



<b>16:00-18:30</b>	<b>Registration</b>
<b>18:30-20:00</b> 🏠 Central Amphitheatre	<b>Opening Ceremony</b> Chair: N. Kalfagiannis
<b>18:30</b>	<b>Nikolaos Kalfagiannis</b> , <i>Conference Chairman</i>
<b>18:35-19:00</b>	<b>Anna K. Batistatou</b> <i>Rector, University of Ioannina, Greece</i>
<b>19:00-20:00</b> <b>PLENARY</b>	<b>Recent results on perovskite nanostructures and heterostructures designed for photovoltaics and quantum light emission</b> <b>Jacky Even</b> <i>INSA, iFOTON UMR CNRS 6082, University of Rennes, France</i>
<b>20:00</b>	<b>WELCOME RECEPTION</b>



08:00	Registration		
09:30-10:10 Central Amphitheatre	<b>KEYNOTE Session</b> Chair: P. Kelires	<b>Cluster Crystals: from a theorist's toy model to experimental realization</b> Christos Likos <i>Faculty of Physics, University of Vienna, Boltzmanngasse 5, 1090 Vienna, Austria</i>	
10:15-11:15 Hall B	<b>Session: Computational Materials Science</b> Chair: P. Kelires	10:15-11:15 Central Amphitheatre	
		<b>Session: Growth &amp; Fabrication</b> Chair: A. Markou	
10:15-10:30	<b>Stretching elasticity of bistable linear polymers and loops</b> P. Benetatos <i>Department of Physics, Kyungpook National University, Daegu 41566, Republic of Korea</i>	10:15-10:30	<b>Growth of Large-Area Tungsten Disulfide Via Sodium-Mediated Chemical Vapor Deposition</b> D. Maratos <sup>1,4</sup> , N. Balakeras <sup>2</sup> , A. Michail <sup>1,3</sup> , K. Filintoglou <sup>5</sup> , V. Tagoulis <sup>4</sup> , K. Papagelis <sup>1,2</sup> and J. Parthenios <sup>1</sup> <sup>1</sup> <i>Institute of Chemical Engineering Sciences, FORTH/ICE-HT, Patras 26504, Greece</i> <sup>2</sup> <i>School of Physics, Department of Solid-State Physics, Aristotle University of Thessaloniki, Thessaloniki 54124, Greece</i> <sup>3</sup> <i>Department of Physics, University of Patras, Patras 26504, Greece</i> <sup>4</sup> <i>Department of Chemistry, University of Patras, Patras 26504, Greece</i> <sup>5</sup> <i>HENANOTEC, Komnion 17, 54 624, Thessaloniki, Greece</i>
10:30-10:45	<b>Oxidation dynamics in polyyenes and dicyanopolyyenes</b> L. Chalkopiadis, K. Lambropoulos C. Simserides <i>Department of Physics, National and Kapodistrian University of Athens, Panepistimiopolis, Zografos GR-15784, Athens, Greece</i>	10:30-10:45	<b>In Situ Observation of GaAs Nanowire Growth: Focus on the Crystal Phase Dependence on the Physical State of the Catalyst</b> V. Sallet <sup>1</sup> , G. Patriarche <sup>2</sup> , L. Travers <sup>2</sup> , F. Glas <sup>2</sup> , J.-C. Harmand <sup>2</sup> <sup>1</sup> <i>GEMAC, Université Paris-Saclay, CNRS, Université de Versailles St Quentin en Yvelines, 45 avenue des Etats-Unis, 78035 Versailles cedex, France</i> <sup>2</sup> <i>Centre de Nanosciences et de Nanotechnologies (C2N), Université Paris-Saclay, CNRS, 10 Boulevard Thomas Gobert, 91120 Palaiseau, France</i>
10:45-11:00	<b>Porous carbon nitride fullerenes: a DFT study on a novel family of porous cage molecules</b> Z. G. Fthenakis <sup>1,2,3</sup> , N. N. Lathiotakis <sup>1</sup> <sup>1</sup> <i>Theoretical and Physical Chemistry Institute, National Hellenic Research Foundation, GR-11635, Athens, Greece</i> <sup>2</sup> <i>Istituto Nanoscienze del Consiglio Nazionale delle Ricerche (CNR-NANO), IT-56127, Pisa, Italy</i> <sup>3</sup> <i>National Enterprise for nanoScience and nanoTechnology (NEST), Scuola Normale Superiore, IT-56127, Pisa, Italy</i>	10:45-11:00	<b>An empirical model for epitaxial semiconductor superlattices</b> K. Pantzas <sup>1</sup> , V. Trinité <sup>2</sup> , A. Vasanelli <sup>3</sup> , G. Beaudoin <sup>1</sup> , C. Sirtori <sup>3</sup> , I. Sagnes <sup>1</sup> and G. Patriarche <sup>1</sup> <sup>1</sup> <i>Centre de Nanosciences et de Nanotechnologies, CNRS Université Paris Saclay, 91120, Palaiseau, France</i> <sup>2</sup> <i>III-V Lab, 91767, Palaiseau, France</i> <sup>3</sup> <i>Laboratoire de Physique de l'École Normale Supérieure, ENS, Université, PSL, CNRS, Sorbonne Université, Université de Paris, 75005 Paris, France</i>
11:00-11:15	<b>Superlubricity of graphene and 2D materials</b> C. Androulidakis <sup>1,2</sup> , G. Fanourgakis <sup>3</sup> , C.S. Garoufalos <sup>4</sup> , E. Papasouli <sup>3</sup> , E.N. Koukaras <sup>3</sup> <sup>1</sup> <i>Prometheus Division of Skeletal Tissue Engineering, KU Leuven, O&amp;N1, Herestraat 49, PB 813, 3000 Leuven, Belgium</i> <sup>2</sup> <i>Skeletal Biology and Engineering Research, KU Leuven, O&amp;N1, Herestraat 49,</i>	11:00-11:15	<b>High Quality Ordered &amp; Tunable Size Nanostructures of Titanium Nitride for Plasmonic Applications</b> S. Kassavetis, P. Rampota, S. Panos, N. Pliatsikas, D. Tselekidou and P. Patsalas <i>Nanotechnology Lab LTFN, Physics Department, Aristotle University of Thessaloniki, Thessaloniki GR-54124, Greece</i>


PB 813, 3000 Leuven, Belgium  
<sup>3</sup> Laboratory of Quantum and Computational Chemistry, Aristotle University of Thessaloniki, Thessaloniki, 54124, Greece  
<sup>4</sup> Materials Science Department, University of Patras, 26504 Patras, Greece



**11:15-11:45 Coffee Break**

11:45-13:45 Hall B	Session: Magnetism Chair: G. Litsardakis	11:45-13:30 Central Amphitheatre	Session: Advanced Functional Materials I Chair: G. Patriarche
11:45-12:15 INVITED	<b>Ultrafast spin currents and applications</b> <b>Evangelos Papaioannou</b> <i>Department of Physics, Aristotle University of Thessaloniki, 54124 Thessaloniki, Greece</i>	11:45-12:15 INVITED	<b>TITLE: Low power conductometric Gas sensors based on p-type Semiconductors</b> <b>Vassilis Binas<sup>1,2</sup></b> <sup>1</sup> <i>Foundation of Research and Technology - Hellas, Institute of Electronic Structure &amp; Laser (FORTH-IESL), Heraklion, Greece</i> <sup>2</sup> <i>Department of Chemistry, Aristotle University of Thessaloniki, Greece Department of Chemistry, Aristotle University of Thessaloniki</i>
12:15-12:30	<b>Design principles for the development of high frequency (&gt;3 MHz) MnZn-ferrites</b> G. Kogias <sup>2</sup> , I. Tsoukalas <sup>1</sup> , S. Zaspalis <sup>1,2</sup> , V. Tsakaloudi <sup>2</sup> , S. Papaioannou <sup>2</sup> , D. Holz <sup>3</sup> , E. Rauchenwald <sup>4</sup> , <b>V. Zaspalis<sup>1,2</sup></b> <sup>1</sup> <i>Laboratory of Materials Technology, Department of Chemical Engineering, Aristotle University of Thessaloniki, Thessaloniki, Greece</i> <sup>2</sup> <i>Laboratory of Inorganic Materials, Chemical Process and Energy Resources Institute, Center for Research and Technology-Hellas, Thessaloniki, Greece</i> <sup>3</sup> <i>Ferrocube-Yageo Europe Corporation, Skiernewice 96-100, Poland</i> <sup>4</sup> <i>Huawei Technologies Austria GmbH, A-1120, Vienna, Austria</i>	12:15-12:30	<b>Single-layer multifunctional materials with humidity driven mobility</b> I. Tzoumani <sup>1</sup> , D. Druvari <sup>1</sup> , K. Andrikopoulos <sup>1</sup> , <b>J.K. Kallitsis<sup>1,2</sup></b> <sup>1</sup> <i>Department of Chemistry, University of Patras, GR-26504 Rio-Patras, Greece</i> <sup>2</sup> <i>Institute of Chemical Engineering Sciences, FORTH/ICE-HT, GR-26504 Rio-Patras, Greece</i>
12:30-12:45	<b>Magnetic steel health monitoring in the nano-scale</b> X. Vourna <sup>1</sup> , A. Ktena <sup>2</sup> , <b>E. Hristoforou<sup>1</sup></b> <sup>1</sup> <i>Laboratory of Electronic Sensors, School of Electrical and Computer Engineering, National TU of Athens, Zografou Campus, Athens 15780, Greece</i> <sup>2</sup> <i>National and Kapodistrian University of Athens</i>	12:30-12:45	<b>Preparation of Nanocomposite Fe<sub>2</sub>O<sub>3</sub>/TiO<sub>2</sub> Film Electrodes for the Development of a Voltametric Sensor for Paracetamol</b> <b>E. Topoglidis</b> , E. A. Economou, C. S. Leva, P. Nikolaou, I. Koutselas <i>Department of Materials Science, University of Patras, Rio 26 504, Greece</i>
12:45-13:00	<b>Novel Hybrid Ferromagnetic Fe-Ni Nanoalloys Grown on Nanodiamonds</b> <b>P. G. Ziogas</b> , A. B. Bourlinos and A. P. Douvalis <i>Physics Department, University of Ioannina, 45110 Ioannina, Greece</i>	12:45-13:00	<b>Monitoring exposure to sunlight using a new layered metal selenide visible-light photocatalyst incorporated in bubble wraps packaging material</b> <b>V. I. Karagianni</b> , A. Georgiadis, C. Lykos, A. G. Vlessidis, I. Konstantinou, M. J. Manos and D. L. Giokas <i>Department of Chemistry, University of Ioannina, 45110, Ioannina, Greece</i>
13:00-13:15	<b>Development of magnetic powders for inductive heating</b> <b>V. Tsakaloudi<sup>1</sup></b> , S. Papaioannou <sup>1</sup> , V. Zaspalis <sup>1,2</sup> <sup>1</sup> <i>Laboratory of Inorganic Materials, Chemical Processes and Energy Resources Institute, Centre for Research and Technology-Hellas (CERTH), 57001 Thessaloniki, Greece</i> <sup>2</sup> <i>Laboratory of Materials Technology, Department of Chemical Engineering, Aristotle University of Thessaloniki, 54124 Thessaloniki, Greece</i>	13:00-13:15	<b>Transparent conductive oxide (TCO) thin films as hydrogen gas sensors</b> <b>E. Gagaoudakis<sup>1</sup></b> , C.-P. Tsihchlis <sup>1</sup> , A. Sfakianou <sup>1,2</sup> , V. Binas <sup>1,2</sup> <sup>1</sup> <i>Foundation of Research and Technology - Hellas, Institute of Electronic Structure &amp; Laser (FORTH-IESL), Heraklion Greece</i> <sup>2</sup> <i>Department of Chemistry, Aristotle University of Thessaloniki, Thessaloniki, Greece</i>
13:15-13:30	<b>Magnetic fluctuations in strongly correlated systems: from toy models to realistic materials simulations</b>	13:15-13:30	<b>Fabrication of new Co<sub>28</sub>Cr<sub>6</sub>Mo<sub>x</sub>Nb Alloy for Surgical Implants Using Vacuum Arc Remelting: Evaluation of Surface Degradation Response</b>

