metal sulfide nanocrystal networks coupled with β-Ni(OH)₂ and Ni₂P co-catalysts for highly-efficient photocatalytic hydrogen production activity I. Vamvasakis, E. K. Andreou, G. S. Armatas Department of Materials Science and Technology, University of Crete, Greece	12:45-13:00 (L)	Chitosan-coated nanoparticles biofunctionalized with A1 von Willebrand Factor as a smart biomaterial to target the atheromatous plaque M. Pitou ¹ , V. Kargiozaki ² , S. Logothetidis ² , S. Dermenoudis ² , C. Gravalidis ² , M. Karatza ¹ , T. Choli-Papadopoulou ¹ ¹ Department of Chemistry, Aristotle University of Thessaloniki, 54124, Thessaloniki, Greece ² Department of Physics, Aristotle University of Thessaloniki, 54124, Thessaloniki, Greece	12:45-13:00 (L) YRA Applicant	Wearable Microneedle-Based Extended Gate Transistor Biosensor for Real-Time Detection of Biomarkers in Interstitial Fluids R. Omar ¹ , Y. Zheng ¹ , H. Haick ¹ Department of Chemical Engineering and Russell Berrie Nanotechnology Institute, Technion-Israel Institute of Technology, Haifa 3200003, Israel	12:45-13:00 (L)	Laser bioprinting of cells and tumor organoids for organ-on-chip applications E. Elezoglou ^{1,3} , M. Chliara ¹ , M. Chatzipetrou ¹ , S. Papazoglou ³ , K. Tsilingiri ² , A. Klinakis ² , I. Zergioti ¹ ¹ National Technical University of Athens, School of Applied Mathematical and Physical Sciences, Athens, Greece ² Biomedical Research Foundation of the Academy of Athens, Athens, Greece ³ PhosPrint P.C., Attika Technology Park Lefkippos, Agia Paraskevi, Athens, Greece

13:00-14:30

Lunch Break

NN22 Posters

Exhibition

Networking

All times displayed in Greece local time (UTC/GMT+3)

				14:30-16:30	WS4 Bioelectronics 3 (Timber Hall 1) Chair: G. Lanzani
				14:30-15:00 INVITED (V)	Bioelectronics with photosynthetic microorganisms G. M. Farinola ¹ , M. Grattieri ¹ , M. Trotta ² , F. Biscarini ^{3,4} , D. Vona ¹ , G. Buscemi ¹ , C. Vicente Garcia ¹ , S. Cicco ¹ , R. Ragni ¹ , F. Milano ² , M. Di Lauro ^{3,4} ¹ Department of Chemistry, Università degli Studi di Bari "Aldo Moro", Bari, Italy; ² CNR IPCF Bari, Italy; ³ Dipartimento di Scienze della Vita, Università di Modena e Reggio Emilia, Italy; ⁴ Center for Translational Neurophysiology of Speech and Communication, IIT Ferrara, Italy
15:00-16:30	WS2 Nanoengineering (Timber Hall 2) Chair: S. Kassavetis	15:00-16:30	WS3 Nanomedicine 4 (Dock Six 1) Chair: Y. Missirlis		
15:00-15:30 INVITED (V)	Casimir force in real material interactions and device applications G. Palasantzas Zernike Institute for Advanced Materials, University of Groningen, The Netherlands	15:00-15:30 INVITED (V)	Ionized Jet Deposition of antibacterial and pro-osseointegrative nanocoatings in orthopaedics: validation in vitro and in vivo G. Graziani ¹ , M. Fini ² , M. Sartori ² , D. Ghezzi ¹ , M. Cappelletti ³ , M. Boi ¹ , E. Sassoni ⁴ , M. Montesissa ⁵ , N. Baldini ^{1,5} ¹ Department Rizzoli RIT – Research, Innovation & Technology, Biomedical Sciences and Technologies and Nanobiotechnologies, IRCCS – Istituto Ortopedico Rizzoli, via di Barbiano 1/10, Bologna, Italy ² Department Rizzoli RIT – Research, Innovation & Technology, Surgical Sciences and Technologies Complex Structure, IRCCS – Istituto Ortopedico Rizzoli, via di Barbiano 1/10, Bologna, Italy ³ Department of Pharmacy and Biotechnology, University of Bologna, via Irnerio 42, Bologna, Italy ⁴ Department of Civil, Chemical, Environmental and Materials Engineering, University of Bologna, via Terracini 28, Bologna, Italy ⁵ Department of Biomedical and Neuromotor Sciences, University of Bologna, via Massarenti 9, Bologna, Italy	15:00-15:30 INVITED (V)	Towards electronic drug delivery implants for the brain Christopher Proctor University of Cambridge
15:30-16:00 INVITED (V)	Dynamic Materials Inspired by Cephalopods A.A. Gorodetsky, P. Prataksya, A. Farrukh Department of Chemical and Biomolecular Engineering University of California, Irvine Irvine, CA, 92697 USA	15:30-15:45 (L)	Spectrophotometric Determination of Molybdenum(VI) as a Ternary Chloroform-Extractable Complex V.V. Divarova ¹ , A. Saravanska ¹ , N. Milcheva ¹ , P. Racheva ¹ , V.B. Delchev ² , K. Gavazov ¹ , N. Parapanova and G. Toncheva ³ ¹ Faculty of Pharmacy, Department of Chemical Sciences, Medical University of Plovdiv, Bulgaria ² Faculty of Chemistry, Department Physical Chemistry, University of Plovdiv "Paissii Hilendarski", Bulgaria ³ Faculty of Chemistry, Department of General and Inorganic Chemistry with Methodology of Chemical Education, University of Plovdiv "Paissii Hilendarski", Bulgaria	15:30-16:00 INVITED (L)	Organic neuromorphic electronics for learning and bio-interfacing Paschalis Goupidenis Max Planck Institute for Polymer Research, Germany
		15:45-16:00 (L)	Systematic study of enzymatic-like activities of metallic and metal-oxide nanoparticles Mirra G. ^{1,2} , Cursi L. ¹ , Boselli L. ¹ , Pompa P.P. ¹ ¹ Nanobiointeractions & Nanodiagnostics, Istituto Italiano di Tecnologia, Genoa, Italy ² Department of Chemistry and Industrial Chemistry, University of Genova, Italy		
16:00-16:30 INVITED (L)	Meta-nano manufacturing: current status and perspective of high-end, high- throughput manufacturing of nano-enabled components and meta-surfaces. N. Kehagias NCSR "Demokritos", Greece	16:00-16:15 (L)	Gene silencing of proinflammatory NF κ B and inhibition of herpes simplex virus (HSV) replication by ultrasmall gold nanoparticles (2 nm) conjugated with small-interfering RNA N. Wolff ¹ , S. Kollenda ¹ , K. Klein ¹ , K. Loza ¹ , M. Heggen ² , L. Brochhagen ³ , O. Witzke ³ , A. Krawczyk ³ , I. Hilger ⁴ , and M. Epple ¹ ¹ Inorganic Chemistry and Centre for Nanointegration Duisburg-Essen (CENIDE), University of Duisburg-Essen, 45117 Essen, Germany ² Ernst-Ruska Centre for Microscopy and Spectroscopy with Electrons, Forschungszentrum Jülich GmbH, 52428 Jülich, Germany ³ Department of Infectious Diseases, West German Centre of Infectious Diseases, University Hospital Essen, University of Duisburg-Essen, Germany ⁴ Dept. of Experimental Radiology, Institute of Diagnostic and Interventional Radiology, Jena University Hospital, Friedrich Schiller University Jena, Germany	16:00-16:30 INVITED (V)	Hydrogen-bonded molecules for bio-organic electronic applications C. Yumusak Linz Institute for Organic Solar Cells (LIOS), Physical Chemistry, Johannes Kepler University Linz, 4040 Linz, Austria
		16:15-16:30 (L)			

16:30-17:00		Coffee Break	NN22 Posters	Exhibition	Networking		
17:00-18:30	WS1 Nanoenergy (Dock Six 2) Chair: K. Vyrsoinos	17:00-19:15	WS2 Nanocellulose (Timber Hall 2) Chair: S. Spirk	17:00-18:15	WS3 EDIT PROJECT (Dock Six 1) Chair: K. Stefanou	17:00-18:30	WS4 Bioelectronics 4 (Timber Hall 1) Chair: C. Yumusak
17:00-17:30 INVITED (L)	Micro/Nanofiber Structures for Mechanical Energy Harvesting F. J. Diaz Sanchez, M. Chung, M. Waqas, S. Smith, N. Radacsi, V. Koutsos University of Edinburgh, UK	17:00-17:30 INVITED (L)	Magnetic nanocellulose materials T. Nypelö ^{1,2} ¹ Department of Chemistry and Chemical Engineering, Chalmers University of Technology, Gothenburg, Sweden ² Wallenberg Wood Science Center, Chalmers University of Technology, Gothenburg, Sweden	17:00-17:15 (L)	Early diagnosis of bladder cancer by tumor-targeted gold nanorods Massimo Alfano ¹ Division of Experimental Oncology/Unit of Urology; URI; IRCCS San Raffaele Scientific Institute, Milan, Italy	17:00-17:30 INVITED (L)	Biomedical devices and Therapeutic applications D.A. Koutsouras Imec High Tech Campus 31, 5656 AE Eindhoven, The Netherlands
17:30-17:45 (L)	Silicon nanowires for efficient hydrogen generation V. Sivakov Leibniz Institute of Photonic Technology, Dept. Functional Interfaces, Group Silicon Nanostructures, Germany	17:30-18:00 INVITED (L)	Multidimensional Patterns on and in Biopolymer Thin Films S. Spirk Institute of Bioproducts and Paper Technology, Graz University of Technology, Austria	17:15-17:45 INVITED (L)	EDIT: A software for the automated reconstruction of the urinary bladder of animal models K. Stefanou ¹ Lime Technology IKE, Parodos Archiepiskopou Makariou, Ioannina, Greece	17:30-17:45 (L) YRA Applicant	Design and evaluation of a Double-Gate Organic Thin Film Transistor (OTFT) for biosensing T. Fresneau, K. Romanjek, P. Mailley Organic Components Laboratory, Université Grenoble-Alpes, CEA Grenoble, 17 rue des Martyrs, 38054 Grenoble, France
17:45-18:00 (L)	Nanomaterials for solar energy conversion and storage P.M. Anjana ^{1,2} , G. Michele ¹ , R. Andrea ¹ , C. Andrea ¹ , K. Ilka ¹ ¹ Functional Nanosystems, Istituto Italiano di Tecnologia, via Morego 30, 16163 Genova, Italy ² Dipartimento di Chimica e Chimica Industriale, Università degli Studi di Genova, Via Dodecaneso 31, 16146 Genova, Italy			17:45-18:15	Round Table Discussion	17:45-18:00 (L)	Inkjet Printing of heaters and temperature sensors for PCR and LAMP analysis on Lab-on-a-chip devices T. Schönfelder ¹ , F. Kemper ¹ , E. Beckert ¹ , A. Tünnermann ^{1,2} , S. Allelein ³ , D. Kuhlmeier ³ , C. Freese ⁴ ¹ Fraunhofer Institute for Applied Optics and Precision Engineering (IOF), Albert-Einstein-Str. 7, 07745 Jena, Germany ² Institute of Applied Physics, Abbe Center of Photonics, Friedrich Schiller University Jena, Max-Wien-Platz 1, 07743 Jena, Germany ³ Fraunhofer Institute for Cell Therapy and Immunology (IZI), Perlickstraße 1, 04103 Leipzig, Germany ⁴ Fraunhofer Institute for Microengineering and Microsystems (IMM) Carl-Zeiss-Str. 18, 55129 Mainz, Germany
18:00-18:15 (L)	Triboelectric generators with ZnO nanoparticle-modified surfaces A. Segkos, I. Savvidis, A. Bardakas, C. Tsamis NCSR "Demokritos", Institute of Nanoscience and Nanotechnology, 15310 Aghia Paraskevi, Athens, Greece	18:00-18:30 INVITED (L)	Thermodynamics of ion-driven gelation of cellulose nanocrystal suspensions S. Lombardo, W. Thielemans Sustainable Materials Lab, Department of Chemical Engineering, KU Leuven, Campus Kulak Kortrijk, Etienne Sabbelaan 53, 8500 Kortrijk, Belgium			18:00-18:15 (L)	Bio-Electronic platforms and digitization of Biosensor Devices A. Orfanos ¹ , K. Tsimenidis ¹ , K. Avramidis ² , C. Varlamis ^{1,2} , S. Logothetidis ² ¹ BL NanoBiomed P.C. 20th KM Thessaloniki - Tagarades, Thermi, Greece ² Organic Electronic Technologies P.C. 20th KM Thessaloniki - Tagarades, Thermi, Greece