<b>13:30-13:45</b>	<p><b>M. Chatzieftheriou</b><sup>1</sup>, S. Biermann<sup>2</sup>, E. A. Stepanov<sup>3</sup>  <i>CPHT, CNRS, École polytechnique, Institut Polytechnique de Paris, 91120 Palaiseau, France</i></p> <p><b>Magnetic skyrmions in nanorings for electric pulse generation</b>  <b>Dimitris Kechrakos</b>  <i>Physics Laboratory, Department of Education, School of Pedagogical and Technological Education (ASPETE), 15122 Heraklion Attikis, Greece</i></p>		<p><b>S. Emmanouilidou</b>, Z. Siaraka, I. Tzala, A. G. Lekatou  <i>Laboratory of Applied Metallurgy. Department of Materials Science and Engineering, School of Engineering, University of Ioannina, 451 10, Greece</i></p>
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<b>13:30-15:00</b>	<b>Lunch Break</b>
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<b>15:00-15:40</b>  <b>Central Amphitheatre</b>	<b>KEYNOTE Session</b> <b>Chair: E. Glynos</b>	<p><b>Ubiquitous Carbons – A material for all occasions</b>  <b>S. Ravi P. Silva</b>  <i>Advanced Technology Institute, University of Surrey, Guildford, GU2 7XH, UK</i></p>
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<b>15:45-16:45</b>  <b>Hall B</b>	<b>Session: Photonics &amp; Optoelectronics I</b> <b>Chair: D. C. Koutsogeorgis</b>	<b>15:45-16:45</b>  <b>Central Amphitheatre</b>	<b>Session: Advanced Functional Materials II</b> <b>Chair: E. Glynos</b>
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<b>15:45-16:00</b>	<p><b>Layered III-VI monochalcogenides for broadband optoelectronics</b>  <b>Kalyan Jyoti Sarkar</b>, Zdenek Sofer  <i>Department of Inorganic Chemistry, University of Chemistry and Technology Prague, Technická 5, 166 28 Prague 6, Czech Republic</i></p>	<b>15:45-16:00</b>	<p><b>Electrochemical activation of carbon black – polylactic acid (CB/PLA) 3D printed electrodes for advanced electrochemical applications</b>  <b>A. Papavasileiou</b>, L. Děkanovský, L. Chacko, B. Wu, J. Luxa, J. Regner, J. Paštika, Z. Sofer  <i>Department of Inorganic Chemistry, University of Chemistry and Technology Prague, Technická 5, 16628 Prague 6, Czech Republic</i></p>
<b>16:00-16:15</b>	<p><b>Towards the Fabrication of Biocompatible Titanium Nitride Nanoparticles for Optical Hyperthermia Applications</b>  <b>T. Odutola</b><sup>1</sup>, N. Pliatsikas<sup>1</sup>, S. Panos<sup>1</sup>, I. Tsamesidis<sup>2</sup>, S. Kassavetis<sup>1</sup>, E. Kontonasaki<sup>2</sup>, J. Arvanitidis<sup>1</sup>, D. Christofilos<sup>3</sup>, M. Tziritidou<sup>4</sup>, M. Gioti<sup>1</sup>, P. Patsalas<sup>1</sup>  <sup>1</sup> <i>Department of Physics, Aristotle University of Thessaloniki, GR-54124 Thessaloniki, Greece</i>  <sup>2</sup> <i>School of Dentistry, Aristotle University of Thessaloniki, GR-54124 Thessaloniki, Greece</i>  <sup>3</sup> <i>School of Chemical Engineering and Physics Laboratory, Faculty of Engineering, Aristotle University of Thessaloniki, GR-54124 Thessaloniki, Greece</i>  <sup>4</sup> <i>Department of Midwifery, University of Western Macedonia, GR-50200 Ptolemaida, Greece</i></p>	<b>16:00-16:15</b>	<p><b>Dielectric properties of Natural Ester Oil-Based Nanofluids with Iron Oxide Nanoparticles</b>  Thomas E. Tsovilis<sup>1</sup>, Evangelos T. Staikos<sup>1</sup>, Alexandros Y. Hadjicostas<sup>1</sup>, Zacharias G. Datsios<sup>1</sup>, <b>George Litsardakis</b><sup>2</sup>, Eleftheria C. Pyrgioti<sup>3</sup>, George D. Peppas<sup>4</sup>  <sup>1</sup> <i>High Voltage Laboratory, School of Electrical &amp; Computer Engineering, Aristotle University of Thessaloniki, Greece</i>  <sup>2</sup> <i>Laboratory of Materials for Electrotechnics, School of Electrical &amp; Computer Engineering, Aristotle University of Thessaloniki, Greece</i>  <sup>3</sup> <i>High Voltage Laboratory, Electrical &amp; Computer Engineering Department, University of Patras, Greece</i>  <sup>4</sup> <i>Research &amp; Development Department, Raycap SA, Industrial Area of Drama, Greece now at School of Electrical &amp; Computer Engineering, Technical University of Crete, Chania, Greece</i></p>
<b>16:15-16:30</b>	<p><b>Device Fabrication of Highly-Robust Double Memristive Device Based on Perovskite/Molybdenum Oxide-Sulfide Compound Heterojunction System and Development of Spiking Neural Network Algorithm for a holistic approach towards energy efficiency</b>  <b>Gion Kalemai</b>, Michael-Alexandros Kourtis, Argitis, Dimitris Davazoglou, Maria Vasilopoulou, Anastasia Soultati  <sup>1</sup> <i>Institute of Nanoscience and Nanotechnology (INN) National Center for Scientific Research Demokritos, Agia Paraskevi, Athens, Greece</i>  <sup>2</sup> <i>Department of Physics, University of Patras, Patra Rio, Greece</i>  <sup>3</sup> <i>Solid State Physics Section, Physics Department, National and Kapodistrian University of Athens, Zografos, Athens, Greece</i></p>	<b>16:15-16:30</b>	<p><b>Polypropylene based Hydromagnesite-Huntite and Magnesium dihydroxide flame retardant compounds</b>  <b>E. Mitropoulou</b><sup>1,2</sup>, A. Soto Beobide<sup>1</sup>, G. Mathioudakis<sup>1</sup>, P. Tsaousis<sup>1,2</sup>, K. Papapetros<sup>1</sup>, K.S. Andrikopoulos<sup>1,3</sup>, G. Voyiatzis<sup>1</sup>  <sup>1</sup> <i>Foundation for Research &amp; Technology-Hellas (FORTH), Institute of Chemical Engineering Sciences (ICE-HT), Stadiou Str., Rio-Patras, GR-265 04, Greece</i>  <sup>2</sup> <i>Department of Chemistry, University of Patras, Patras, GR-265 04, Greece</i>  <sup>3</sup> <i>Department of Physics, University of Patras, Patras, GR-265 04, Greece</i></p>

<p><b>16:30-16:45</b></p>	<p><sup>4</sup> Institute of Informatics &amp; Telecommunications, National Center for Scientific Research Demokritos, Agia Paraskevi, Athens, Greece  <sup>5</sup> Department of Electrical and Computer Engineering, Ajman University, Ajman, United Arab Emirates  <sup>6</sup> Center of Medical and Bio-Allied Health Sciences Research, Ajman, United Arab Emirates  <sup>7</sup> Department of Electrical Engineering and Computer Sciences, University of Patras, Patra Rio, Greece</p> <p><b>Polarisation-encoded BB84 QKD for fiber and wireless channels</b>  <b>G. Giannoulis</b>, A. Ntanos, A. Stathis, D. Zavitsanos, N. Lyras, H. Avramopoulos  School of Electrical and Computer Engineering, National Technical University of Athens, 9 Iroon Polytechniou Street, Zografou, Athens, 15772, Greece</p>	<p><b>16:30-16:45</b></p>	<p><b>In-situ One-Step Engineering of Hybrid CdS/TiO<sub>2</sub> Quantum Dots via Flame Spray Pyrolysis</b>  <b>C. Dimitriou</b>, Y. Deligiannakis  Laboratory of Physical Chemistry of Materials &amp; Environment, Department of Physics, University of Ioannina, 45100 Ioannina, Greece</p>
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**16:45-17:15**    **Coffee Break**

<p><b>17:15-18:15</b>   <b>Central Amphitheatre</b></p>	<p><b>Special Session I: Exhibitors Presentations</b>  Chair: K. Prouskas</p>
<p><b>17:15-17:27</b></p>	<p><b>ANELIS- KLOTHAKIS ELEFThERIOS &amp; Co Ltd</b></p>
<p><b>17:27-17:39</b></p>	<p><b>KRAHN HELLAS S.A.</b></p>
<p><b>17:39-17:51</b></p>	<p><b>Hellamco</b></p>
<p><b>17:51-18:03</b></p>	<p><b>Analytical Instruments S.A.</b></p>
<p><b>18:03-18:15</b></p>	<p><b>ThetaMetrisis</b></p>