<p>18:15-18:30 (V)</p>	<p>Comparison of NiM2O4 (M:Fe,Mn) Nanofibers as Anode for Li-ion Batteries F. Sarf¹, Ö. Eroğlu², H. Kızı² ¹Çan Vocational School, Çanakkale Onsekiz Mart University, Çanakkale, Turkey ²Metallurgy and Materials Engineering, Istanbul Technical University, Istanbul, Turkey</p>		
<p>18:30-18:45 (V)</p>	<p>Ni-Fe laser-nanostructured electrodes for battery-electrolyser applications to increase hydrogen production and improve electricity storage I.A. Poimenidis¹, N. Papakosta^{2,3}, A. Klini², M. Farsari², S.D. Moustazis¹, P.A. Loukakos² ¹ Technical University of Crete, School of Production Engineering & Management, Lab of Matter Structure and Laser Physics, 73100 Chania, Crete, Greece. ² Foundation for Research and Technology – Hellas, Institute of Electronic Structure and Laser, 70013 Heraklion, Greece. ³ University of Crete, Department of Materials Science and Technology, 70013 Vassilika Vouton, Heraklion, Greece.</p>	<p>18:30-19:00 INVITED (L)</p>	<p>Water-responsive nanocellulose-based architectures for materials engineering T. Tammelin VTT Technical Research Centre of Finland, Tietotie 4E, 02044 VTT, Espoo Finland</p>
		<p>19:00-19:15 (L)</p>	<p>Cellulose nanocrystals functionalized with multivalent metal cations P. Spiliopoulos¹, S.L. Navarro¹, R. Ghanbari², R. Kádár², T. Nypelö¹ ¹ Chalmers University of Technology, Division of Applied Chemistry, Department of Chemistry and Chemical Engineering, Kemigården 4, SE-412 96 Göteborg, Sweden Göteborg, Sweden ² Chalmers University of Technology, Division of Engineering Materials, Department of Industrial and Materials Science, Rännvägen 2A Göteborg, Sweden</p>

<p>18:15-18:30 (V)</p>	<p>Gas Mixtures Recognition with Feature Extracted from the Single Gas: A KNN Model-Based Approach for Diabetes-specific Odor Diagnosis X. Li¹, X. Hu¹, A. Li¹, R. Kometani¹, I. Yamada², M. Noma², K. Nakanishi², Y. Fukuda², K. Sashida², T. Takemori², K. Maehara², K. Ikeda², K. Yoshida², Y. Mita¹, S. Warisawa¹ ¹ Graduate School of Frontier Sciences, The University of Tokyo, Japan ² Shindengen Electric Manufacturing Co., Ltd., Chiyoda, Tokyo 100-0004, Japan</p>
<p>18:30-18:45 (V)</p>	<p>Direct writing of conducting polymer 2D/3D microelectrodes for physiological recording and stimulation P. Zhang^{1,2,3}, O. Athavale³, P. Du³ and J. Travas-Sejdic^{1,2} ¹ School of Chemical Sciences, The University of Auckland, New Zealand ² The MacDiarmid Institute for Advanced Materials and Nanotechnology, New Zealand ³ Auckland Bioengineering Institute, The University of Auckland, New Zealand</p>

Friday 8 July 2022

		10:30-13:00	WS3 Special Session of NanoExplore EU Project (Crystal Hall) Chair: A. Progiou	10:30-13:00	WS2 Nanostructures (Timber Hall 2) Chair: C. Gravalidis
		10:30-10:50 (L)	Integrated approach for exposure and health effects monitoring of engineered nanomaterials in workplaces and urban areas A. Progiou ¹ , E. Bergamaschi ² , I. Guseva Canu ³ , C. Fito ⁴ , P. Dohanyosova ⁵ , A. Zarogianni ⁶ , J. Friesl ⁷ ¹ ALCON Consultant Engineers, Athens, Greece, ² Laboratory of Toxicology and Industrial Epidemiology, Department of Public Health and Pediatrics, University of Torino, Italy, ³ Unisanté, University of Lausanne, Switzerland, ⁴ ITENE, Spain, ⁵ RAMEM, Spain, ⁶ Natural Environment and Climate Change Agency, Athens, Greece, ⁷ Yordas Group, Germany	10:30-11:00 INVITED (L)	Multi-nano layer polymer coextrusion: a large scale process to nanostructure polymer/2D inorganic material based thin films N. Rivollier ^{1,3} , R. Gunder ² , G. Cabrera ¹ , G. Dennler ¹ , S. Schorr ^{2,3} ¹ IPC (Centre Technique Industriel de la Plasturgie et des Composites), 2 rue Pierre et Marie Curie, 01 100 BELLIGNAT, France. ² HZB (Helmholtz Zentrum Berlin) Hahn-Meitner Platz 1, 14109 BERLIN, Deutschland. ³ Freie Universität Berlin Malteserstr. 74-100, 12249 BERLIN, Deutschland.
11:00-13:00	WS1 Nanophotonics (Timber Hall 1) Chair: A. Christou				
11:00-11:30 INVITED (V)	Optical metasurfaces implemented by Laser Induced Periodic Surface Structures A. C. Tasolamprou ¹ , E. Skoulas ¹ , G. Perrakis ¹ , M. Vlahou ^{1,2} , Z. Viskadourakis ¹ , E. N. Economou ^{1,3} , M. Kafesaki ^{1,2} , E. Stratakis ^{1,3} and G. Kenanakis ¹ ¹ Institute of Electronic Structure and Laser, Foundation for Research and Technology Hellas, N. Plastira 100, 71110, Heraklion, Crete, Greece ² Department of Materials Science and Technology, University of Crete, Heraklion, 70013, Greece ³ Department of Physics, University of Crete, Heraklion, 70013, Greece	10:50-11:10 INVITED (L)	NanoExplore- A new real-time monitoring system to support the risk assessment of ENMs in urban areas and industrial facilities C. Fito-López ¹ ; H. Prima ¹ ; V. Vela ¹ ; A. Progiou ² , P. Dohanyosova ³ ITENE, Albert Einstein, 1. Paterna. Spain ALCON, Trias 18, Athens 112 57, Greece. Arquimea Group, C. Margarita Salas, N° 10, 28919 Leganés, Madrid	11:00-11:30 INVITED (V)	From the Atomic Structure to the Optoelectronic Properties Studies of 1D and 2D Complex Nanostructures via TEM R. Arenal University of Zaragoza, Spain
11:30-12:00 INVITED (L)	Ultrafast all-optical control of spins in magnetic dielectrics and hybrid photonic structures A. Stupakiewicz Faculty of Physics, University of Białystok, Poland	11:10-11:30 (L)	Urinary excretion of metals in workers producing technological paints and coatings M. Panizzolo ¹ , F. Ghelli ¹ , V. Bellisario ¹ , G. Squillaciotti ¹ , G. Mariella ¹ , I. Guseva-Canu ² , C. Fito López ³ , R. Bono ¹ , E. Bergamaschi ¹ ¹ Department of Public Health and Pediatrics, University of Turin, via Santena 5bis, 10126 Turin, Italy ² Center for Primary Care and Public Health (Unisanté), University of Lausanne, Route de la Corniche 2, 1066 Epalinges-Lausanne, Switzerland ³ ITENE, Albert Einstein, 1. 46980 Paterna (Valencia), Spain	11:30-11:45 EU PROJECT (L)	Towards the challenging detection of per- and polyfluoroalkyl substances (PFAS) with nano-enabled Raman Scattering (SERS): Initial steps based on Metal Organic Frameworks substrates Z.G. Lada ^{1,2} , G.N. Mathioudakis ^{1,3} , A. Soto Beobide ¹ , L. Sygellou ¹ , K.S. Andrikopoulos ^{1,4} , G.A. Voyiatzis ¹ ¹ Institute of Chemical Engineering Sciences, Foundation for Research and Technology-Hellas, Greece ² Department of Chemistry, University of Patras, Greece ³ Department of Materials Science, University of Patras, Greece ⁴ Department of Physics, University of Patras, Greece
		11:30-11:50 (L)	Biomarkers of oxidative stress in workers exposed to NMs F. Ghelli ¹ , M. Panizzolo ¹ , G. Squillaciotti ¹ , V. Bellisario ¹ , I. Guseva-Canu ² , R. Bono ¹ , E. Bergamaschi ¹ ¹ Department of Public Health and Pediatrics, University of Turin, via Santena 5bis, 10126 Turin, Italy ² Center for Primary Care and Public Health (Unisanté), University of Lausanne, Route de la Corniche 2, 1066 Epalinges-Lausanne, Switzerland	11:45-12:00 (L)	Synthesis, characterization, and in situ studies of faceted noble metal bimetallic nanoparticles A. Karatzia, K. Loza, O. Prymak and M. Epple Inorganic Chemistry and Center for Nanointegration Duisburg – Essen (CENIDE), University of Duisburg – Essen, Universitätsstr. 5-7, 45141 Essen, Germany
12:00-12:15 (L) YRA Applicant	Environment Dependence of the Amplified Spontaneous Emission of Fully Inorganic CsPbBr₃ Perovskite Nanocrystals S. Milanese ¹ , G. Morello ² , M. L. De Giorgi ¹ , M. Anni ¹ ¹ Dipartimento di Matematica e Fisica “Ennio De Giorgi”, Università del Salento, Via per Arnesano, snc, 73100 Lecce, Italy ² CNR IMM – Institute for Microelectronics and Microsystems, SP Lecce-Monteroni, 73100 Lecce, Italy	11:50-12:10 (L)	Occupational exposure to engineered nanomaterials and effect biomarkers Results from the NanoExplore project I. Guseva Canu ¹ Department of Occupational and Environmental Health, Center for Primary Care and Public Health (Unisanté), University of Lausanne, Switzerland	12:00-12:15 (L)	Neural network-based automated analysis of high-resolution transmission electron microscopy images of (ultra)small metallic nanoparticles N. Gumbiowski ¹ , K. Loza ¹ , M. Heggen ² , M. Epple ¹ ¹ Inorganic Chemistry and Center for Nanointegration Duisburg-Essen (CENIDE) University of Duisburg-Essen, Universitätsstr. 5-7, 45117 Essen, Germany ² Ernst Ruska-Centre for Microscopy and Spectroscopy with Electrons Forschungszentrum Jülich GmbH, 52425 Jülich, Germany

<p>12:15-12:30 (L)</p>	<p>Solution processed and laser annealed ZrO₂ and Al₂O₃ based capacitors for implementation into TFT devices M. G. Spink, C. Koutsaki, D. C. Koutsogeorgis, N. Kalfagiannis School of Science and Technology, Nottingham Trent University, Clifton Campus, Clifton Lane, Nottingham, NG11 8NS, UK</p>	<p>12:10-12:30 (L)</p>	<p>Operational Heat Health Warning Systems for selected Mediterranean urban areas D. Melas¹, F. de' Donato², S. Argenti³, G. Casasanta³, D. Parliari¹, S. Kontos¹, S. Papadogiannaki¹, S. Keppas¹ ¹ Laboratory of Atmospheric Physics, School of Physics, Aristotle University of Thessaloniki 541124, Greece. ² Department of Epidemiology, Lazio Regional Health Service, 00147 Rome, Italy ³ Institute of Atmospheric Sciences and Climate, Italy.</p>	<p>12:15-12:30 (L)</p>	<p>Covalent surface functionalization of ultrasmall gold nanoparticles via copper-catalyzed alkyne-azide cycloaddition (CuAAC) K. Klein¹, K. Loza¹, M. Heggen², M. Epple¹ ¹ Inorganic Chemistry and Centre of Nanointegration Duisburg-Essen (CENIDE), University of Duisburg-Essen, Universitaetsstr. 5-7, 45117 Essen (Germany) ² Ernst Ruska Centre for Microscopy and Spectroscopy with Electrons, Forschungszentrum Jülich GmbH, 52428 Jülich (Germany)</p>
<p>12:30-12:45 (L)</p>	<p>High performance quantum cascade detectors for long-wave infrared detection G. Marschick¹, E. Arigliani¹, M. David¹, N. Opačak¹, B. Schwarz¹, A. Delga², T. Poletti², M. Lagree², V. Trinité², A. Evirgen², B. Gerard², M. Giparakis¹, G. Ramer³, J. Butet⁴, R. Maulini⁴, S. Blaser⁴, A.M. Andrews¹, G. Strasser¹, and B. Hinkov¹ ¹ Institute of Solid State Electronics and Center for Micro- and Nanostructures, Technische Universität Wien, Gusshausstraße 25-25a, 1040 Vienna, Austria ² III-VLab, a joint Thales, Nokia and CEA-LETI laboratory, Palaiseau, France ³ Institute of Chemical Technologies and Analytics, Technische Universität Wien, Vienna, Austria ⁴ Alpes Lasers SA, St-Blaise, Switzerland</p>	<p>12:30-13:00 (L)</p>	<p>Round Table Discussion</p>	<p>12:30-12:45 (V)</p>	<p>Synthesis of morphologically chiral gold nanoparticles and transfer to hydrophobic solvents compatible with organic matrices F. Bandalewicz, N. Kowalska and W. Lewandowski Faculty of Chemistry, University of Warsaw, Warsaw, Poland</p>
<p>12:45-13:00 (L)</p>	<p>Microring Resonator-Enabled Semiconductor Optical Amplifier Direct Amplification and Modulation Z.V. Rizou¹, K.E. Zoiros² ¹ Department of Electrical and Computer Engineering, University of Western Macedonia, Kozani GR 50131, Greece ² Department of Electrical and Computer Engineering, Democritus University of Thrace, Xanthi GR 67100, Greece</p>			<p>12:45-13:00 (V)</p>	<p>Liquid Crystalline Mesophase Gel Electrolytes for High-Performance Supercapacitor Design M.U. Özkaynak^{1,2}, Y. Türker¹, K.B. Dönmez¹, N. Karatepe^{1,3}, F. Seniha Güner^{1,4} ¹ Sabanci University Nanotechnology Research and Application Center (SUNUM), 34956 Tuzla/Istanbul ² Istanbul Technical University, Department of Materials Science and Engineering, Maslak, Istanbul, 34469, Turkey ³ Istanbul Technical University, Energy Institute, Renewable Energy Division, Maslak, Istanbul, 34469, Turkey ⁴ Istanbul Technical University, Department of Chemical Engineering, Maslak, Istanbul, 34469, Turkey</p>

<p>13:00-14:30</p>	<p>Lunch Break</p>	<p>NN22 Posters</p>	<p>Exhibition</p>	<p>Networking</p>
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14:30-16:30	WS2 (Timber Hall 2) Chair: N. Kehagias				
14:30-15:00 INVITED (L)	X-ray absorption spectroscopy: a powerful tool to decipher the magnetism in nanoparticles and nanocomposites F. Wilhelm and A. Rogalev European Synchrotron Radiation Facility 71, avenue des Martyrs, CS 40220, 38043 Grenoble Cedex 9, France	15:00-16:30	WS3 Nanomedicine 7 (Crystal Hall) Chair: Y. Missirlis	15:00-16:30	WS1 (Timber Hall 1) Chair: D.Koutsogeorgis
15:00-15:30 INVITED (L)	1D and 2D Advanced Carbon Nanocomposites for Mechanics and Energy applications A. Rapakousiou, Theoretical and Physical Chemistry Institute, National Hellenic Research Foundation, Greece	15:00-15:30 INVITED (L)	From Nano- to Supramolecular Structures: Use of Ultrashort Self-Assembling Peptides for Regenerating Life C. Hauser King Abdullah University of Science and Technology, Saudi Arabia	15:00-15:30 INVITED (L)	Reliability Challenges of Wide Bandgap and Ultra-Wide Bandgap Semiconductor Electronics in Extreme Environments A. Christou Materials Science and Engineering Department, University of Maryland, USA
15:30-16:00 INVITED (V)	Investigation of Dose Sensitivity Enhancement in Silver Nanoparticle Enriched Methacrylic Acid Based Dose Gels M. Merkis, D. Adliene, J. Laurikaitiene, J. Puiso, Physics department, Kaunas University of Technology, Lithuania	15:30-16:00 INVITED (L)	Head and Neck Squamous Cell Carcinoma: clonality, microenvironment, cell-cell communication and potential treatments T. Mitsiadis University of Zurich, Switzerland	15:30-16:00 INVITED (L)	Solution-processed Pb-free perovskite-based photoelectric memristors D.G. Georgiadou Electronics and Computer Science, University of Southampton, UK
16:00-16:15 (V)	Effect of AgNWs/silanes hybrid modification on the properties of cotton fabric A. Nejman ^{1,2} , A. Baranowska-Korczy ¹ , G. Celichowski ² , M. Cieślak ¹ ¹ Łukasiewicz Research Network- Lodz Institute of Technology, Marii Skłodowskiej-Curie St. 19/27, 90-570 Lodz, Poland ² Department of Materials Technology and Chemistry, University of Lodz, Pomorska St. 163, 90-236 Lodz, Poland			16:00-16:15 (L)	Photo-induced interactions in CsPbBr ₃ nanocrystals and MoSe ₂ monolayer hybrid N. Kazemi Tofighi Functional Nanosystems, Istituto Italiano di Tecnologia
16:15-16:30 (L)	Fabrication of High-Quality Refractory Titanium Nitride Nanostructure S. Panos, D. Tselekidou, S. Kassavetis, I. Fekas, J. Arvanitidis, D. Christofilos, D. Karfaridis, S. Dellis, S. Logothetidis, and P. Patsalas Physics Department, Aristotle University of Thessaloniki, Thessaloniki, GR-54124, Greece	16:00-16:30 INVITED (V)	Topological and Chemical Surface Cues of Electrospun Microfibrous Polymeric Scaffolds Influence Cell Activity K. Komvopoulos Department of Mechanical Engineering, University of California, Berkeley, CA 94720	16:15-16:30 (L)	Piezoelectric nanocomposite foams A. Bužarovska ¹ , M. Kubin ¹ , M. Zanon ² , L. Gasperini ³ , G. Selleri ³ , D. Fabiani ³ , C. Gualand ² ¹ Faculty of Technology and Metallurgy, Ss Cyril and Methodius University, Rudjer Boskovic 16, 1000 Skopje, N. Macedonia ² Department of Chemistry "Giacomo Ciamician" and INSTM UdR of Bologna, University of Bologna, Italy ³ Department of Electrical, Electronic, and Information Engineering, University of Bologna, Bologna, Italy

16:30-17:00	Coffee Break	NN22 Posters	Exhibition	Networking
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17:00-19:30	WS3 Nanomedicine 8 (Crystal Hall) Chair: T. Mitsiadis
17:00-17:30 INVITED (L)	Pushing the boundaries of genome editing with nanomedicine S. Konstantinidou ¹ , TJN. Schmidt ¹ , E. Landi ¹ , F. Nocilla ¹ , A. De Carli ² , D. Witt ³ , A. Lindstaedt ³ , M. D'Amora ^{1,4} , M. Lai ² , G. Freer ² , M. Pistello ² , L. Dente ¹ , A. Everhardt ⁵ , F. Tantussi ⁴ , F. Fusco ⁶ , C. Gabellini ¹ , P. Barski ³ , V. Raffa ¹ ¹ Department of Biology, University of Pisa, SS12 Abetone e Brennero 4, 56127 Pisa, Italy ² Department of Medicine, University of Pisa, SS12 Abetone e Brennero 4, 56127 Pisa, Italy ³ ProChimia Surfaces, Poland ⁴ Plasmon Nanotechnologies, Istituto Italiano di Tecnologia, Via Morego 30, 16163 Genova, Italy ⁵ Lionix International, P.O. Box 456, Enschede 7500 AL, The Netherlands ⁶ Department of Physics, University of Pisa, Largo Bruno Montecorvo 3, 56127 Pisa, Italy
17:30-18:00 INVITED (L)	The flux of information within living organisms Y. Missirlis Lab of Biomechanics & Biomedical Engineering, University of Patras, Greece
18:00-18:30 INVITED (L)	Robotic-Assisted 3D Printing for Tissue Engineering and Environmental Applications C. Hauser King Abdullah University of Science and Technology, Saudi Arabia
19:00-19:30	Closing Remarks and Discussion End of NN22