<p><b>18:15-19:30</b>   <b>Central Hall</b></p>	<p><b>Poster Session I: Advanced Functional Materials, Micro/Nano Electronics, Magnetism and Strongly Correlated Systems, From Atoms to Devices: growth and fabrication, Low Dimensional Materials</b>  Chair: I. Skarmoutsos, S. Kaziannis, P. Papadopoulos</p>
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**End of Day 1**



09:30-10:10 Central Amphitheatre	KEYNOTE Session Chair: S. Kassavetis	Pulsed Laser Engineering of Novel Materials and Related Diagnostics Emanuel Stratakis <i>Institute of Electronic Structure and Laser Foundation for Research &amp; Technology – Hellas711 10 Heraklion (Greece)</i>	
10:15-11:15 Hall B	Session: Soft Condensed Matter Chair: C. Likos	10:15-11:15 Central Amphitheatre	Session: Photonic Processing Chair: S. Kassavetis
10:15-10:30	<b>Complex Architecture Silicon Containing Copolymers for Advanced Nanopatterning Applications</b> G-M Manesi, I. Moutsios, G. Lontos and <b>A. Avgeropoulos</b> <i>Department of Materials Science Engineering, University of Ioannina, University Campus-Dourouti, 45110 Ioannina, Greece</i>	10:15-10:45 <b>INVITED</b>	<b>Wrinkling of thin laser annealed films</b> M. Emerse <sup>1</sup> , <b>L. Goehring</b> <sup>1</sup> , N. Kalfagiannis <sup>1,2</sup> , D. Koutsogeorgis <sup>1</sup> <sup>1</sup> <i>School of Science and Technology, Nottingham Trent University, Nottingham NG11 8NS, United Kingdom</i> <sup>2</sup> <i>Department of Materials Science and Engineering, University of Ioannina, Ioannina 45110, Greece</i>
10:30-10:45	<b>Effect of Quantum Dots on Nematic Phases of Mesogenic Dimers</b> <b>S. B. Atata</b> , I. Lelidis <i>Faculty of Physics, National and Kapodistrian University of Athens, Panepistimiopolis, Zografos, 15784 Athens, Greece</i>	10:45-11:00	<b>Laser-assisted transformation of electrospun PAN fibers into graphene: Insights from surface chemistry studies and spectroscopy</b> <b>E. Amirali</b> <sup>1</sup> , I. Chronopoulos <sup>1</sup> , N. Samartzis <sup>1</sup> , S. N. Yannopoulos <sup>1,2</sup> , L. Sygellou <sup>1</sup> <sup>1</sup> <i>Institute of Chemical Engineering Sciences, Foundation for Research and Technology Hellas (FORTH/ICE-HT), Patras, 26504, Greece</i> <sup>2</sup> <i>Physical Chemistry Laboratory, Department of Chemistry, University of Patras, Rio-Patras, 26504, Greece</i>
10:45-11:00	<b>Topology Sorting: Separating Polymer Blend Components of Different Architecture by Infiltration in Nanochannels</b> <b>P. Kardasis</b> <sup>1</sup> , I. Tzourtzouklis <sup>1</sup> , and George Floudas <sup>1,2,3</sup> <sup>1</sup> <i>Department of Physics, University of Ioannina, 45110 Ioannina, Greece</i> <sup>2</sup> <i>University Research Center of Ioannina (URCI) - Institute of Materials Science and Computing, 45110 Ioannina, Greece</i> <sup>3</sup> <i>Max Planck Institute for Polymer Research, 55128 Mainz, Germany</i>	11:00-11:15	<b>Titanium and Gallium Nitride Nanoparticles by Nanosecond Laser Ablation for Flexible Electronics</b> <b>S. Panos</b> <sup>1</sup> , N. Pliatsikas <sup>1</sup> , T. Odutola <sup>1</sup> , S. Kassavetis <sup>1</sup> , C. Papouli <sup>1</sup> , J. Arvanitidis <sup>1</sup> , D. Christofilos <sup>2</sup> , M. Gioti <sup>1</sup> , E. Pavlidou <sup>1</sup> , P. Patsalas <sup>1</sup> <sup>1</sup> <i>Department of Physics, Aristotle University of Thessaloniki, GR-54124 Thessaloniki, Greece</i> <sup>2</sup> <i>School of Chemical Engineering and Physics Laboratory, Faculty of Engineering, Aristotle University of Thessaloniki, GR-54124 Thessaloniki, Greece</i>
11:00-11:15	<b>Time evolution of transitions between wetting states on slippery nanoparticle-based superhydrophobic surfaces</b> C. Tsekeridis, <b>D. Tzitzilis</b> , I. Ntakoumis, P. Papadopoulos <i>Department of Physics, University of Ioannina, P.O. Box 1186, 45110, Greece</i>	11:15-11:30	<b>Laser processing of thin films: A versatile tool for controlling materials' characteristics</b> <b>D. C. Koutsogeorgis</b> <i>School of Science &amp; Engineering, Nottingham Trent University, NG11 8NS, Nottingham, UK</i>
11:15-11:30	<b>Enhanced Ionic Conductivity in Innovative Single-Ion-Conducting Block Copolymer Electrolytes</b> <b>M. Spyridakou</b> <sup>1</sup> , I. Tzourtzouklis <sup>1</sup> , T. Gäb <sup>2</sup> , H. Frey <sup>2</sup> , G. Floudas <sup>1,2,3</sup> <sup>1</sup> <i>Department of Physics, University of Ioannina, P.O. Box 1186, 45110 Ioannina, Greece</i> <sup>2</sup> <i>Max Planck Institute for Polymer Research, Ackermannweg 10, 55128 Mainz, Germany</i> <sup>3</sup> <i>University Research Center of Ioannina (URCI)-Institute of Materials Science and Computing, 45110 Ioannina, Greece</i>		

11:30-12:00 Coffee Break

12:00-13:30



Session: Computational Methods in Science & Engineering

Chair: P. Benetatos

12:00-12:15

**Gradient Interatomic Potentials**

K. Parisi<sup>1</sup>, A. Konstantinidis<sup>1</sup>, K.E. Aifantis<sup>2</sup>, E.C. Aifantis<sup>1,3</sup>

<sup>1</sup> Aristotle University of Thessaloniki, Thessaloniki, GR 54124, Greece

<sup>2</sup> University of Florida, Gainesville, FL 32611, USA

<sup>3</sup> Michigan Technological University, Houghton, MI 49931, USA

12:15-12:30

**3D bistable metamaterial mechanism based on auxetic rotating equilateral triangle structure**

I.P. Dachis, E.P. Hadjigeorgiou

Laboratory for Mathematical Modeling of Materials and Scientific Computing, Department of Materials Science and Engineering, University of Ioannina, GR-45110 Ioannina, Greece

12:30-12:45

**Synchronization of random walking oscillators**

K. Tsachalinas, C. Polatoglou

School of Physics, Aristotle University of Thessaloniki, Greece

12:45-13:00

**Modeling and analysis of laminated HSDT piezoelectric composite beams**

K. I. Ntaflos, E. P. Hadjigeorgiou

Laboratory of Mathematical Modelling of Materials and Scientific Computing, Department of Materials Science and Engineering, University of Ioannina, University Campus 45110 Ioannina, Greece.

13:00-13:15

**Rapidly-rotating quantum droplets confined in a harmonic potential**

S. Nikolaou<sup>1</sup>, G. M. Kavoulakis<sup>1,2</sup>, M. Ögren<sup>2,3</sup>

<sup>1</sup> Department of Mechanical Engineering, Hellenic Mediterranean University, 71004, Heraklion, Greece

<sup>2</sup> HMU Research Center, Institute of Emerging Technologies, 71004, Heraklion, Greece

<sup>3</sup> School of Science and Technology, Örebro University, 70182, Örebro, Sweden

13:30-15:00

Lunch Break

12:00-13:15

Central Amphitheatre

12:00-12:30

INVITED

12:30-12:45

12:45-13:00

13:00-13:15

13:15-13:30

Session: Photonics & Optoelectronics II

Chair: G. Giannoulis

**THz graphene-based metasurfaces for wave manipulation**

Anna Tasolamprou

Department of Physics, National and Kapodistrian University of Athens, University Campus, GR-157 84 Zografou, Athens

**Adjustable and Dynamic Metamaterials for Advanced Photonic Applications**

N. Matthaikakakis<sup>1</sup>, N. Dimogerontaki<sup>1,2</sup>, S. Droulias<sup>3</sup>, G. Kakarantzas<sup>4</sup>, N. Kehagias<sup>1</sup>

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<sup>2</sup> Department of Physics, School of Applied Mathematical and Physical Sciences National Technical University of Athens, Zografou Campus, GREECE

<sup>3</sup> Department of Digital Systems, University of Piraeus, Piraeus 18534, Greece

<sup>4</sup> Theoretical and Physical Chemistry Institute, National Hellenic Research Foundation, 11635 Athens, Greece

**Extreme pulse shaping from saturable absorption in a critically-coupled graphene-loaded photonic crystal cavity**

A. Dagkli<sup>1</sup>, S. Doukas<sup>1</sup>, A. Chatzilari<sup>1</sup>, A.C. Ferrari<sup>2</sup>, E. Lidorikis<sup>1</sup>

<sup>1</sup> Department of Materials Science & Engineering, University of Ioannina, Ioannina 45110, Greece

<sup>2</sup> Cambridge Graphene Centre, University of Cambridge, Cambridge CB3 0FA, UK

**Orientation-Patterned Gallium Phosphide for Integrated Nonlinear Photonics**

K. Pantzas<sup>1</sup>, B. Le Corre<sup>1,2</sup>, A. Marceau<sup>1,3</sup>, G. Beaudoin<sup>1</sup>, A. Harouri<sup>1</sup>, L. Le Gratiet<sup>1</sup>, B. Gerard<sup>4</sup>, A. Grisard<sup>3</sup>, G. Patriarche<sup>1</sup>, Y. Leger<sup>2</sup>, S. Combrié<sup>3</sup> and I. Sagnes<sup>1</sup>

<sup>1</sup> Centre de Nanosciences et de Nanotechnologies, CNRS Université Paris Saclay, 91120, Palaiseau, France