POSTER*

* The posters will be displayed from Tuesday to Friday

WS1	POSTER AREA Tuesday 5 July (13:00-14:30, 16:30-17:00): Poster Display & Presentations Wednesday 6 July, Thursday 7 July, Friday 8 July: Poster Display		
P1-1 (L)	Ge based core/shell quantum dot lattices in alumina matrix: tuning the spectral response Periša I. ¹ , Tkalčević M. ¹ , Basioli L. ¹ , Bernstorff S. ² , Mičetić M. ¹ ¹ Division of Materials Physics, Ruđer Bošković Institute, Bijenička cesta 54, 10000 Zagreb, Croatia ² Elettra-Sincrotrone Trieste, SS 14 km 163.5, 34149 Basovizza, Italy	P1-7 (L)	Autonomous energy harvesting system for maritime applications V. Gogolou ¹ , K. Kozalakis ¹ , S. Siskos ¹ , A. Segkos ² , A. Bardakas ² , V. Vamvakas ² , I. Masklavanos ² , C. Tsamis ² , K. Tsiapali ³ , A. Sakellariou ⁴ , S. Katsikas ⁴ ¹ Electronics Lab, Department of Physics, Aristotle University of Thessaloniki, 54124 Thessaloniki, Greece ² NCSR "Demokritos", Institute of Nanoscience and Nanotechnology, 15310 Aghia Paraskevi, Athens, Greece ³ Global Digital Technologies, 65 Leof. Irinis, 48100 Preveza, Greece ⁴ METIS Cyberspace Technology, 4 Sachtouri str & 2 Posidonos Av, 17674, Kallithea, Athens, Greece
P1-2 (L)	Self-assembly of plasmonically active metals in porous matrices V. Sivakov Leibniz Institute of Photonic Technology, Dept. Functional Interfaces, Group Silicon Nanostructures, Albert-Einstein Str. 9, 07745 Jena, Germany	P1-8 (L)	Microwave-assisted solvothermal synthesis of Al, Ga or In doped zinc oxide plasmonic nanoparticles dedicated to IR and optoelectronic applications Da Silva A. ^{1,2} , Vancaeyzeele C. ¹ , Aubert P.-H. ¹ , Vidal F. ¹ , Dupont L. ² ¹ LPPI, CY Cergy-Paris University, 5 mail Gay Lussac, 95310 Neuville-Sur-Oise, FR ² Optics department, IMT Atlantique, Technopôle Brest-Iroise, 29238 Brest, FR
P1-3 (L)	Extracting the dielectric permittivity and thickness from variable angle ellipsometric spectra of ultrathin polyelectrolyte layers G. Isić ^{1,2} , S. Nedić ¹ , B. Vasić ¹ , U. Ralević ¹ , M. R. Belić ² , S. Aškračić ¹ ¹ Institute of Physics Belgrade, University of Belgrade, Pregrevica 118, 11080 Belgrade, Serbia ² Texas A&M University at Qatar, PO Box 23874 Education City, 23874 Doha, Qatar	P1-9 (L)	Assessment of thermal annealing on structural, electrical, optical and surface topographical features of titania films for solar cells Reema Agarwal ^{1,2} , Himanshu ² , S.L. Patel ² , C. Ameta ¹ and M.S. Dhaka ² ¹ Department of Chemistry, Mohanlal Sukhadia University, Udaipur 313001, India ² Department of Physics, Mohanlal Sukhadia University, Udaipur 313001, India
P1-4 (L)	Spectroscopic ellipsometry and atomic force microscopy characterization of ultrathin dielectric films prepared via layer-by-layer polyelectrolyte deposition S. Nedić ¹ , S. Aškračić ¹ , B. Vasić ¹ , G. Isić ^{1,2} , U. Ralević ¹ ¹ Institute of Physics Belgrade, University of Belgrade, Pregrevica 118, 11080 Belgrade, Serbia ² Texas A&M University at Qatar, PO Box 23874 Education City, 23874 Doha, Qatar	P1-10 (L) YRA APPLICANT	Enhanced photo generation by multiple exciton formation in germanium nanowires Tkalčević M. ¹ , Periša I. ¹ , Mičetić M. ¹ , Šarić I. ² , Bernstorff S. ³ ¹ Ruđer Bošković Institute, Bijenička cesta 54, 10000 Zagreb, Croatia ² Department of Physics and Center for Micro- and Nanosciences and Technologies, University of Rijeka, Croatia ³ Elettra Sincrotrone, S.C.p.A., Strada Statale 14, km 163.5 in AREA Science Park, 34149 Basovizza/Trieste, Italy
P1-5 (L)	Improvement of the performance of triboelectric generators by plasma induced surface roughness A. Segkos, A. Bardakas, V. Vamvakas, I. Masklavanos, A. Zeniou, E. Gogolides, C. Tsamis NCSR "Demokritos", Institute of Nanoscience and Nanotechnology, 15310 Aghia Paraskevi, Athens, Greece	P1-11 (L)	Highly Ordered Titanium Nitride Nanostructures for Plasmonic Applications P. Rampota, S. Panos, S. Kassavetis, D. Tselekidou, N. Pliatsikas, P. Patsalas Nanotechnology Lab LTFN, Physics Department, Aristotle University of Thessaloniki, Thessaloniki, GR-54124, Greece
P1-6 (L)	Modification of the output of triboelectric generators by nanoimprinting A. Bardakas, G. Katsikis, A. Segkos, M. C. Skoulikidou, C. Tsamis NCSR "Demokritos", Institute of Nanoscience and Nanotechnology, 15310 Aghia Paraskevi, Athens, Greece	P1-12 (V)	3D printed SiC doped Polylactic Acid (PLA) for triboelectric generators M. E. Moutzouri, G. Katsikis, A. Bardakas, A. Segkos, O. Thoda, G. Vekinis, C. Tsamis NCSR "Demokritos", Institute of Nanoscience and Nanotechnology, 15310 Aghia Paraskevi, Athens, Greece
		P1-13 (V)	Ideal Photodiode with doping-controlled transition metal dichalcogenide using / PN heterostructure Sung Hyun Kim, Woo Jong Yu Department of Electrical and Computer Engineering, Sungkyunkwan University, South Korea
WS2	POSTER AREA Tuesday 5 July (13:00-14:30, 16:30-17:00): Poster Display & Presentations Wednesday 6 July, Thursday 7 July, Friday 8 July: Poster Display		
P2-1 (L)	Application of functionalized carbon based nanoparticles (MWCNT and G) with Ag in facial masks and filters for protection of Covid 19 Anita Grozdanov ¹ , Perica Paunovic Faculty of Technology and Metallurgy, University Ss Cyril and Methodius in Skopje, Rugjer Boskovic 16, 1000 Skopje, North Macedonia	P2-17 (L)	Optimization of the nanocatalysts characteristics used for the production of biofuels from renewable sources E. David ¹ , R-M Marinescu ² , A. Armeanu ¹ ¹ National Research Institute for Cryogenic and Isotopic Technologies Romania ² National Institute for Research and Development in Microtechnologies - IMT Bucharest Bucharest
P2-2 (L)	Comparison of infrared laser and carbon dioxide snow jet surface cleaning of archive and library collections V. Jandová ¹ , L. Mašková ¹ , P. Vávrová ² , M. Součková ² , R. Fajgar ¹ , J. Smolík ¹ ¹ Institute of Chemical Process Fundamentals of the CAS, Rozvojová 135, Prague, Czech Republic ² National Library of the Czech Republic, Klementinum 190, Prague, Czech Republic	P2-18 (L)	Nanostructured silicon matrix for functional nanomaterials engineering P. Liu ^{1,2} and V. Sivakov ¹ ¹ Leibniz Institute of Photonic Technology, Dept. Functional Interfaces, Group Silicon Nanostructures, Germany ² Friedrich Schiller University Jena, Helmholtzweg 4, 07743 Jena, Germany

P2-3 (L)	ZnO Nanowire Morphology Control in VLS/PLA Razvan Mihalcea, Mihai Serbanescu, Marius Dumitru and Aurelian Marcu National Institute for Laser Plasma and Radiation Physics, Magurele 077125, Romania	P2-19 (L)	Influence of synthesis and ambient drying conditions on the porosity of TiO2 aerogel Jolanta Doneliene ^{1,2} , Egle Fataraitė-Urbonienė ^{2,3} , Juras Ulbikas ^{1,2} ¹ Applied Research Institute for Prospective Technologies, Vismaliuku str. 34, LT-10243 Vilnius, Lithuania ² JSC Modern E-Technologies, Vismaliuku str. 34, LT-10243 Vilnius, Lithuania ³ Kaunas University of Technology, K. Donelaicio str. 73, LT-44249 Kaunas, Lithuania
P2-4 (L)	Optical and morphological properties of annealed gold thin films E. Hedi ¹ , V. Blažek-Bregović ¹ , J. Sancho-Parramon ¹ , A. Bergmann ² ¹ Ruđer Bošković Institute, Bijenička 54, 10000 Zagreb, Croatia ² Graz University of Technology, Rechbauerstraße 12, 8010 GRAZ, AUSTRIA	P2-20 (L)	Cesium-based nanomaterials for ultra-light water assessment: synthesis routes and electrochemical behaviour A.M. Iordache ¹ , S.M. Iordache ¹ , E.I. Ionete ² , E. Tanasa ³ , V. Barna ⁴ , I.C. Vasiliu ¹ , M. Elisa ¹ , I. Chilibon ¹ , C.E.A. Grigorescu ¹ ¹ National Institute for Research and Development in Optoelectronics-INOE 2000, Optospintronics Department Romania ² National R&D Institute for Cryogenics and Isotopic Technologies – ICSI Rm.Valcea, , Romania. ³ Politehnica University of Bucharest, 313 Splaiul Independenței, Bucharest, Romania. ⁴ University of Bucharest, Faculty of Physics, 405 Atomistilor, 077125, Magurele, Romania
P2-5 (L)	Thin films of tungsten oxide nanoparticles embedded in polyaniline matrix by MAPLE for sensor applications M. Filipescu, A. Palla-Papavlu, V. Ion, A. I. Radu, C. Craciun, A. Bonciu, M. Dinescu National Institute for Laser, Plasma, and Radiation Physics, Laser Department, Romania	P2-21 (L)	Solution Processing Techniques for the Development of 0D-2D Hybrid Structures-Based Light-driven Nanoscale Devices Maqueira Albo I. ^{1,2} , Curreli N. ¹ , Camellini A. ¹ , Ilka Kriegel I. ¹ ¹ Functional Nanosystems, Istituto Italiano di Tecnologia, Via Morego 30, 16163 Genoa, Italy *ivet.maqueira@iit.it ² Physics Department, University of Genoa, Via Dodecaneso 33, 16146 Genoa, Italy
P2-6 (L)	Biochemical nanosensors based on modified carbon screen-printed electrodes Anita Grozdanov ¹ , Iva Dimitrievska, Perica Paunovik Faculty of Technology and Metallurgy, University Ss Cyril and Methodius in Skopje, Rugjer Boskovic 16, 1000 Skopje, North Macedonia	P2-22 (L)	Biodegradable Polymer Composite Based On Recycled Polyurethane And Wood Waste Nanoparticles L. Alexandrescu ¹ , M. Georgescu ¹ , M. Sonmez ² , M. D. Stelescu ¹ , M. Nituica ¹ , D. Gurau ¹ ¹ National Research and Development Institute for Textile and Leather - Division Leather and Footwear Research Institute, 93 Ion Minulescu St., sector 3, 031215, Bucharest, Romania
P2-7 (L)	Periodate oxidized horseradish peroxidase@ZIF-8 nanocomposite M. Stanišić ¹ , P. Ristić ¹ , V. Đokić ² , A.M. Balazš ³ , R. Prodanović ¹ , T. Todorović ¹ ¹ University of Belgrade – Faculty of Chemistry, Studentski trg 12-16, 11000 Belgrade, Serbia; ² Innovation Center of the Faculty of Technology and Metallurgy, University of Belgrade, Karnegijeva 4, 11000 Belgrade, Serbia; ³ Institute of Chemistry, Technology and Metallurgy, National Institute of the Republic of Serbia, University of Belgrade, Njegoševa 6, 11000 Belgrade, Serbia	P2-23 (L)	Unsaturated Polyester Resin Hybrid composites of Natural organic Inorganic Fibers with Nano filler Savita Bansode ¹ Praveenan Dayalan ² , Prakash A Mahanwar ³ Department of Polymer & Surface Engineering, Institute of Chemical Technology, Mumbai, Maharashtra, India - 400019;
P2-8 (L)	Periodate oxidized glucose oxidase@ZIF-8 nanocomposite P. Ristić ¹ , M. Stanišić ¹ , V. Đokić ² , A.M. Balazš ³ , D. Mitić ¹ , R. Prodanović ¹ , T. Todorović ¹ ¹ University of Belgrade – Faculty of Chemistry, Serbia; ² Innovation Center of the Faculty of Technology and Metallurgy, University of Belgrade, Serbia; ³ Institute of Chemistry, Technology and Metallurgy, National Institute of the Republic of Serbia, Serbia	P2-24 (L)	Hyper-crosslinked cyclomatrix organophosphazenes via imine bonds and a unique mixed 1D-in-2D morphology George Pappas ^{1,2} , Ian Teasdale ² , Lin Chen ³ , Thomas D. Anthopoulos ¹ ¹ KAUST Solar Center, King Abdullah University of Science and Technology, Thuwal, Saudi Arabia ² Institute for Polymer Chemistry, Johannes Kepler University, Linz, Austria ³ School of Metallurgy and Materials, University of Birmingham, Edgbaston, United Kingdom
P2-9 (L)	Formation of magnetoliposomes using new series of self-assembling 1,4-dihydropyridine derivatives and maghemite γ-Fe2O3 nanoparticles Arkadijs Sobolevs ¹ , Oksana Petrichenko ² , Aiva Plotniece ¹ , Nadiia Pikun ¹ , Karlis Pajuste ¹ , Martins Rucins ¹ ¹ Latvian Institute of Organic Synthesis, 21 Aizkraukles str., Riga, LV-1006, Latvia ² Laboratory of Magnetic Soft Materials, Faculty of Physics, Mathematics and Optometry, University of Latvia, 3 Jelgavas str., LV-1004 Riga, Latvia	P2-25 (L)	Effects of electrospinning processing parameters on the morphological characteristics of the developed nanofibrous mats Michalis Georgallas ¹ , Ioanna Savva ¹ , Anastasis Georgiou ¹ , Nikolaos Tzanopoulos ¹ , Katerina Sofocleous ¹ , Loukas Koutsokeras ² , George Constantinides ² , Vasileios M. Drakonakis ¹ ¹ AmaDema - Advanced Materials Design & Manufacturing Ltd, Nicosia, Cyprus ² Cyprus University of Technology (CUT), Limassol, Cyprus
P2-10 (L)	Contribution of structure to self-assembling properties of propargyl and pyridinium moieties containing lipid-like cationic 1,4-dihydropyridines N.Pikun ¹ , M.Rucins ¹ , K.Pajuste ¹ , M.Plotniece ² , A.Sobolevs ¹ , A.Plotniece ^{1,2} ¹ Latvian Institute of Organic Synthesis, Aizkraukles str. 21, LV-1006, Riga, Latvia ² Department of Pharmaceutical Chemistry, Faculty of Pharmacy, Riga Stradiņš University, , Latvia	P2-26 (L)	Biocompatibility Assessments of Albumin & Fibrinogen on Conductive Metal Nitride Films T. Odutola ¹ , N. Pliatsikas ¹ , S. Panos ¹ , I. Fekas ¹ , S. Kassavetis ¹ , M. Gioti ¹ , P. Patsalas ¹ ¹ Department of Physics, Aristotle University of Thessaloniki, Thessaloniki, GR-54124, Greece
P2-11 (L)	Ab initio Investigation of Cu Nanoparticle Behavior Under High Electric Field Ye Wang ¹ , Andreas Kyritsakis ¹ , Veronika Zadin ¹ Institute of Technology, University of Tartu Nooruse1, 50411 Tartu, Estonia	P2-27 (V)	A Precise Low Temperature Carbon Nanotubes Transfer Technique Chong Wei Tan ¹ , Yu Xiang Lum ¹ , Rongtao Jiang ¹ , Coquet Philippe ² , Beng Kang Tay ^{1,2} ¹ Centre for Micro- and Nano-Electronics (CMNE), School of Electrical and Electronic Engineering, Nanyang Technological University, 50 Nanyang Ave, Singapore 639798, Singapore ² CNRS-NTU-THALES Research Alliances/UMI 3288, Research Techno Plaza, 50 Nanyang Ave, Border X Block, Level 6, Singapore 637553, Singapore
P2-12 (L)	Monitoring the Dynamic behavior of carbon fibers reinforced polymer industrial composites by DMA technique A. Stimoniaris ¹ , G. Tzionas ³ , S. Douvartzides ^{2,3} , A. Krestou ² and C. Delides ¹ ¹ Department of Chemical Engineering, University of Western Macedonia, Koila, Kozani, Greece ² Department of Mechanical Engineering, University of Western Macedonia, Koila, Kozani, Greece ³ Perseus Racing Team, University of Western Macedonia, Koila, Kozani, Greece	P2-28 (V)	Synthesis laser wavelength influence in CdSe Nanoparticles processed by liquid laser fragmentation P. Maldonado-Altamirano ¹ , L. Martinez-Ara ² , M. A. Hernández-Pérez ³ , J Santoyo-Salazar ² , J. R. Aguilar-Hernández ¹ , J. Ortiz-López ² , M. López-López ² ¹ Escuela Superior de Física y Matemáticas (ESFM), Instituto Politécnico Nacional, Av. IPN s/n, CDMX, México. ² Centro de Investigación y de Estudios Avanzados del Instituto Politécnico Nacional (CINVESTAV), CDMX, México. ³ Escuela Superior de Ingeniería Química e Industrias Extractivas (ESIQIE), Instituto Politécnico Nacional, México.