<sup>2</sup> Institut FOTON (UMR6082/CNRS-Univ. Rennes-INSa), 35708 Rennes, France

<sup>3</sup> Thales Research and Technology, 91767 Palaiseau, France




<sup>4</sup> III-V Lab, 91767, Palaiseau, France

**Design of a Dual-Metallic Plane Plasmo-Photonic Sensor for Bimodal and Trimodal Interference**

P. Zdoupas<sup>1,2</sup>, E. Chatzianagnostou<sup>2</sup>, L. Damakoudi<sup>1,2</sup>, K. Vyrsoinos<sup>1,2</sup>

<sup>1</sup> School of Physics, Aristotle University of Thessaloniki, Greece

<sup>2</sup> Center for Interdisciplinary Research and Innovation, Aristotle University of Thessaloniki, Greece

<b>15:00-15:40</b>  <b>Central Amphitheatre</b>	<b>KEYNOTE Session</b> <b>Chair: S. Ravi P. Silva</b>	<b>Organic photovoltaics with efficiencies exceeding 20%</b> <b>Thomas D. Anthopoulos</b> <i>Henry Royce Institute, Photon Science Institute, Department of Electrical and Electronic Engineering, The University of Manchester, Alan Turing Building, Oxford Road, Manchester M13 9PL (UK)</i>
<b>15:40-16:55</b>  <b>Central Amphitheatre</b>	<b>Session: Materials for Energy</b> <b>Chair: S. Ravi P. Silva</b>	
<b>15:40-16:10</b> <b>INVITED</b>	<b>Materials design and atomistic modelling of perovskites for energy generation applications</b> <b>George Volonakis</b> <i>Institut des Sciences Chimiques de Rennes, ENSCR, INSA Rennes, CNRS, Université de Rennes</i>	
<b>16:10-16:25</b>	<b>Leveraging Molecular Architecture to Design High-Performance Single-Ion Polymer for Energy Storage</b> Georgia Nikolakakou <sup>1,2</sup> , Christos Pantazidis <sup>3</sup> , Georgios Sakellariou <sup>3</sup> , Vasilis M., Papadakis <sup>1</sup> , Georgios Kenanakis <sup>1</sup> , Benoit Loppinet <sup>1</sup> , <b>Emmanouil Glynos<sup>1,4</sup></b> <sup>1</sup> <i>Institute of Electronic Structure and Laser, Foundation for Research and Technology-Hellas, P.O. Box 1385, 711 10 Heraklion, Crete, Greece</i> <sup>2</sup> <i>Department of Chemistry, University of Crete, P.O. Box 2208, 710 03 Heraklion, Crete, Greece</i> <sup>3</sup> <i>Department of Chemistry, National and Kapodistrian University of Athens, Panepistimioupolis Zografrou, 15 771 Athens, Greece</i> <sup>4</sup> <i>Department of Materials Science and Technology, University of Crete, P.O. Box 2208, 710 03, Heraklion, Crete, Greece</i>	
<b>16:25-16:40</b>	<b>Polymeric materials for OPVs: Synthetic and LCA perspectives</b> <b>K.C. Andrikopoulos<sup>1</sup></b> , C. Anastasopoulos <sup>1</sup> , A.K. Andreopoulou <sup>1,2</sup> , J.K. Kallitsis <sup>1,2</sup> <sup>1</sup> <i>Department of Chemistry, University of Patras, GR-26504 Rio-Patras, Greece</i> <sup>2</sup> <i>FORTH/ICE-HT, GR-26504 Rio-Patras, Greece</i>	
<b>16:40-16:55</b>	<b>Photochemical activity of WO<sub>3-x</sub> inverse opal film photoelectrodes</b> <b>M.-A. Apostolaki<sup>1</sup></b> , E. Sakellis <sup>1,2</sup> , V. Likodimos <sup>1</sup> <sup>1</sup> <i>Department of Physics, National and Kapodistrian University of Athens, University Campus, 15784 Athens, Greece</i> <sup>2</sup> <i>Institute of Nanoscience and Nanotechnology, National Centre for Scientific Research "Demokritos", Agia Paraskevi, 15341 Athens, Greece</i>	
<b>16:55-17:15</b>	<b>Coffee Break</b>	
<b>17:15-18:30</b>  <b>Central Hall</b>	<b>Poster Session II:</b> <b>Chair: I. Skarmoutsos, S. Kaziannis, P. Papadopoulos</b>	
<b>21:00</b>	<b>Official Conference Dinner at "Frontzu Politia"</b>	

**End of Day 2**





<p>10:00-10:40 Central Amphitheatre</p>	<p><b>KEYNOTE Session</b> Chair: E. Stratakis</p>	<p><b>TITLE: 2D semiconductors: a platform for ultrafast photonics</b> Giulio Nicola Felice Cerullo <i>Politechnic of Milan, Department of Physics, Italy</i></p>
<p>10:40-11:40 Central Amphitheatre</p>	<p><b>Session: Optoelectronics &amp; Spectroscopy</b> Chair: E. Stratakis</p>	
<p>10:40-10:55</p>	<p><b>Exciton-assisted electron tunneling in van der Waals tunnel junctions</b> S. Papadopoulos<sup>1</sup>, L. Wang<sup>1</sup>, F. Iyikanat<sup>2</sup>, Y. Koyaz<sup>3</sup>, S. Shan<sup>1</sup>, J. Huang<sup>1</sup>, R. Khelifa<sup>1</sup>, T. Taniguchi<sup>4</sup>, K. Watanabe<sup>5</sup>, F. Javier García de Abajo<sup>2</sup>, L. Novotny<sup>1</sup> <sup>1</sup> Photonics Laboratory, ETH Zürich, Zürich, Switzerland. <sup>2</sup> Institut de Ciències Fotòniques (ICFO), The Barcelona Institute of Science and Technology, Castelldefels, Spain <sup>3</sup> Photonic Systems Laboratory, EPFL, 1015 Lausanne, Switzerland <sup>4</sup> International Center for Materials Nanoarchitectonics, National Institute for Materials Science, Tsukuba, Japan. <sup>5</sup> Research Center for Functional Materials, National Institute for Materials Science, Tsukuba, Japan</p>	
<p>10:55-11:10</p>	<p><b>Magneto-optical and Nonlinear-optical Behaviour of a Room-Temperature Ferroelectric Nematic Phase</b> E. E. Zavvou<sup>1,3</sup>, M. Klasen-Memmer<sup>2</sup>, A. Manabe<sup>2</sup>, M. Bremer<sup>2</sup> and A. Eremin<sup>3</sup> <sup>1</sup> Department of Physics, University of Patras, 26504 Patras, Greece <sup>2</sup> Electronics Division, Merck KGaA, Darmstadt, Germany <sup>3</sup> Otto von Guericke University Magdeburg, Institute of Physics, Dept. Nonlinear Phenomena, Magdeburg, Germany</p>	
<p>11:10-11:25</p>	<p><b>Study of the thermal decomposition of ammonium tetrathiomolybdate, (NH<sub>4</sub>)<sub>2</sub>MoS<sub>4</sub>, in H<sub>2</sub> and H<sub>2</sub>O media by quasi in-situ photoelectron spectroscopy (XPS/UPS)</b> Labrini Sygellou <i>Institute of Chemical Engineering Sciences (ICE-HT), Foundation of Research and Technology, Hellas, P.O. Box 1414, 26504 Rio Patras, Greece</i></p>	
<p>11:25-11:40</p>	<p><b>Studying 1T-TaS<sub>2</sub> crystals phase transition and charge transfer phenomena at interfaces with perovskites</b> G. Chatzigiannakis<sup>1,2</sup>, A. Soultati<sup>1</sup>, S. Gardelis<sup>2</sup>, M. Vasilopoulou<sup>1</sup> <sup>1</sup> Institute of Nanoscience and Nanotechnology, National Centre of Scientific Research Demokritos, 15341 Agia Paraskevi, Athens, Greece <sup>2</sup> Department of Physics, National and Kapodistrian University of Athens, Panepistimiopolis Zografos, 15784 Athens, Greece</p>	
<p>11:40-12:00</p>	<p><b>Coffee Break</b></p>	
<p>12:00-13:30 Central Amphitheatre</p>	<p><b>Session: Organic Materials &amp; Devices</b> Chair: A. Avgeropoulos</p>	
<p>12:00-12:30 INVITED</p>	<p><b>Photon Energy UpConversion in Organic Semiconductors</b> Panagiotis E. Keivanidis <i>Device Technology and Chemical Physics Lab, Department of Mechanical Engineering and Materials Science and Engineering, Cyprus University of Technology</i></p>	

- 12:30-12:45** **Investigation of different Host-Ir(dmpq)<sub>2</sub>(acac) blended systems for Solution-processable red phosphorescent OLEDs**  
**D. Tselekidou**<sup>1</sup>, K. Papadopoulos<sup>1</sup>, S. Kassavetis<sup>1</sup>, A. Laskarakis<sup>1</sup>, S. Logothetidis<sup>1,2</sup>, M. Gioti<sup>1</sup>  
<sup>1</sup> Nanotechnology Lab LTFN, Department of Physics, Aristotle University of Thessaloniki, GR-54124, Thessaloniki, Greece  
<sup>2</sup> Organic Electronic Technologies P.C. (OET), 20th KM Thessaloniki—Tagarades, GR-57001, Themi, Greece
- 12:45-13:00** **Printable PLEDs as actuators for optical sensing of Rhodamine 6G**  
**K. Papadopoulos**<sup>1</sup>, D. Tselekidou<sup>1</sup>, S. Kassavetis<sup>1</sup>, A. Laskarakis<sup>1</sup>, S. Logothetidis<sup>1,2</sup>, M. Gioti<sup>1</sup>  
<sup>1</sup> Nanotechnology Lab LTFN, Department of Physics, Aristotle University of Thessaloniki, 54124, Thessaloniki, Greece  
<sup>2</sup> Organic Electronic Technologies P.C. (OET), 20th KM Thessaloniki- Tagarades, 57001, Themi, Greece
- 13:00-13:15** **Phase Diagram of Polystyrene-*b*-Polyfarnesene Diblock Copolymer System**  
**N. Fotaras**<sup>1</sup>, M. M. Simon<sup>2</sup>, H. Frey<sup>2</sup>, G. Floudas<sup>1,3,4</sup>  
<sup>1</sup> Department of Physics, University of Ioannina, 45110 Ioannina, Greece  
<sup>2</sup> Department of Chemistry, Johannes Gutenberg University, 55128 Mainz, Germany  
<sup>3</sup> Max Planck Institute for Polymer Research, 55129 Mainz, Germany  
<sup>4</sup> University Research Center of Ioannina (URCI), Institute of Materials Science and Computing, 45110 Ioannina, Greece
- 13:15-13:30** **Polymorphism and Heterogeneity in ethanol/water mixtures**  
**V. Moschos**<sup>1</sup> and G. Floudas<sup>1,2,3</sup>  
<sup>1</sup> Department of Physics, University of Ioannina, 45110 Ioannina, Greece  
<sup>2</sup> Max Planck Institute for Polymer Research, 55128 Mainz, Germany  
<sup>3</sup> University Research Centre of Ioannina (URCI) - Institute of Materials Science and Computing, 45110 Ioannina, Greece

**13:30 – 13:45** Young researcher awards

**13:45 – 14:00** Closing Ceremony

**End of Conference**



18:15-19:30 Central Hall	Session I: Advanced Functional Materials, Magnetism and Strongly Correlated Systems, From Atoms to Devices: growth and fabrication, Low Dimensional Materials, Micro/Nano Electronics Chair: I. Skarmoutsos, S. Kaziannis, P. Papadopoulos
P1.1	<p><b>Preparation and Characterization of Two-Dimensional Nanostructures from Iron Minerals and Study of Their Reinforcement with Metals.</b>  <b>P.T.Kokkinopoulou<sup>1</sup></b>, G. Papathanidis, V. Papantoniou, E. Letsiou, E. Topoglidis, V.I. Georgakilas  <sup>1</sup><i>Materials Science Department, University of Patras, 26504 Patras, Greece</i></p>
P1.2	<p><b>CARBON DOTS' UNUSUAL OPTOELECTRONIC PROPERTIES IN SILICA AEROGELS</b>  <b>A. Tiron-Stathopoulos<sup>1</sup></b> and K. Dimos<sup>1</sup>  <sup>1</sup><i>Department of Materials Science, University of Patras, GR-26504 Patras, Greece</i></p>
P1.3	<p><b>Highly-Robust Stacked-Memristor based on Perovskite/Molybdenum Oxide-Sulfide Heterostructure</b>  <b>A. Soultati<sup>1</sup></b>, A. Verykios<sup>1</sup>, G. Calemai<sup>1,2</sup>, G. Chatzigiannakis<sup>1,3</sup>, D. Davazoglou<sup>1</sup>, K. Aidinis<sup>4,5</sup>, M. Vasilopoulou<sup>1</sup>  <sup>1</sup><i>Institute of Nanoscience and Nanotechnology (INN), National Center for Scientific Research Demokritos, 15341 Agia Paraskevi, Athens, Greece</i>  <sup>2</sup><i>Department of Physics, University of Patras, 26504 Patra, Rio, Greece</i>  <sup>3</sup><i>Solid State Physics Section, Physics Department, National and Kapodistrian University of Athens, Panepistimioupolis, 15784 Zografos, Athens, Greece</i>  <sup>4</sup><i>Department of Electrical and Computer Engineering, Ajman University, P.O. Box 346, Ajman, United Arab Emirates.</i>  <sup>5</sup><i>Center of Medical and Bio-Allied Health Sciences Research, Ajman, United Arab Emirates</i></p>
P1.4	<p><b>DC sputtered ZnO:Al thin films as methane gas sensors</b>  <b>C.-P. Tschlis<sup>1</sup></b>, E. Gagaoudakis<sup>1</sup>, A. Sfakianou<sup>1,2</sup>, V. Binas<sup>1,2</sup>  <sup>1</sup><i>Foundation of Research and Technology - Hellas, Institute of Electronic Structure &amp; Laser (FORTH-IESL), Heraklion Greece</i>  <sup>2</sup><i>Department of Chemistry, Aristotle University of Thessaloniki, Thessaloniki, Greece</i></p>
P1.5	<p><b>High dislocation density in iron-doped mullite</b>  <b>Svetlana Ilić</b>, Milica Pošarac - Marković, Aleksandra Šaponjić, Jovana Ruzić  <i>Vinča Institute of Nuclear Sciences, University of Belgrade, National Institute of the Republic of Serbia, Belgrade, Serbia</i></p>
P1.6	<p><b>Sintering behavior of yttrium-doped spinel powder directly synthesized by the solution combustion method</b>  <b>M. Posarac - Markovic<sup>1</sup></b>, A. Saponjic<sup>1</sup>, S. Ilic<sup>1</sup>  <sup>1</sup><i>Materials Science Laboratory, Vinca Institute of Nuclear Sciences, National Institute of the Republic of Serbia, University of Belgrade, Mike Petrovica Alasa 12-14, Serbia</i></p>
P1.7	<p><b>Enhanced Radiative cooling through Microstructured polymer film fabricated by Nanoimprint lithography</b>  <b>N. Dimogerontaki<sup>1,2</sup></b>, N. Matthaiakakis<sup>2</sup>, N. Kehagias<sup>2</sup>  <sup>1</sup><i>Department of Physics, School of Applied Mathematical and Physical Sciences National Technical University of Athens, Zografou Campus, GREECE</i>  <sup>2</sup><i>NCSR Demokritos, Institute of Nanoscience &amp; Nanotechnology, P. Grigoriou 27 &amp; Neapoleos Str., 15341 Ag. Paraskevi, Greece</i></p>
P1.8	<p><b>A numerical model incorporating machine learning for crack propagation in materials with inclusions</b>  G. Makris<sup>1</sup>, K. Kolomvatos<sup>1</sup>, F.Sofos<sup>2</sup>, T.Karakasidis<sup>2</sup></p>

<sup>1</sup>Department of Informatics & Telecommunications, University of Thessaly, 35100 Lamia, Greece

<sup>2</sup>Condensed Matter Laboratory, Department of Physics,  
University of Thessaly, 35100 Lamia, Greece

**P1.9**

**Inducing Magnetic Properties in Polymer Matrix Nanocomposites**

A.C. Patsidis<sup>1</sup>, G. C. Manika<sup>1</sup>, S. Gioti<sup>1</sup>, A. Sanida<sup>1</sup>, N. Petropoulos<sup>2</sup>, A. Kanapitsas<sup>2</sup>, C. Tsonos<sup>2</sup>, Th. Speliotis<sup>3</sup>, **G.C. Psarras**<sup>1</sup>

<sup>1</sup>Department of Materials Science, University of Patras, Patras, Greece,

<sup>2</sup>Department of Physics, University of Thessaly, Lamia, Greece,

<sup>3</sup>Institute of Nanoscience and Nanotechnology, NCSR "Demokritos", Athens, Greece

**P1.10**

**High performance 4D printed electrothermal actuators with SWCNT segregated structures**

**Stavros Katsiaounis**<sup>3,4</sup>, Miron Krassas<sup>1,2</sup>, Emmanouil Porfyrakis<sup>1,2</sup>, Fivos Simopoulos<sup>1,2</sup>, Georgios Kampourakis<sup>1,2</sup>, George Karalis<sup>1,5</sup>, Lazaros Tzounis<sup>1,2,5</sup>, Konstantinos Papagelis<sup>3,4\*</sup>

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<sup>4</sup>School of Physics, Department of Solid-State Physics, Aristotle University of Thessaloniki, Thessaloniki, 54124, Greece

<sup>5</sup>Printed Electronic Devices of Things P.C. (PDoT), Makrinitis 122, GR-38333, Volos, Greece

**P1.11**

**Resistive Switching Phenomena in flexible devices based on composite materials**

**A. Mourkas**<sup>1</sup>, A. Dellaporta<sup>1</sup>, I. Panagiotopoulos<sup>1</sup>

<sup>1</sup>Department of Materials Science and Engineering, University of Ioannina, 45110, Ioannina, Greece

**P1.12**

**Micromagnetics of microwave assisted magnetization switching in nanodisks at finite temperatures.**

**Christos Thanos**<sup>1</sup>, Ioannis Panagiotopoulos<sup>1</sup>

<sup>1</sup>Department of Materials Science and Engineering, University of Ioannina, 45110 Ioannina Greece

**P1.13**

**Optimized Processing of NiCuZn-ferrites**

**S. Zaspalis**<sup>1,2</sup>, G. Kogias<sup>1</sup>, S. Kikkinides<sup>2</sup>

<sup>1</sup>Laboratory of Materials Technology, Department of Chemical Engineering, Aristotle University of Thessaloniki, Thessaloniki, Greece

<sup>2</sup>Laboratory of Inorganic Materials, Chemical Process and Energy Resources Institute, Center for Research and Technology-Hellas, Thessaloniki, Greece

**P1.14**

**Ni as an additive in MnZn ferrites**

**G. Kogias**<sup>1</sup>, S. Zaspalis<sup>1,2</sup>, V. Zaspalis<sup>1,2</sup>

<sup>1</sup>Laboratory of Inorganic Materials, Chemical Processes and Energy Resources Institute, Centre for Research and Technology-Hellas, 57001 Themi-Thessaloniki, Greece

<sup>2</sup>Department of Chemical Engineering, Aristotle University of Thessaloniki, University Campus, 54124, Thessaloniki, Greece

**P1.15**

**Noncollinear magnetism and transport properties in MnPtGa films**

**A. Markou**<sup>1,2</sup>, E. Lesne<sup>1</sup>, R. Ibarra<sup>1</sup>, B. Ouladdiaf<sup>3</sup>, K. Beauvois<sup>3</sup>, B. Sabir<sup>4</sup>, J. Gayles<sup>4</sup>, C. Felser<sup>1</sup>

<sup>1</sup>Max Planck Institute for Chemical Physics of Solids, 01187 Dresden, Germany

<sup>2</sup>Physics Department, University of Ioannina, 45110 Ioannina, Greece

<sup>3</sup>Institut Laue-Langevin, 6 rue Jules Horowitz, BP 156, Grenoble Cedex 9 F-38042, France

<sup>4</sup>Department of Physics, University of South Florida, Tampa, FL 33620, USA