P2-13 (L)	Study of structural properties and phase transitions of Bi2O3 films prepared by rf reactive magnetron sputtering Lijian Meng Centre of Innovation in Engineering and Industrial Technology, Instituto Superior de Engenharia do Porto, Instituto Politécnico do Porto, Portugal.	P2-29 (V)	Investigation of porous hot-wire MoS2 thin films for H2 and CO sensing G. Papadimitropoulos ^{1,2} ¹ Institute of Nanoscience and Nanotechnology, NCSR "Demokritos", 153 10 Aghia Paraskevi, Attiki, Greece ² University of West Attica, Faculty of Engineering, Department of Electrical and Electronics Engineering, Aegaleo, Greece
P2-14 (L)	One-pot synthesis of new raspberry-like hierarchical structured nanosilica V. Niculescu ¹ , A. Soare ² , I. Petreanu ³ National Research and Development for Cryogenic and Isotopic Technologies – ICSI Ramnicu Valcea, Romania 4 th Uzinei Street, 240050 Ramnicu Valcea, Valcea, Romania	P2-30 (V)	Impact of residence time in spray synthesis of nanopowders prepared from selected organosilicon precursors H. Osip, P.Szymczak, J.F. Janik, C.Czosnek AGH University of Science and Technology, Faculty of Energy and Fuels; Mickiewiczza 30, 30-059 Krakow, Poland
P2-15 (L)	Sulfidation of air-stable zerovalent iron nanoparticles Vichová V. ^{1,2} , Oborná J. ¹ , Filip J. ¹ ¹ Regional Centre of Advanced Technologies and Materials, Palacký University, Czech Republic ² Department of Experimental Physics, Faculty of Science, Palacký University, CZ-779-00, Olomouc, Czech Republic	P2-31 (V)	Preparation and characterization of novel NiIn2S4/Uio-66 photocatalysts for the efficient degradation of antibiotics in water G. Balkourani ¹ , C. Moločas ¹ , S. Kontou ¹ , Anhu Wang ² , Huagen Lian ² , Fu Chen ² , Xinlong Tian ³ , Shengyu Jing ² , P. Tsiakaras ¹ ¹ Laboratory of Alternative Energy Conversion Systems, Department of Mechanical Engineering, School of Engineering, University of Thessaly, Greece ² China University of Mining and Technology, Xuzhou, 221008, China ³ State Key Laboratory of Marine Resource Utilization in South China Sea, Hainan University China
P2-16 (L)	Effect of Cu3N and Cu on the photocatalytic activity of Cu2O nanoparticles Paredes E.P. ¹ , Wrang D. ² , Rauwel E. ¹ , Rauwel P. ¹ ¹ Institute of Forestry and Engineering Sciences, Estonian University of Life Sciences, Tartu, Estonia ² Department of Chemistry, University of Oslo, Oslo, Norway	P2-32 (V)	A double layered SiO2/ZrO2 hybrid sol-gel & plasma sprayed coating for orthopedic implant applications E. Roussi ¹ , I. Kitsou ¹ , M. Papageorgiou ¹ , J. Patrikalos ² , I. Georgiopoulos ² , C. Andreouli ² , A. Tsetsekou ¹ ¹ School of Mining and Metallurgical Engineering, National Technical University of Athens, 157 80 Zografos, Athens, Greece ² MIRTEC S.A., 76 km Athens-Lamia national Road, 32009 Schimatari, Greece
		P2-33 (V)	Application of polyaniline/ α-Fe2O3 nanotube composites materials for supercapacitor with improved capacitance J. Lee ^{1,2} , S. Park ^{1,2} , D. Seo ¹ , H. M. Jung ^{1,2} ¹ Department of Applied Chemistry, Kumoh National Institute of Technology, 61 Daehak-ro, Gumi, Republic of Korea ² Department of Energy Engineering Convergence, Kumoh National Institute of Technology, Republic of Korea

WS3	POSTER AREA Wednesday 6 July (13:00-14:30, 16:30-17:00): Poster Display & Presentations Tuesday 5 July, Thursday 7 July, Friday 8 July: Poster Display		
P3-1 (L)	Profiling of ribosomes constituents to molecularly unveil pharmacological and therapeutic maps for ribosomopathies C. I. Papagiannopoulos ¹ , A. Papadimitriou-Tsantarliotou ¹ , Konstantinos A. Kyritsis ¹ , Ioannis S. Vizirianakis ^{1,2} ¹ Laboratory of Pharmacology, School of Pharmacy, Aristotle University of Thessaloniki, Thessaloniki, Greece ² Department of Life & Health Sciences, University of Nicosia, Cyprus	P3-13 (L)	In vitro and in vivo evaluation of composite scaffolds with magnetic nanoparticles for tissue engineering applications F.D. Cojocaru ¹ , V. Balan ¹ , M. Butnaru ¹ , M. Mares ² , V. Nastata ² , A.S. Pasca ³ , L. Verestiuc ¹ ¹ Department of Biomedical Sciences, Faculty of Medical Bioengineering, Grigore T. Popa University of Medicine and Pharmacy, 700454 Iasi, Romania ² Laboratory of Antimicrobial Chemotherapy, Ion Ionescu de La Brad University of Life Sciences, Iasi, Romania ³ Laboratory of Pathological Anatomy, Ion Ionescu de La Brad University of University of Life Sciences, Iasi, Romania
P3-2 (L)	MRC-5 cell-derived exosomes as bio-shuttles for delivering genomic therapeutics Alexandros Giannopoulos-Dimitriou ¹ , Aikaterini Saiti ¹ , Lefki-Pavlina N. Giassafaki ¹ , Fani Chatzopoulou ¹ , Georgios Tzimagiorgis ^{2,3} , Dimitrios G. Fatouras ⁴ , Ioannis S. Vizirianakis ^{1,3,5} ¹ Laboratory of Pharmacology, Department of Pharmaceutical Sciences, Aristotle University of Thessaloniki, Thessaloniki, Greece; ² Laboratory of Biochemistry, School of Medicine, Aristotle University of Thessaloniki, Thessaloniki, Greece; ³ FunPATH (Functional Proteomics and Systems Biology Research Group at AUTH) Research Group, KEDEK, Aristotle University of Thessaloniki, Thessaloniki, Greece; ⁴ Laboratory of Pharmaceutical Technology, Department of Pharmaceutical Sciences, Aristotle University of Thessaloniki, Thessaloniki, Greece; ⁵ Department of Life & Health Sciences, University of Nicosia, Nicosia, Cyprus	P3-14 (L)	Influence of poly(ethylene glycol) dimethacrylate chain length on properties of bone adhesives Katarzyna Szcześniak ¹ , Grzegorz Przesławski ¹ , Agnieszka Marcinkowska ¹ , ¹ Poznan University of Technology, Faculty of Chemical Technology, Institute of Chemical Technology and Engineering Division of Chemical Technology, Marii Skłodowskiej-Curie 5, 60-965 Poznan, Poland