- P1.16** **Synthesis and characterization of magnetic nanoparticles from rare earth – transition metal**  
E. Dedousi, A. Makridis, C. Sarafidis  
*School of Physics, Aristotle University of Thessaloniki, Greece*
- P1.17** **Studying Inter-Trap competition with a dominant last trap by simulating multi-peak Thermoluminescence Glow-Curves of wide-bandgap semiconductors**  
A. Touliopoulos<sup>1</sup>, G. Kitis<sup>1</sup>  
<sup>1</sup>*Physics Department, Aristotle University of Thessaloniki, 54124-Thessaloniki, Greece*
- P1.18** **Structure and dynamics of Hydroquinone by means of Ultrasonic Relaxation Spectroscopy, Vibrational Spectroscopy and Theoretical Calculations**  
A. Tryfon<sup>1</sup>, A.G. Kalampounias<sup>1,2</sup>  
<sup>1</sup>*Department of Chemistry, University of Ioannina, GR-45110 Ioannina, Greece*  
<sup>2</sup>*University Research Center of Ioannina (URCI), Institute of Materials Science and Computing, GR-45110 Ioannina, Greece*
- P1.19** **Synthesis and characterization of the inclusion complex  $\beta$ -CD/BPE by means of vibrational spectroscopy, DSC and theoretical calculations.**  
I.P. Georgoulas<sup>1</sup>, A. Tryfon<sup>1</sup>, C. Kouderis<sup>1</sup>, A.G. Kalampounias<sup>1,2</sup>  
<sup>1</sup>*Department of Chemistry, University of Ioannina, GR-45110 Ioannina, Greece*  
<sup>2</sup>*University Research Center of Ioannina (URCI), Institute of Materials Science and Computing, GR-45110 Ioannina, Greece*
- P1.20** **Structural Study of Salicyl Hydroxamic Acid and its Inclusion Complex with  $\beta$ -Cyclodextrin by Means of Vibrational and Ultrasonic Relaxation Spectroscopies, DSC and Theoretical Calculations**  
D. Apostolidou<sup>1</sup>, D. Theodoropoulou<sup>1</sup>, A. Tryfon<sup>1</sup>, C. Kouderis<sup>1</sup>, A.G. Kalampounias<sup>1,2</sup>  
<sup>1</sup>*Department of Chemistry, University of Ioannina, GR-45110 Ioannina, Greece*  
<sup>2</sup>*University Research Center of Ioannina (URCI), Institute of Materials Science and Computing, GR-45110, Ioannina, Greece*
- P1.21** **(Hyper)Polarization Effects in Molecular Materials**  
A. Avramopoulos<sup>1,2</sup>, Eirini Faropoulou<sup>1,2</sup>,  
<sup>1</sup>*Department of Physics, University of Thessaly, Lamia, Greece;* <sup>2</sup>*Postgraduate Course Program: "Applied Physics", Department of Physics, University of Thessaly, Lamia, Greece*
- P1.22** **Symbolic machine learning expressions for fluid properties in nanochannels**  
Ch. Georgakopoulos<sup>1</sup>, D. Angelis<sup>1</sup>, F. Sofos<sup>1</sup>, T.E. Karakasidis<sup>1</sup>  
<sup>1</sup>*Condensed Matter Physics Laboratory, Department of Physics, University of Thessaly, Lamia, Greece*
- P1.23** **Fe<sub>3</sub>O<sub>4</sub> magnetic nanoparticles coated with amorphous mSi-Ca shell for encapsulation of pharmaceutical substances**  
D. Kordonidou<sup>1</sup>, G. K. Pouroutzidou<sup>2,3</sup>, I. Tsamesidis<sup>2,3</sup>, K. Kazeli<sup>4,5</sup>, K. Tsachouridis<sup>6</sup>, A. Anastasiou<sup>6</sup>, G. Vourlias<sup>1,2</sup>, M. Angelakeris<sup>4,5</sup>, E. Kontonasaki<sup>3</sup>  
<sup>1</sup>*Department of Physics, Aristotle University of Thessaloniki, Greece*  
<sup>2</sup>*Laboratory of Advanced Materials and Devices, Department of Physics, Aristotle University of Thessaloniki, Greece*  
<sup>3</sup>*Division of Prosthodontics, Department of Dentistry, School of Health Sciences, Aristotle University of Thessaloniki, Greece*  
<sup>4</sup>*Department of Condensed Matter and Materials Physics, AUTH, Thessaloniki, 54124, Greece*  
<sup>5</sup>*Center for Interdisciplinary Research and Innovation (CIRI-AUTH), Thessaloniki, 57001, Greece*  
<sup>6</sup>*Department of Chemical Engineering, the University of Manchester, Oxford Rd, Manchester M13 9PL, United Kingdom*
- P1.24** **Thermal exfoliation as a prominent green method for increasing the photocatalytic performance of g-C<sub>3</sub>N<sub>4</sub> prepared from different precursors**  
C. Lykos<sup>1</sup>, A. Triptsi<sup>1</sup>, E. Karypidou<sup>1</sup>, I. Konstantinou<sup>1,2</sup>  
<sup>1</sup>*Department of Chemistry, University of Ioannina, Ioannina 451 10, Greece*  
<sup>2</sup>*Institute of Environment and Sustainable Development, University Research and Innovation Center of Ioannina, 45110 Ioannina, Greece*

<b>P1.25</b>	<p><b>High-resolution laser digital transfer of Graphene</b>  <b>K. Magoula<sup>1</sup></b>, K. Andritsos<sup>1</sup>, F. Zacharatos<sup>1</sup>, C. Katopodis<sup>1</sup>, A. Zurutuza<sup>2</sup>, A. Centeno<sup>2</sup>, A. Rebollo<sup>2</sup>, Y. Papadopolos<sup>1</sup>, L. Tsetseris<sup>1</sup> and I. Zergioti<sup>1</sup>  <sup>1</sup>Department of Physics, School of Applied Mathematical and Physical Sciences, National Technical University of Athens, 15780 Athens, Greece.  <sup>2</sup>Graphenea Headquarters, Paseo Mikeletegi 83, 20009 - San Sebastián, Spain</p>
<b>P1.26</b>	<p><b>Unveiling superlubricity in 2D heterostructures: Tailored forcefields driven by precision DFT calculations</b>  <b>G. Fanourgakis<sup>1</sup></b>, C.S. Garoufalos<sup>2</sup>, E. Papasouli<sup>1</sup>, C. Androulidakis<sup>3,4</sup>, E.N. Koukaras<sup>1</sup>  <sup>1</sup>Laboratory of Quantum and Computational Chemistry, Aristotle University of Thessaloniki, Thessaloniki, 54124, Greece  <sup>2</sup>Materials Science Department, University of Patras, 26504 Patras, Greece  <sup>3</sup>Prometheus Division of Skeletal Tissue Engineering, KU Leuven, O&amp;N1, Herestraat 49, PB 813, 3000 Leuven, Belgium  <sup>4</sup>Skeletal Biology and Engineering Research, KU Leuven, ON1 Herestraat 49, PB 813, 3000 Leuven, Belgium</p>
<b>P1.27</b>	<p><b>INFLUENCE OF SURFACE STRUCTURE ON FURFURAL CONVERSION: COMPARATIVE STUDIES ON Ni(111) AND NiO(111) SINGLE CRYSTAL SURFACES</b>  <b>A. K. Bikogiannakis<sup>1</sup></b>, F. Xydias<sup>1</sup>, A. S. Stylla<sup>1</sup>, S. Tsatsos<sup>1</sup> and G. Kyriakou<sup>1</sup>  <sup>1</sup>Department of Chemical Engineering, University of Patras, Karatheodory 1, Rion, Greece</p>
<b>P1.28</b>	<p><b>Towards Quasiparticle Poisoning Rates of Quantum Dots in an InAs/Al Hybrid Heterostructure</b>  <b>V. Vlachodimitropoulos<sup>1</sup></b>  <sup>1</sup>Center for Quantum Devices, Niels Bohr Institute, University of Copenhagen, 2100 Copenhagen, Denmark</p>
<b>P1.29</b>	<p><b>Microwave Perfect Absorbers (MPAs) based on Ag-metal printed patterns</b>  <b>Gagaoudakis E.<sup>1</sup></b>, Mantsiou E.<sup>2</sup>, C.-P. Tsihchlis<sup>1</sup>, K. Dovelos<sup>3</sup>, A. Paraskevopoulos<sup>4</sup>, V. Vardakastani<sup>3</sup>, D. Tzarouchis<sup>3</sup>, M. Koutsoupidou<sup>3</sup>, P. Kosmas<sup>3</sup>, C. Spandonidis<sup>5</sup>, F. Giannopoulos<sup>5</sup>, A. Petsa<sup>5</sup> and Binas V.<sup>1,2</sup>  <sup>1</sup>Foundation of Research and Technology - Hellas, Institute of Electronic Structure &amp; Laser (FORTH-IESL), Heraklion Greece  <sup>2</sup>Department of Chemistry, Aristotle University of Thessaloniki, Thessaloniki, Greece  <sup>3</sup>Meta Metamaterials Europe, Ap. Pavlou 10, 15123, Marousi, Athens, Greece  <sup>4</sup>Institute of Informatics and Telecommunications, NCSR Demokritos, 15310 Athens, Greece  <sup>5</sup>Prisma Electronics SA, 87 Dimokratias Ave., 68100, Alexandroupolis, Greece</p>
<b>P1.30</b>	<p><b>3D structured Si chip for label free determinations at the point-of-need</b>  G. Zisis<sup>1,2</sup>, G.Papageorgiou<sup>1</sup>, P.Petrou<sup>3</sup>, <b>I.Raptis<sup>1,2</sup></b>, N.Papanikolaou<sup>2</sup>  <sup>1</sup>INN, NCSR Demokritos, Athens, Greece  <sup>2</sup>ThetaMetrisis S.A., Athens, Greece  <sup>3</sup>INRASTES, NCSR Demokritos, Athens, Greece</p>
<b>P1.31</b>	<p><b>Interface defects in p-type Ge/Al<sub>2</sub>O<sub>3</sub>/Al capacitors</b>  Vassilios Ioannou-Sougleridis<sup>1</sup>, Stamatis Alafakis<sup>1</sup>, <b>Dimitrios Skarlatos<sup>2</sup></b>.  <sup>1</sup>Institute of Nanoscience and Nanotechnology, National Center for Scientific Research Demokritos, Agia Paraskevi Attikis, P. O. Box 60037, 153 10 Athens, Greece,  <sup>2</sup>Department of Physics, University of Patras, 265 00 Patras, Greece</p>

17:15-18:30

 **Central Hall**

**Session II: Materials for Energy, Soft Condensed Matter, Photonics and Optoelectronics**

**Chair: I. Skarmoutsos, S. Kaziannis, P. Papadopoulos**

**P2.1**

**Study of plasmonic effect in perovskite solar cells upon silver-nanoparticles modification of SnO<sub>2</sub> used as electron extraction layer**

**A. Soultati<sup>1,2</sup>**, G. Cahtziagiannakis<sup>1</sup>, G. Papadimitropoulos<sup>1,2</sup>, S. Kaminaris<sup>2</sup>, K. Aidinis<sup>3,4</sup>, M. Vasilopoulou<sup>1</sup>

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<sup>2</sup>Department of Electrical and Electronics Engineering, University of West Attica, P. Ralli & Thivon 250, 12244, Aegaleo, Greece

<sup>3</sup>Department of Electrical and Computer Engineering, Ajman University, P.O. Box 346, Ajman, United Arab Emirates.

<sup>4</sup>Center of Medical and Bio-Allied Health Sciences Research, Ajman, United Arab Emirates

**P2.2 ELECTRONIC STRUCTURE AND MODELING PROPERTIES OF PEROVSKITE  $A_2ZrX_6$  MATERIALS, WHERE  $A = (CH_3)_3S$ ,  $CH_3NH_3^+$ ,  $CH(NH_2)_2^+$  and  $X = Cl, Br, I$**

**C. Kolokytha**<sup>1,2</sup>, N. N. Lathiotakis<sup>2</sup>, D. Tzeli<sup>1,2</sup>

<sup>1</sup>Laboratory of Physical Chemistry, Department of Chemistry, National and Kapodistrian University of Athens, Zografou, GR-15784, Greece

<sup>2</sup>Theoretical and Physical Chemistry Institute, National Hellenic Research Foundation, 48 Vassileos Constantinou Ave., Athens, GR-11635, Greece

**P2.3 Pillared Graphene Frameworks for greenhouse gases adsorption and separation**

**E. Papasouli**<sup>1</sup>, E. Klontzas<sup>2</sup>, I. Skarmoutsos<sup>3</sup>, G. Fanourgakis<sup>1</sup>, E. Koukaras<sup>1</sup>

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<sup>2</sup>Theoretical and Physical Chemistry Institute, National Hellenic Research Foundation, GR-116 35 Athens, Greece

<sup>3</sup>Laboratory of Physical Chemistry, University of Ioannina, Ioannina, 45110, Greece

**P2.4 Work Function of Caesiated Molybdenum Surfaces under Different Water Vapor Pressures and Surface Temperatures**

N. Klose<sup>1,2</sup>, A. Heiler<sup>2</sup>, **D. Vlachos**<sup>3</sup>, R. Friedl<sup>1</sup> and U. Fantz<sup>1,2</sup>

<sup>1</sup>AG Experimentelle Plasmaphysik, University of Augsburg, 86135 Augsburg, Germany

<sup>2</sup>Max Planck Institute for Plasma Physics, Boltzmannstr. 2, 85748 Garching, Germany

<sup>3</sup>Department of Physics, University of Ioannina, GR-451 10, Ioannina, Greece

**P2.5 Synthesis and characterization of electric double layer capacitors (EDLC) using different carbon-based nanomaterials**

**L. Gialama**<sup>1,2</sup>, Dionysis S. Karousos<sup>1</sup>, George Theodorakopoulos<sup>1</sup>, Fotios K. Katsaros<sup>1</sup>,

Evangelos P. Favvas<sup>1</sup>, Mirtat Bouroushian<sup>2</sup>

<sup>1</sup>Institute of Nanoscience and Nanotechnology, National Center for Scientific Research "Demokritos", Aghia Paraskevi, 15341 Athens, Greece

<sup>2</sup>School of Chemical Engineering, National Technical University of Athens, Zografou Campus, 9 Iroon Polytechniou St., Zografou Campus, 15772 Athens, Greece

**P2.6 Photocatalytic performance of  $ZnIn_2S_4$ /CdS hybrids for enhanced organic dye degradation and hydrogen peroxide evolution under visible light**

**N. Karamoschos**<sup>1</sup>, A. Katsamitros<sup>1</sup>, D. Tasis<sup>1,2</sup>

<sup>1</sup>Department of Chemistry, University of Ioannina, 45110 Ioannina, Greece

<sup>2</sup>University Research Center of Ioannina (URCI), Institute of Materials Science and Computing, 45110 Ioannina, Greece

**P2.7 In-Depth Study of Copper Selenide Synthesis using the Pack Cementation Technique**

**V. Pavlidis**<sup>1</sup>, A. Teknetzi<sup>1</sup>, D. Stathokostopoulos<sup>1</sup>, E. Tarani<sup>1</sup>, C. Papoulia<sup>1</sup>, S. Hadjipanteli<sup>2</sup>, Th. Kyratsi<sup>2</sup>, G. Vourlias<sup>1</sup>

<sup>1</sup>School of Physics, Faculty of Sciences, Aristotle University of Thessaloniki, Thessaloniki 54124, Greece

<sup>2</sup>Dept. of Mechanical and Manufacturing Engineering, University of Cyprus, Nicosia 1678, Cyprus

**P2.8 Designing Nanostructured Single-ion Polymer Electrolytes for Solid State Lithium Metal Batteries**

**Georgia Nikolakakou**<sup>1,2</sup>, Christos Pantazidis,<sup>3</sup> Georgios Sakellariou,<sup>3</sup> Vasilis M., Papadakis,<sup>1</sup> Georgios Kenanakis,<sup>1</sup> Benoit Loppinet,<sup>1</sup> Emmanouil Glynos,<sup>1,4</sup>

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<sup>4</sup>Department of Materials Science and Engineering, University of Crete, P.O. Box 2208, 710 03, Heraklion, Crete, Greece

- P2.9** **Synthesis of fluorescent copper nanoparticles in the presence of amine containing polymers**  
**S. Amarantos<sup>1,2</sup>**, D. Vagenas<sup>1</sup>, G. Mousdis<sup>1</sup>, S. Pispas<sup>1\*</sup>  
<sup>1</sup>Theoretical and Physical Chemistry Institute, National Hellenic Research Foundation, 48 Vassileos Constantinou Ave., 11635 Athens, Greece  
<sup>2</sup>Department of Materials Science Engineering, University of Ioannina, University Campus-Dourouti, 45110 Ioannina, Greece.
- P2.10** **Design of metallic materials for biocompatible applications**  
**Nousia M. E.**, Pavan C., Scaglione F., Turci F., Rizzi P.  
*University of Turin, department of Chemistry, NIS and INSTM, Via Pietro Giuria 7, 10125 Torino, Italy*
- P2.11** **Metal content and Fe bonding in mussel byssus from different aquatic environments**  
E. Proiou<sup>1</sup>, A. Staikou<sup>2</sup>, E. Paloura<sup>1</sup>, K. Simeonidis<sup>1</sup>, **M. Katsikini<sup>1</sup>**  
<sup>1</sup>Aristotle University of Thessaloniki, School of Physics, Physics, 54124 Thessaloniki, Greece  
<sup>2</sup>Aristotle University of Thessaloniki, School of Biology, 54124 Thessaloniki, Greece
- P2.12** **The role of vacancies in  $\beta$ -TiCuZr dealloying by ab initio calculations**  
**Nousia M. E.<sup>1,2</sup>**, Tiwari K.<sup>2</sup>, Rizzi P.<sup>1</sup>, Lekka Ch. E.<sup>2</sup>  
<sup>1</sup>University of Turin, department of Chemistry, NIS and INSTM, Via Pietro Giuria 7, 10125 Torino, Italy.  
<sup>2</sup>Department of Materials Science & Engineering, University of Ioannina, Ioannina, Greece
- P2.13** **Synthesis and Characterization of Novel Linear Triblock Copolymers**  
**S. Tsirkas<sup>1</sup>**, G.-M. Manesi<sup>2</sup>, A. Avgeropoulos<sup>3</sup>  
<sup>1</sup>Department of Materials Science Engineering, University of Ioannina, University Campus-Dourouti, 45110 Ioannina, Greece
- P2.14** **Exploiting “Soft Matter”: Well-Oriented Cubic Lattice Network Morphologies Tuned from Triblock Terpolymers Systems**  
**K. Artopoiadis<sup>1</sup>**, G.-M. Manesi<sup>1</sup>, I. Moutsios<sup>1</sup>, A. Avgeropoulos<sup>1</sup>  
<sup>1</sup>Department of Materials Science & Engineering, University of Ioannina, Dourouti University Campus 45100 Ioannina, Greece
- P2.15** **Investigating the Thermoluminescence Properties of commercially available ultramarine pigments**  
**A. Pourliaka<sup>1</sup>**, I.K. Sfampa<sup>2</sup>, L. Malletzidou<sup>3</sup>, G. Kitis<sup>2</sup>, G. Vourlias<sup>1</sup>  
<sup>1</sup>Laboratory of Advanced Materials and Devices, School of Physics, Faculty of Sciences, Aristotle University of Thessaloniki, Thessaloniki, GR- 54124, Greece  
<sup>2</sup>Nuclear and Elementary Physics Laboratory, School of Physics, Faculty of Sciences, Aristotle University of Thessaloniki, Thessaloniki, GR- 54124, Greece  
<sup>3</sup>Laboratory of Archaeometry and Physicochemical Measurements, Athena Research Center, Kimmeria University Campus, GR-67100, Xanthi, Greece
- P2.16** **Microwave assisted method for cellulose nanocrystals isolation from Aloe vera plant residue for potential use for biomedical applications**  
**E. Triantafyllou<sup>1</sup>**, Christina Kyriakaki<sup>1</sup>, Andreas Karydis-Messinis<sup>1</sup>, Dimitrios Moschovas<sup>1</sup>, Constantinos E Salmas<sup>1</sup>, Apostolos Avgeropoulos<sup>1</sup>, Nikolaos E Zafeiropoulos<sup>1</sup>  
<sup>1</sup>Department of Material Science Engineering, University Campus-Dourouti, Ioannina, 45110, Greece
- P2.17** **New spectroscopic methods for non-invasive pH sensing of aerosols**  
**G. Theodoropoulos<sup>1a</sup>**, A.Psarelis<sup>1a</sup>, A.Soto Beobide<sup>1a</sup>, G.Mathioudakis<sup>1a</sup>, Z.Lada<sup>1a</sup>, C.Molina<sup>1b</sup>, K.Andrikopoulos<sup>1a,2</sup>, A.Nenes<sup>1b,3</sup>, G.Voyiatzis<sup>1a</sup>  
<sup>1</sup>FORTH/ICE-HT, (a) LAMS & (b) CSTACC labs, GR-26504, Patras, Greece  
<sup>2</sup>Department of Physics, University of Patras, GR-26504, Patras, Greece  
<sup>3</sup>EPFL, Lab Atmospher Proc & their Impacts, CH-1015 Lausanne, Switzerland