<p>P3-3 (L)</p>	<p>Analyzing the proteomic profile of MRC-5 cell-derived exosomes for nanomedicine applications Aikaterini Saiti¹, Alexandros Giannopoulos-Dimitriou¹, Lefki-Pavlina N. Giassafaki¹, Georgios Tzimagiorgis^{2,3}, Konstantina Psatha³, Γεωργία Ορφανουδάκη³, Martina Samiotaki⁴, Andigoni Malousi², Dimitrios G. Fatouros⁵, Michalis Aivaliotis^{2,3}, Ioannis S. Vizirianakis^{1,3,6} ¹ Laboratory of Pharmacology, School of Pharmacy, Aristotle University of Thessaloniki, Thessaloniki, Greece; ² Laboratory of Biochemistry, School of Medicine, Aristotle University of Thessaloniki, Thessaloniki, Greece; ³ FunPATH (Functional Proteomics and Systems Biology Research Group at AUTH) Research Group, KEDEK, Aristotle University of Thessaloniki, Thessaloniki, Greece; ⁴ Institute for Bio-Innovation, Biomedical Sciences Research Centre "Alexander Fleming", 34 Fleming Street, 16672, Vari; ⁵ Greece Laboratory of Pharmaceutical Technology, School of Pharmacy, Aristotle University of Thessaloniki, Thessaloniki, Greece; ⁶ Department of Life & Health Sciences, University of Nicosia, Nicosia, Cyprus</p>	<p>P3-15 (L)</p>	<p>Combination therapy of Ag-Citrate-5nm with Anti-PD1 reduces tumor growth rate in Balb/c mice Ara Sargsian, Carla Rios-Luci, Stefaan J. Soenen, Bella B. Manshian NanoHealth and Optical Imaging Group, Department of Imaging and Pathology, KU Leuven, Leuven, Belgium</p>
<p>P3-4 (L)</p>	<p>In vivo investigation of Gallium and Bismuth labeled beta-cyclodextrin in human pancreas tumor model for targeted alpha therapy K. Csige^{1,2}, S. N. Dénes¹, I. Kertész¹, L. Balkay¹, F. Fenyvesi³, G. Trencsényi¹, I. Hajdu^{1,2} ¹ Division of Nuclear Medicine and Translational Imaging, Medical Imaging Department, University of Debrecen, Debrecen, Hungary, ² Doctoral School of Pharmaceutical Sciences, University of Debrecen, Debrecen, Hungary, ³ Department of Pharmaceutical Technology, University of Debrecen, Debrecen, Hungary,</p>	<p>P3-16 (L)</p>	<p>Synthesis and biocompatibility of Chios Mastiha nanoparticles and possible biomedical applications (the MASTIHA-NANO study). M. Didagelos^{1,3}, I. Giagtzidis^{2,3}, Z. Chakim³, S. Dermenoudis³, A. Kartalis⁴, I. Smyrnioudis⁵, A. Laskarakis³, V. Karagiozaki³, S. Logothetidis³ 1. 1st Cardiology Department, AHEPA University Hospital, Aristotle University of Thessaloniki, Greece 2. Vascular Surgery Department, Ippokrateio General Hospital, Aristotle University of Thessaloniki, Greece 3. Lab for Thin Films - Nanobiomaterials – Nanosystems & Nanometrology (LTFN), Department of Physics, Aristotle University of Thessaloniki, 54124 Thessaloniki, Greece 4. Cardiology Department, Skylitseo General Hospital, 82100 Chios, Greece 5. The Chios Mastiha Growers Association, 82100 Chios, Greece</p>
<p>P3-5 (L)</p>	<p>Advanced nanozymes for antioxidant therapy G. Tarricone^{1,2}, L. Boselli¹, V. Castagnola³, P.P. Pompa¹ ¹ Nanobiointeractions & Nanodiagnostics, Istituto Italiano di Tecnologia (IIT), Italy ² Department of Chemistry and Industrial Chemistry, University of Genova, Italy ³ Center for Synaptic Neuroscience and Technology, Fondazione Istituto Italiano di Tecnologia, Italy</p>	<p>P3-17 (L)</p>	<p>Gum Karaya-based hydrogel films as carriers for phage therapy of chronic wounds L. Vojtova¹, E. Cerna¹, L. Vacek², F. Ruzicka², B. Lipovy³, M. Benesik⁴, T. Botka⁴, R. Pantucek⁴ ¹CEITEC – Central European Institute of Technology, Brno University of Technology, Czech Republic ²Department of Microbiology, St. Anne's Faculty Hospital and Faculty of Medicine, Masaryk University, Czech Republic ³Department of Burns and Plastic Surgery, Faculty of Medicine, Masaryk University and The University Hospital Brno, Czech Republic ⁴Section of Genetics and Molecular Biology, Faculty of Science, Kotlarska 2, Brno, Masaryk University, Czech Republic</p>
<p>P3-6 (L)</p>	<p>Design and preliminary in vitro evaluation of magnetic nanoparticles based on biotinylated N-palmitoyl chitosan for breast cancer applications V. Balan¹, V.C. Ursachi¹, F.D. Cojocaru¹, G. Dodi², C.T. Mihai², B.E. Cretu^{1,3}, L. Verestiuc¹ ¹ Faculty of Medical Bioengineering, Grigore T. Popa University of Medicine and Pharmacy of Iasi, Romania, ² Advanced Centre for Research-Development in Experimental Medicine, Grigore T. Popa University of Medicine and Pharmacy of Iasi, 700115, Romania; ³ Natural Polymers, Bioactive and Biocompatible Materials Laboratory, Petru Poni Institute of Macromolecular Chemistry, Romania</p>	<p>P3-18 (V)</p>	<p>Styrylpyridinium derivatives – self-assembling and biological properties K. Pajuste¹, R. Putralis^{1,2}, M. Rucins¹, L. Krasnova¹, N. Pikun¹, I. Mandrika¹, A. Zajakina³, A. Sobolev¹, A. Plotniece^{1,2} ¹ Latvian Institute of Organic Synthesis, Aizkraukles str. 21, Riga, LV-1006, Latvia ² Riga Stradiņš University, Dzirciema str. 16, Riga, LV-1007, Latvia ³ Latvian Biomedical Research and Study Centre, LV-1067 Riga, Latvia</p>
<p>P3-7 (L)</p>	<p>Synthesis and characterization of ultrasmall gold nanoparticles conjugated with doxorubicin and AlexaFluor-647 B. Kruse¹, M. Epple¹ ¹ Inorganic Chemistry and Center for Nanointegration Duisburg – Essen (CENIDE), University of Duisburg–Essen, Universitätsstr. 5-7, 45141 Essen, Germany</p>	<p>P3-19 (V)</p>	<p>Novel fluorescent mitochondrial-targeting liposomal drug-delivery system of Ga(III)-naringenin complex for anticancer applications E. Halevas^{1,3}, B. Mavroidi¹, A. Hatzidimitriou³, M. Pelecanou¹, G. Litsardakis² ¹ Institute of Biosciences & Applications, National Centre for Scientific Research "Demokritos", Greece ² Electrical & Computer Engineering, Polytechnic School, Aristotle University of Thessaloniki, Greece ³ Department of Chemistry, Aristotle University of Thessaloniki, 54124, Thessaloniki, Greece</p>
<p>P3-8 (L)</p>	<p>Synthesis and Characterization of Dental Nanocomposite Resins Saridou A.M.¹, Nikolaidis K.A.², Koulaouzidou A.E.², Achilias S.D¹ ¹ Department of Chemistry, Aristotle University of Thessaloniki, Laboratory of Polymer and Colors Chemistry and Technology, Section of Chemical Technology and Industrial Chemistry, Greece ² School of Dentistry, Aristotle University of Thessaloniki, Department of Basic Dental Sciences, Division of Dental Tissues' Pathology and Therapeutics, Greece</p>	<p>P3-20 (V)</p>	<p>Design and antitumor activity of a new vanadium-based compound M. Turtoi¹, M. Anghelache¹, M. Deleanu¹, G. Voicu¹, F. Safciuc¹, A.A. Patrascu², D.-L. Popescu², M. Calin¹ ¹ Biopathology and Therapy of Inflammation, Institute of Cellular Biology and Pathology "Nicolae Simionescu" of the Romanian Academy, 8 B.P. Haşdeu, 050568-Bucharest, Romania, ² Department of Inorganic Chemistry, University of Bucharest, 23 Dumbrava Roşie, 020464-Bucharest, Romania</p>
<p>P3-9 (L)</p>	<p>Novel hybrid nano-phages for nanotechnology applications H. Ahmed^{1,2}, L. Boselli¹, P.P Pompa¹ ¹ Nanobiointeractions and Nanodiagnostics Istituto Italiano di Tecnologia (IIT), Via Morego 30, 16163 Genova, Italy hazem.ahmed@iit.it, luca.boselli@iit.it, pierpaolo.pompa@iit.it ² Department of chemistry and industrial chemistry, Università degli studi di Genova, via Dodecaneso, 31, 16146 Genova, Italy</p>	<p>P3-21 (V)</p>	<p>Nanoelectrospray ion mobility mass spectrometry for the analysis of chondroitin/dermatan sulfate oligosaccharides Raluca Ica^{1,2}, Mirela Sarbu¹, Edie M. Sharon³, David E. Clemmer³ and Alina D. Zamfir^{1,4} ¹ Department of Condensed Matter, National Institute for Research and Development in Electrochemistry and Condensed Matter, Timisoara, Romania; ² Faculty of Physics, West University of Timisoara, Timisoara, Romania; ³ Department of Chemistry, The College of Arts & Science, Indiana University, Bloomington, Indiana, USA; ⁴ Department of Technical and Natural Sciences, "Aurel Vlaicu" University of Arad, Arad, Romania</p>