- P2.18** **Surface Characterization of Atomic Layer Deposited Inorganic Coatings on Polymeric/Biopolymeric Substrates.**  
A. Mouchtouris<sup>1</sup>, E. Amirali<sup>2</sup>, A. A. Barmdaki<sup>1</sup>, L. Sygellou<sup>2</sup>, P.K. Karahaliou<sup>1</sup>, P. Svarnas<sup>3</sup> and C. A. Krontiras<sup>1</sup>  
<sup>1</sup>Department of Physics, University of Patras, Patras, Greece  
<sup>2</sup>Institute of Chemical Engineering Sciences (ICE-HT), Foundation of Research and Technology, Patras, Greece  
<sup>3</sup>Department of Electrical and Computer Engineering, High Voltage Laboratory, University of Patras, Patras, Greece
- P2.19** **Optical and Dielectric Anisotropy of Laterally Fluorinated Liquid Crystalline Oligomers with two Nematic Phases**  
E.E. Zavvou<sup>1</sup>, C. Welch<sup>2</sup>, G.H. Mehl<sup>2</sup>, A.G. Vanakaras<sup>3</sup> and P.K. Karahaliou<sup>1</sup>  
<sup>1</sup>Department of Physics, University of Patras, 26504 Patras, Greece  
<sup>2</sup>Department of Chemistry, University of Hull, Hull HU6 7RX, UK  
<sup>3</sup>Department of Materials Science, University of Patras, 26504 Patras, Greece
- P2.20** **Cyanobiphenyl-based Liquid Crystal Dimers: the Effect of the Linking unit and Spacer length on the Emergence of Spontaneous Structural Chirality**  
E.E. Zavvou<sup>1</sup>, W. Jiang<sup>2</sup>, Z. Ahmed,<sup>2</sup> C. Welch<sup>2</sup>, G.H. Mehl<sup>2</sup>,  
C.A. Krontiras<sup>1</sup>, A.G. Vanakaras<sup>3</sup> and P.K. Karahaliou<sup>1</sup>  
<sup>1</sup>Department of Physics, University of Patras, 26504 Patras, Greece  
<sup>2</sup>Department of Chemistry, University of Hull, Hull HU6 7RX, UK  
<sup>3</sup>Department of Materials Science, University of Patras, 26504 Patras, Greece
- P2.21** **Open Innovation Modelling: MUSICODE Project**  
K. Kaklamanis, K. Kordos, M. Andrea, Ch. Trapalis, E. Lidorikis, D. Papagewrgiou  
Department of Materials Science & Engineering, University of Ioannina  
Ioannina 45110, Greece
- P2.22** **Searching for Common and Individual Thermoluminescence Properties in Marble (CaCO<sub>3</sub>) for Provenance Studies**  
A. Daglartzis<sup>1</sup>, V. Melfos<sup>2</sup>, G.S. Polymeris<sup>3</sup>, G. Kitis<sup>1</sup>  
<sup>1</sup>Physics Department, Aristotle University of Thessaloniki, 54124 Thessaloniki, Greece  
<sup>2</sup>School of Geology, Aristotle University of Thessaloniki, 54124 Thessaloniki, Greece  
<sup>3</sup>Physics Department, Aristotle University of Thessaloniki, 54124 Thessaloniki, Greece
- P2.23** **Optical profilometry for 3D mapping of optoelectronic devices**  
S. Sarigiannidis<sup>1</sup>, Yannis Papadopoulos<sup>1</sup>, Dimitrios G. Papazoglou<sup>2,3</sup>, Ioanna Zergioti<sup>1</sup>  
<sup>1</sup>Department of Physics, School of Applied Mathematical and Physical Sciences, National Technical University of Athens, 15780 Athens, Greece.  
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<sup>3</sup>Materials Science and Technology Department, University of Crete, P.O Box 2208, 71003, Heraklion, Greece
- P2.24** **On the electromagnetic interactions of Dirac and Weyl particles**  
Georgios N. Tsigaridas<sup>1</sup>, Aristides I. Kechriniotis<sup>2</sup>, Christos A. Tsonos<sup>2</sup> and Konstantinos K. Delibasis<sup>3</sup>  
<sup>1</sup>Department of Physics, School of Applied Mathematical and Physical Sciences, National Technical University of Athens, GR-15772 Zografou Athens, Greece  
<sup>2</sup>Department of Physics, Postgraduate Program "Applied Physics", University of Thessaly, GR-35100 Lamia, Greece  
<sup>3</sup>Department of Computer Science and Biomedical Informatics, University of Thessaly, GR-35131 Lamia, Greece

- P2.25** **Hybrid Nonlinear Graphene–Gold Metasurfaces**  
**A. Theodosi**<sup>1,2</sup>, O. Tsilipakos<sup>3</sup>, A. Koulouklidis<sup>2</sup>, I. A. Otoo<sup>4</sup>, P. Kuzhir<sup>4</sup>, S. Tzortzakis<sup>1,2</sup>, M. Kafesaki<sup>1,2</sup>  
<sup>1</sup>University of Crete, Department of Materials Science and Technology, Vasilika Vouton, GR-70013, Heraklion, Greece  
<sup>2</sup>Foundation for Research and Technology Hellas, Institute of Electronic Structure and Laser, GR-70013, Heraklion, Greece  
<sup>3</sup>National Hellenic Research Foundation, Theoretical and Physical Chemistry Institute, GR-11635, Athens, Greece  
<sup>4</sup>University of Eastern Finland, Department of Physics and Mathematics, FI-80101, Joensuu, Finland
- P2.26** **XANES spectroscopy study of temperature induced Fe spin state transitions in Fe-triazole nanoparticles**  
E. Petsali<sup>1</sup>, F. Pinakidou<sup>1</sup>, V. Tangoulis<sup>2</sup>, N. Lalioti<sup>2</sup>, F. D'Acapito<sup>3</sup>,  
E. C. Paloura<sup>1</sup>, **M. Katsikini**<sup>1</sup>  
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<sup>2</sup>University of Patras, Department of Chemistry, Laboratory of Inorganic Chemistry, 26504 Patras, Greece  
<sup>3</sup>CNR-IOM-OGG, c/o ESRF LISA CRG, Avenue des Martyrs 71, 38000 Grenoble, France
- P2.27** **Graphene-based saturable absorbers in waveguide integrated schemes**  
**A. Pythara**<sup>1</sup>, V. Nousia<sup>2</sup>, S. Doukas<sup>2,3</sup>, E. Lidorikis<sup>2</sup>  
<sup>1</sup>Department of Physics, University of Ioannina, Ioannina 45110, Greece  
<sup>2</sup>Department of Materials Science & Engineering, University of Ioannina, Ioannina 45110, Greece  
<sup>3</sup>Department of Physics, National and Kapodistrian University of Athens, Athens 15784, Greece
- P2.28** **Electrical detection of van der Waals polaritonic nanoresonators at mid-infrared**  
**Ioannis Vangelidis**<sup>1</sup>, Sebastián Castilla<sup>2</sup>, Yuliy Bludov<sup>3</sup>, Nuno Peres<sup>3</sup>, M.I. Vasilevskiy<sup>3</sup>, Frank H. L. Koppens<sup>2</sup>, Eleftherios Lidorikis<sup>1</sup>  
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<sup>2</sup>ICFO, 08860, Castelldefels (Barcelona), Spain  
<sup>3</sup>University of Minho, Braga, Portugal
- P2.29** **A self-consistent simulation framework for modelling graphene-based optoelectronics in the THz regime**  
**S. Doukas**<sup>1,2</sup>, A. D. Koulouklidis<sup>3</sup>, S. Tzortzakis<sup>3</sup>, M. Kafesaki<sup>3,4</sup>, E. Lidorikis<sup>2</sup>, A. C. Tasolamprou<sup>1,3</sup>  
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<sup>4</sup>Department of Materials Science and Technology, University of Crete, Heraklion, 70013, Greece
- P2.30** **Enhancement of plasmo-photonic index sensor sensitivity by slow-light effects**  
**E. Lampadariou**<sup>1</sup>, E. Chatzianagnostou<sup>2,3</sup>, D.V. Bellas<sup>1</sup>, D. Spasopoulos<sup>2,3</sup>, J.-C. Weeber<sup>4</sup>, N. Pleros<sup>2,3</sup>, E. Lidorikis<sup>1</sup>  
<sup>1</sup>Department of Materials Science and Engineering, University of Ioannina, Ioannina 45110, Greece  
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<sup>3</sup>Center for Interdisciplinary Research and Innovation (CIRI-AUTH), Thessaloniki, 57001 Greece  
<sup>4</sup>Laboratoire Interdisciplinaire Carnot de Bourgogne (LICB), Université de Bourgogne, Dijon, 21078 France
- P2.31** **Properties of mullite compacts obtained from diatomite**  
**A. Šaponjić**<sup>1</sup>, S. Ilić<sup>1</sup>, M. Pošarac-Marković<sup>1</sup>  
<sup>1</sup>Department of materials, University of Belgrade, "Vinča" Institute of Nuclear Sciences National Institute of the Republic of Serbia, Mike Petrovića Alasa 12-14, Belgrade, Serbia
- P2.32** **Influence of the Cation Chemistry on the Ion Transport Properties of PEO-based Polymer Electrolytes**  
**Chrysostomos Papamichail**,<sup>1,2</sup> Olympia Techlemtzi,<sup>2,3</sup> Georgia Nikolakakou,<sup>2,3</sup> Emmanouil Glynos,<sup>1,2</sup>  
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## **P2.33**

### ***High-Sensitivity Bimodal Plasmo-Photonic Refractive Index Sensor***

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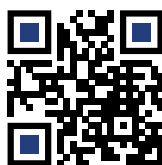
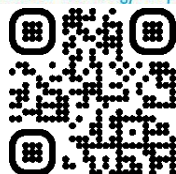
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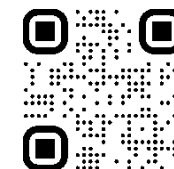
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