P3-10 (L)	In vivo preclinical evaluation of 68Ga-labeled beta-cyclodextrin in human pancreas tumor model using positron emission tomography I. Hajdu ^{1,2} , K. Csige ^{1,2} , S. N. Dénes ¹ , I. Kertész ¹ , L. Balkay ¹ , F. Fenyvesi ³ , G. Trencsényi ¹ ¹ Division of Nuclear Medicine and Translational Imaging, Medical Imaging Department, University of Debrecen, Debrecen, Hungary, ² Doctoral School of Pharmaceutical Sciences, University of Debrecen, Debrecen, Hungary, ³ Department of Pharmaceutical Technology, University of Debrecen, Debrecen, Hungary	P3-22 (V)	Implementation of advanced mass spectrometry methods based on nanoelectrospray for glycolipidome analysis in neurological diseases Raluca Ica ^{1,2} , Cristian V.A. Munteanu ³ , Svjetlana Kalanj-Bognar ⁴ , Alina D. Zamfir ^{1,5} ¹ Department of Condensed Matter, National Institute for Research and Development in Electrochemistry and Condensed Matter, 300224, Timisoara, Romania ² Faculty of Physics, West University of Timisoara, 300223, Timisoara, Romania ³ Institute of Biochemistry of the Romanian Academy, Bucharest, Romania ⁴ Department for Chemistry and Biochemistry & Croatian Institute for Brain Research, School of Medicine, Zagreb University, Croatia ⁵ "Aurel Vlaicu" University of Arad, Arad, Romania
P3-11 (L)	Detection of graphene oxide in HeLa cells using a Multivariate Curve Resolution (MCR) – based Raman spectroscopy method Z. Chaloupková ¹ , V. Ranc ¹ , K. Poláková ¹ , Jan Belza ¹ Czech Advanced Technology and Research Institute - Regional Centre of Advanced, Technologies and Materials, Palacky University in Olomouc, Czech Republic	P3-23 (V)	Nanoelectrospray ionization ion mobility mass spectrometry for biomarker discovery in malignant brain tumors M. Sarbu ¹ , Ž. Vukelić ² , D.E Clemmer ³ , A.D. Zamfir ^{1,4} ¹ Department of Condensed Matter, National Institute for Research and Development in Electrochemistry and Condensed Matter, Timisoara, Romania; ² Department of Chemistry and Biochemistry, Faculty of Medicine, University of Zagreb, Croatia; ³ Department of Chemistry, The College of Arts & Science, Indiana University, Bloomington, Indiana, USA; ⁴ Department of Technical and Natural Sciences, "Aurel Vlaicu" University of Arad, Arad, Romania
P3-12 (L)	Development of Nanofiber Filters and their Calculation of their Filtration Efficiency using Inorganic Nanoparticles A. Orfanos ¹ , K. Tsimenidis ¹ , V. Karagkiozaki ^{1,2} , S. Logothetidis ² , ¹ BL Nanobiomed P.C., Thessaloniki, Greece, ² Nanotechnology Lab LTFN, Aristotle University Thessaloniki, 54124 Thessaloniki, Greece	P3-24 (V)	Polymeric blends enriched with gentamycin as barriers for guided tissue regeneration Anna M. Tryba ¹ , Małgorzata Krok-Borkowicz ¹ , Katarzyna Reczyńska-Kolman ¹ , Gabriela Markowicz ¹ , Natalia Piergies ² , Monika Brzychczy-Włoch ³ , Czesława Paluszkiwicz ² and Elżbieta Pamuła ¹ ¹ Department of Biomaterials and Composites, Faculty of Materials Science and Ceramics, AGH University of Science and Technology, Al. Mickiewicza 30, 30-059 Kraków, Poland; ² Institute of Nuclear Physics, Polish Academy of Sciences, ul. Radzikowskiego 152, 31-342 Kraków, Poland; ³ Department of Molecular Medical Microbiology, Faculty of Medicine, Jagiellonian University Medical College, ul. Czysza 18, 31-121 Kraków, Poland
		P3-25 (V)	Liposomes with specific microRNA – test of stability and transendothelial diffusion using in-vitro model of lung tissue J. Skopalik ¹ , A. Novobilsky ² , J. Prucha ¹ , T. Horák ² , T. Parák ¹ ¹ Masaryk University, Faculty of Pharmacy, Brno - CZ / CTU Prague, Faculty of Biomed. Engineering, CZ ² Dept. of Pharmacology and Toxicology, VUVEI v.v.i., Brno, Czech Republic; skopajos(at)fbmi.cvut.cz

WS4 Biosensors (common with ISFOE22)		POSTER AREA Wednesday 6 July (13:00-14:30, 16:30-17:00): Poster Display & Presentations Tuesday 5 July, Thursday 7 July: Poster Display	
P4-1 (L)	Electrodeposition of gold nanoparticles on flexible substrate for electrochemical bio-sensing applications P. Stavropoulos ¹ , A. Batsi ¹ , K. Tsimenidis ² , A. Orfanos ² , A. Laskarakis ¹ , S. Logothetidis ¹ ¹ Nanotechnology Lab LTFN, Faculty of Sciences, Aristotle University of Thessaloniki, Greece, ² BL-NanoBiomed P.C.	P4-7 (L)	Multiplexed biofunctionalisation of GaAs for sepsis diagnostics, a photochemical approach B. Santos Gomes, F. Masia School of Biosciences, Cardiff University santosgomesb@cardiff.ac.uk, CF10 3AX, Cardiff, United Kingdom
P4-2 (L)	Electroactive polymer films for Bioelectronics: P3HT-MWCNT properties G.M.L. Messina, P. Campione, G. Marletta Dept of Chemical Sciences, University of Catania and CSGI, Laboratory for Molecular Surfaces and Nanotechnology (LAMSUN), Italy	P4-8 (L)	Biohybrid microelectrodes coated with human brain microvascular endothelial cells (hBMECs) as a novel therapeutic tool for tackling foreign body reaction Guzzo S. ^{1,2} , Zucchini E. ^{1,2} , Pavan B. ^{1,2} , Biscarini F. ^{1,3} , Bianchi M. ^{1,2} , Fadiga L. ^{1,2} ¹ Department of Neuroscience and Rehabilitation, Section of Physiology, Università di Ferrara, Ferrara, Italy ² Center for Translational Neurophysiology of Speech and Communication, Fondazione Istituto Italiano di Tecnologia, Ferrara, Italy. ³ Life Science Department, Università di Modena e Reggio Emilia, Modena, Italy
P4-3 (L)	Electrolyte-Gated Organic Transistors as Versatile Building Blocks in Translational Neuroelectronics De Salvo A. ^{1,3} , Di Lauro M. ¹ , Zucchini E. ^{1,3} , Calandra S. G. ² , Murgia M. ^{1,4} , Bianchi M. ¹ , Biscarini F. ^{1,5} , Fadiga L. ^{1,3} ¹ Center for Translational Neurophysiology of Speech and Communication, Fondazione Istituto Italiano di Tecnologia (IIT-CTNSC), Italy ² Dipartimento di Scienze Biomediche, Metaboliche e Neuroscienze, Università di Modena e Reggio Emilia, Italy ³ Sezione di Fisiologia, Dipartimento di Neuroscienze e Riabilitazione, Università di Ferrara, Italy ⁴ Istituto per lo Studio dei Materiali Nanostrutturati (CNR-ISMN), National Research Council, Italy ⁵ Dipartimento di Scienze della Vita, Università di Modena e Reggio Emilia, Italy	P4-9 (L)	Poly(3, 4 -ethylenedioxythiophene)-Poly(styrenesulfonate) (PEDOT:PSS) Properties Improvement Through Cross-linking with an Oxetane Unit Jorge S. M. ^{1,2} , Santos L. F. ² , Galvão A. ² , Morgado J. ^{1,3} and Charas A. ¹ ¹ Instituto de Telecomunicações, Instituto Superior Técnico, Av. Rovisco Pais, P-1049-001, Lisboa, Portugal; ² Centro de Química Estrutural, Instituto Superior Técnico, Universidade de Lisboa, Av Rovisco Pais, P-1049-001 Lisboa, Portugal; ³ Department of Bioengineering, Instituto Superior Técnico, Universidade de Lisboa, Av Rovisco Pais, P-1049-001 Lisboa, Portugal

P4-4 (L)	Biofunctionalization of Au nanoparticles for printed biosensors I.E. Chatzioannou ¹ , A. Orfanos ² , K. Tsimenidis ² , S. Logothetidis ¹ , A. Laskarakis ¹ ¹ Nanotechnology Lab LTFN (Lab for Thin Films - Nanobiomaterials - Nanosystems - Nanometrology) Aristotle University of Thessaloniki, Thessaloniki, Greece ² BL NanoBioMed, Greece	P4-10 (L) YRA Applicant	Wearable Microneedle-Based Biosensor for Detecting Biomarkers in Interstitial Fluids R. Omar, Y. Zheng, H. Haick Department of Chemical Engineering and Russell Berrie Nanotechnology Institute, Technion-Israel Institute of Technology, Haifa 3200003, Israel
P4-5 (L)	Substrate influence on carbon based bioprinted sensors C. Marculescu ¹ , B. Tincu ¹ , T. Burinaru ^{1,2} , P. Preda ¹ , E. Chiriac ^{1,3} , A. Matei ¹ , M. Avram ¹ ¹ IMT Bucharest, 126A, Erou Iancu Nicolae Street, 077190, Voluntari, Ilfov, ROMANIA ² USAMV Bucharest, 59 Mărăști Biv., 011464, Bucharest, ROMANIA ³ UPB, 313 Splaiul Independenței, Bucharest, ROMANIA	P4-11 (L)	Synthesis of Mastiha based PCL nanofibers for coating of angioplasty balloon I.Giagtzidis ^{1,2} , Z. Chakim ⁵ , Dermenoudis ¹ , M. Didagelos ^{1,3} , A. Laskarakis ¹ , S. Logothetidis ¹ ¹ Nanotechnology Lab LTFN AUTH ² E' Surgical Department Ippokrateio General Hospital AUTH ³ 1st Cardiology Department AHEPA University Hospital AUTH
P4-6 (L)	Study of the biofunctionalization of chitosan-capped gold nanoparticles for the detection of cardiac Troponin T (cTnT) using electrochemical sensors D.E. Georgiadis ¹ , A. Orfanos ² , K.Tsimenidis ² , S. Dermenoudis ¹ , D.Tselekidou ¹ , A. Zachariadis ¹ , L. Malletzidou ³ , S. Logothetidis ¹ , A. Laskarakis ¹ ¹ Nanotechnology Lab LTFN, Aristotle University of Thessaloniki, Thessaloniki, Greece ² BL NanoBioMed, Thessaloniki, Greece ³ . Advanced Materials and Devices Laboratory (AMDe Lab), Aristotle University of Thessaloniki, Greece	P4-12 (V)	Cost-effective Synthesis of Graphene (and its derivatives) Materials for Non Enzymatic Glucose Electrochemical Sensors: A Review G. Balkourani ¹ , C. Molochas ¹ , A. Brouzgu ² , P. Tsiakaras ¹ ¹ Laboratory of Alternative Energy Conversion Systems, Department of Mechanical Engineering, School of Engineering, University of Thessaly, 1 Sekeri Str., Pedion Areos, 38834, Volos, Greece ² Department of Energy Systems, Faculty of Technology, University of Thessaly, Geopolis, 41500 Larissa, Greece

WS5 Graphene (common with ISFOE22)		POSTER AREA Wednesday 6 July (13:00-14:30, 16:30-17:00): Poster Display & Presentations Tuesday 5 July, Thursday 7 July: Poster Display	
P5-1 (L)	Graphene Films with Different Structure for Nervous Tissue Regeneration Martina Trevisani ¹ , Andrea Capasso ² , Valentina Castagnola ^{1,3} , Fabio Benfenati ^{1,3} , ¹ Center for Synaptic Neuroscience and Technology, Istituto Italiano di Tecnologia, , Italy ² International Iberian Nanotechnology Laboratory, Braga, Portugal ³ IRCCS San Martino Polyclinical Hospital, Largo Rosanna Benzi 10, 16132 Genova, Italy	P5-10 (L)	Carbon nanotube and fullerene based nano-rectifiers A. Provias ^{1,2} , D. Kosmidis ¹ , G. Deligeorgis ^{1,2} ¹ Institute of Electronic Structure and Laser (IESL), Foundation for Research and Technology – Hellas (FORTH), Heraklion 70013, Greece ² Department of Physics, University of Crete Heraklion 70013, Greece
P5-2 (L)	Low-temperature exciton behaviour in van der Waals heterostructures of WS₂, WSe₂ and MoS₂ 2D materials S. Aškrabić ¹ , U. Ralević ¹ ¹ Institute of Physics Belgrade, University of Belgrade, Pregrevica 118, 11080 Belgrade, Serbia	P5-11 (L)	Electrically modulated wavelength selective photodetection enabled by MoS₂/ZnO heterostructure Kishan Lal Kumawat ^a , Pius Augustine ^{a,b} , Deependra Kumar Singh ^a , Karuna Kar Nanda ^a , Saluru Baba Krupanidhi ^a ^a Materials Research Centre, Indian Institute of Science, Bangalore 560012, India. ^b Materials Research Laboratory, Sacred Heart College (Autonomous), Kochi-682013, India.
P5-3 (L)	Greenhouse monitoring system using graphene-based sensor S.M. Iordache ¹ , A.M. Iordache ¹ , A. Sobetkii ² , E. Tanasa ³ , E. Vasile ³ , V. Barna ⁴ , I.C. Vasiliu ¹ , M. Elisa ¹ , I. Chilibon ¹ , C.E.A. Grigorescu ¹ ¹ National Institute for Research and Development in Optoelectronics-INOE 2000, Optospintronics Department, 409 Atomistilor, 077125, Magurele Romania ² S.C. MGM STAR Construct S.R.L, 7 Pancota Str., Building.13, Ap.19, Bucharest, 022773, Romania. ³ Politehnica University of Bucharest, 313 Splaiul Independenței, Bucharest, Romania. ⁴ University of Bucharest, Faculty of Physics, 405 Atomistilor, 077125, Magurele, Romania	P5-12 (L)	Raman study under simultaneous mechanical deformation and electrochemical doping in 2D MoS₂ N. Balakeras ¹ , K. Filintoglou ^{1,4} , A. Michail ^{2,3} , I. Samaras ¹ , I. Parthenios ³ , and K. Papagelis ^{1,3} ¹ School of Physics Department of Solid State Physics, Aristotle University of Thessaloniki, Thessaloniki 54124, Greece ² Department of Physics, University of Patras, Patras 26504, Greece ³ FORTH/ICE-HT, Institute of Chemical Engineering Sciences, Rio Patras 26504, Greece ⁴ HENANOTEC, Komnion 17, Thessaloniki 54624, Greece
P5-4 (L) YRA Applicant	Pressure effects on electrical and optical transport in few-layer ReSe₂ FETs E. Faella ^{1,2} , K. Intonti ¹ , L. Viscardi ¹ , F. Giubileo ² , A. Kumar ¹ , O. Lam ³ , A. Konstantinos ³ , M. Craciun ³ , S. Russo ³ and A. Di Bartolomeo ^{1,2} ¹ Department of Physics “E.R. Caianiello”, University of Salerno, Fisciano 84084, Salerno, Italy ² CNR-SPIN, Fisciano 84084, Salerno, Italy ³ University of Exeter, Stocker road 6, Exeter EX4 4QL, Devon, UK;	P5-13 (V)	Heterojunction Biosensor of MoS₂ and Graphene with Increased On/Off Controllability via Modification of Schottky Barrier Yeahyun Kim ¹ , Woojong Yu ¹ ¹ Department of Electrical and Computer Engineering, Sungkyunkwan University 2066 Westbound Janan-gu, Suwon-si, South Korea
P5-5 (L)	Development of a graphene field-effect transistor for the fabrication of functional mesobots J. Reif ¹ , R. Kirchner ¹ , C. Strobel ¹ , J. Zhang ² , M. Albert ¹ , J. W. Bartha ¹ , T. Mikolajick ¹ ¹ Technische Universität Dresden, Institute of Semiconductors and Microsystems, 01062 Dresden, Germany ² Technische Universität Dresden, Center for Advancing Electronics Dresden, 01062 Dresden, Germany	P5-14 (V)	Optical-to-Voltage Spike Conversion based on Graphene/Silicon Photodetector Sungbum Park ¹ , Woojong Yu ¹ ¹ Department of Electrical and Computer Engineering, Sungkyunkwan University 2066 Westbound Janan-gu, Suwon-si, South Korea
P5-6 (L) YRA Applicant	Graphene–Silicon Device for Visible and Infrared Photodetection A. Pelella ^{1,2} , A. Grillo ^{1,2} , E. Faella ^{1,2} , G. Luongo ³ , M. B. Askari ⁴ , A. Di Bartolomeo ^{1,2} ¹ Department of Physics, University of Salerno, Fisciano, Salerno, 84084, Italy; ² CNR-SPIN, Fisciano, Salerno, 84084, Italy; ³ IHP-Microelectronics, Frankfurt Oder 15236, Germany ⁴ Department of Physics, Faculty of Science, University of Guilan, 41335-1914 Rasht, Iran	P5-15 (V)	Non-volatile memory and synaptic devices using interlayer intercalation of ions into 2D material Gayoung Cho ¹ , Woojong Yu ¹ Electrical and Electronic Computer Engineering, Sungkyunkwan University Suwon 16419, Korea

P5-7 (L)	Study of HfO2 deposition on MoS2 by Atomic Layer Deposition G. Fanourakis ^{1,2} , F. Iacovella ² , G. Deligeorgis ² ¹ Department of Materials Science and Technology, University of Crete, Heraklion 70013, Greece ² Institute of Electronic Structure and Laser (IESL), Foundation for Research and Technology – Hellas (FORTH), Greece	P5-16 (V)	2D van der Waals heterostructure with MoS2/WSe2 on Al2O3 insulator making photosensor Seok won Choi, Woo jong Yu ¹ ¹ Department of Electrical and Computer Engineering, Sungkyunkwan University, 2066 Westbound Janan-gu, Suwon-si, South Korea
P5-8 (L)	Fabrication study of relative humidity sensors based on 2D materials N. Armaou ^{1,2} , G. Fanourakis ^{1,2} , F. Iacovella ^{1,2} , G. Deligeorgis ^{1,2} ¹ Institute of Electronic Structure and Laser (IESL), Foundation for Research and Technology – Hellas (FORTH), Greece ² Department of Physics, University of Crete Heraklion 70013, Greece	P5-17 (V)	Water droplet detection above an on the surface by microcrystalline graphene layer Algimantas Lukša ¹ , Vladimir Astachov ¹ , Saulius Balakauskas ¹ , Virginijus Bukauskas ¹ , Mindaugas Kamarauskas ¹ , Artūras Suchodolskis ³ , Marius Treideris ¹ , Martynas Talaikis ² , Arūnas Šetkus ¹ ¹ Department of Physical Technologies, State research institute Center for Physical Sciences and Technology (FTMC), Vilnius, Lithuania ² Department of Organic Chemistry, State research institute Center for Physical Sciences and Technology (FTMC), Vilnius, Lithuania ³ Department of Optoelectronic, State research institute Center for Physical Sciences and Technology (FTMC), Vilnius, Lithuania Saulėtekio ave. 3, Vilnius, Lithuania
P5-9 (L)	Preparation and doping of single-walled carbon nanotube membranes D.M. Kosmidis ¹ , F. Iacovella ² , G. Deligeorgis ³ ¹ Institute of Electronic Structure and Laser (IESL), Foundation for Research and Technology-Hellas (FORTH), Greece ² Department of Physics, University of Crete, Heraklion 70013, Greece		
I3D	POSTER AREA Wednesday 6 July (13:00-14:30, 16:30-17:00): Poster Display & Presentations Tuesday 5 July, Thursday 7 July: Poster Display		
I3DP-1 (L)	Properties, performance and application of Inconel 718 lattice structures A. Santoni ¹ , M. Cabibbo ¹ , M. Mandolini ¹ , V. Di Pompeo ¹ , E. Santecchia ¹ , S. Spigarelli ¹ ¹ DIISM, Università Politecnica delle Marche Via Breccia Bianche 12, 60131, Ancona, Italy		
I3DP-2 (L)	Reverse Engineering and 3D Printing for Replica Fabrication of a Paleontological Human Skull Emmanouil Tzimtzimis ^{a,b} , Dimitrios Tzetzis ^a , Charisios Achillas ^{a,c} , Athanasios Athanasiou ^d , Andreas Darlas ^d , Dionysis Bochtis ^a ^a Institute for Bio-Economy and Agri-Technology, Centre for Research & Technology Hellas (CERTH), Volos, Greece ^b Digital Manufacturing and Materials Characterization Laboratory, School of Science and Technology, International Hellenic University, Thessaloniki, Greece ^c Department of Supply Chain Management, International Hellenic University, Katerini, Greece ^d Ephorate of Palaeontology and Speleology, Ministry of Culture and Sports, Greece		
I3DP-3 (L)	End-to-end procedure for the restoration of an archaeological find using 3D printing technologies. N. Papas ¹ , K. Tsongas ¹ , D. Karolidis ² , D. Tzetzis ¹ , A. Arvanitaki ² ¹ Digital Manufacturing and Materials Characterization Laboratory, School of Science and Technology, International Hellenic University, 14km Thessaloniki, 57001 N. Moudania, Greece ² Archeological Museum of Thessaloniki, 6 Manoli Andronikou Street, 546 21 Thessaloniki, Greece		
I3DP-4 (L)	Artifacts' digital restoration and their implementation in Tactile Museums by utilizing 3D scanning and 3D Printing. S. Koltsakidis ^{1,2} , K. Tsongas ^{2,3} , E. Kargioti ³ , D. Tzetzis ² , C. Achillas ¹ , N. Moussiopoulos ¹ ¹ Laboratory of Heat Transfer and Environmental Engineering, Department of Mechanical Engineering, Aristotle University Thessaloniki, Thessaloniki, Greece ² Digital Manufacturing and Materials Characterization Laboratory, School of Science and Technology, International Hellenic University, Thessaloniki, Greece ³ Teloglion Fine Arts Foundation – Aristotle University Thessaloniki, Thessaloniki, Greece		
I3DP-5 (L)	Increasing cell viability in 3D Bioprinted tissue A. Papadopoulos, S. Dermenoudis, S Logothetidis Nanotechnology Lab LTFN, Aristotle University of Thessaloniki, Thessaloniki, Greece		
I3DP-6 (V)	Development of a food-waste derived bio-ink for soilless cultivation C. Febo ^{1,2} , M. Ciocca ¹ , P. Lugli ¹ , and L. Petti ^{1,3} ¹ Sensing Technologies Lab, Faculty of Science and Technology, Free University of Bozen-Bolzano, Piazza Università, 1, 39100, Bolzano, Italy ² Smart Materials Lab, Istituto Italiano di Tecnologia, via Morego, 30, 16163, Genova, Italy ³ Competence Centre for Plant Health, Free University of Bozen-Bolzano, Piazzetta Franz Innerhofer, 8, 39100, Bolzano, Italy		
I3DP-7 (V)	A portable real-time fiber density measurement system for electrospinning setups A. Evangelidis ¹ , G. Dobrescu ¹ , C. Ciobotaru ¹ , M. Enculescu ¹ ¹ National Institute of Materials Physics, Atomistilor 405A, Măgurele, Romania		
I3DP-8 (V)	3D printing of Zirconia ceramics for dental applications E. Garmpi ^{1,4} , I. Kitsou ¹ , P. Angelopoulou ¹ , E. Kalithinou ¹ , O. Alexiadou ¹ , P. Gkomoza ¹ , E. Roussi ¹ , S. Koltsakidis ² , D. Tzetzis ² , E. Mavropoulis ³ , C. Andreouli ⁴ , A. Tsetsekou ¹ ¹ School of Mining and Metallurgical Engineering, National Technical University of Athens, 157 80 Zografos, Athens, Greece ² Digital Manufacturing and Materials Characterization Laboratory, School of Science and Technology, International Hellenic University, Thessaloniki, Greece ³ Lino3D, 2, Doiranis str, Kallithea, 176 71 Athens, Greece		

I3DP-9 (V)	<p>⁴ MIRTEC S.A., 76 km Athens-Lamia national Road, 32009 Schimatari, Greece</p> <p>Development of nanocrystalline yttria stabilized zirconia feedstock for 3D-printing in dental applications</p> <p>I. Kitsou¹, P. Angelopoulou¹, E. Kalithinou¹, O. Alexiadou¹, E. Roussi¹, P. Gkomoza¹, E. Garmpi^{1,4}, S. Koltakidis², D. Tzetzis², E. Mavropoulis³, C. Andreouli⁴, A. Tsetsekou¹</p> <p>¹ School of Mining and Metallurgical Engineering, National Technical University of Athens, 157 80 Zografos, Athens, Greece</p> <p>² Digital Manufacturing and Materials Characterization Laboratory, School of Science and Technology, International Hellenic University, Themi, Greece</p> <p>³ Lino3D, 2, Doiranis str, Kallithea, 176 71 Athens, Greece</p> <p>⁴ MIRTEC S.A., 76 km Athens-Lamia national Road, 32009 Schimatari, Greece</p>
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