



## **ANM2022 Portugal (27-29 July 2022, University of Aveiro, Portugal)**

### ANM2022 Conference Chairs:

Prof. Luiz Pereira, University of Aveiro, Portugal  
Dr. Elby Titus, University of Aveiro, Portugal  
Prof. Joao Campos Gil, University of Coimbra, Portugal  
Prof. Joao Pedro Araujo, University of Porto, Portugal  
Prof. Joao Ventura, University of Porto, Portugal  
Dr. Carmen M. Rangel, LNEG Lisbon, Portugal  
Prof. Lijian Meng, Institute of Engineering Porto, Portugal

### Organising committee:

Ms. Joana Valle Perira, Congress Department, Aveiro, Portugal  
Dr. Estelina Da Silva, University of Porto, Portugal  
Dr. Mario Santos, Technical University of Valencia, Portugal  
Dr. D. Pukazhselvan, University of Aveiro, Portugal  
Dr. Devaraj Ramasamy, Instituto Politécnico de Viana do Castelo, Portugal  
Dr. Olga Karavai, University of Aveiro, Portugal  
Dr. Olena Okhay, University of Aveiro, Portugal  
Dr. Ming Fang, Tsinghua University, China  
Dr. João Grilo, University of Aveiro, Portugal  
Mr. Henrique Gil, University of Aveiro, Portugal  
Mr. Francisco Teixeira, University of Aveiro, Portugal  
Ms. Andreia Lopes, University of Aveiro, Portugal

Link 1- <https://us02web.zoom.us/j/83667113508?pwd=OU5UK0t2b1pVV2l0RDZZZm1mTzNtZz09>

Link 2- <https://us02web.zoom.us/j/84429245674?pwd=Zmh3ODNTRW93YkdRVEZ2S1VCckFkdz09>

Link3- <https://us02web.zoom.us/j/86889615377?pwd=RGdOcTBHZXQ5RWNYeWh5R1NhSFZxdz09>

**28 July, Reitoria, University of Aveiro (In Person presentations)**

| (GMT +1),<br>Portugal time |  |  |   |
|----------------------------|--|--|---|
| 8.00-9.00                  | Registration   |  |   |
|                            | <b>Room A (<a href="#">Link1</a>)</b>  | <b>Room B (<a href="#">Link 2</a>)</b>   | <b>Room C (<a href="#">Link 3</a>)</b>  |
|                            | <b>ANM-Room A</b>  | <b>ANM-Room B</b>  | <b>APM/AGM/AMM-Room C</b>   |
|                            | Session Chairs:<br><b>Luiz Pereira</b> , University of Aveiro,<br><b>Joao Ventura</b> , University of Porto, Portugal.<br>Program Asst. Henrique Gil, University of Aveiro, Portugal | Session Chairs:<br><b>D. Pukazhselvan</b> , University of Aveiro, Portugal,<br><b>Devaraj Ramasamy</b> , Instituto Politécnico de Viana do Castelo, Portugal,<br>Program Asst. Andreia Lopes, University of Aveiro, Portugal | Session Chairs:<br><b>Carmen M. Rangel</b> , LNEG Lisbon, Portugal<br><b>Joao Campos Gil</b> , University of Coimbra, Portugal,<br>Program Asst. Francisco Teixeira, University of Aveiro, Portugal                       |
| 9.00-9.20                  | <b>Tamara Potlog</b> , Moldova State University, Moldova<br>Photophysics of the Tetra-Carboxy-Zinc Phthalocyanine Photosensitizers   | <b>Iran Rocha Segundo</b> , University of Minho, Portugal<br>Promessing asphalt pavements for cold regions: A review on superhydrophobic asphalt mixtures by scientists from Europe and America                              | <b>Jerzy Lukaszewicz</b> , Nicolaus Copernicus University, Centre of Modern Interdisciplinary Technologies, Poland<br>Design of Porous Graphene Matrices Working as Electrode Materials in Electrochemical Energy Devices |
| 9.20-9.40                  | <b>Simona Renda</b> , University of Salerno, Italy<br>Competitive adsorption phenomena influence on COS hydrolysis kinetics: a Langmuir-Hinshelwood comprehensive expression         | <b>Krzysztof Wierzbanski</b> , AGH University of Science and Technology, Poland<br>Microstructural, Mechanical and Biophysical Properties of Pure Titanium Processed by Hydrostatic Extrusion                                | <b>Juan Francisco Sanchez Royo</b> , University of Valencia, Spain<br>Extrinsic Effects on the Optical Properties of Surface Colour Defects in Hexagonal Boron Nitride Nanosheets   |
| 9.40-10.00                 | <b>Rita Carvalho Veloso</b> , University of Porto, Portugal<br>Study of near-infrared reflective performance of metal oxide nanomaterials for building's external walls coatings     | <b>Andrzej Baczmanski</b> , AGH-University of Science and Technology, Poland<br>Diffraction measurement of residual stresses in subsurface layers of polished austenitic sample  | <b>Soon-Gil Yoon</b> , Chungnam National University, Republic of Korea<br>Enhanced Flexibility and Stretchability of Highly Conductive Large-Area Graphene Grown Directly at 100 oC                                       |

|             |  |  |   |
|-------------|--|--|---|
| 10.00-10.20 | <b>Ludek Hromadko</b> ,<br>University of Pardubice,<br><b>Czech Republic</b><br>Ceramic fibers prepared by centrifugal spinning:<br>Materials, Properties and Applications   | <b>Patrycja Pokora</b> , Wroclaw<br>University of Science and<br>Technology, <b>Poland</b><br>Structural and electrical<br>properties of semitransparent<br>(Ti,Co)Ox thin films prepared<br>by Gas Impulse Magnetron<br>Sputtering  | <b>Ilaria Villa</b> , University of Pavia,<br><b>Italy</b><br>Experimental study of magnetic<br>properties and spin dynamics of<br>integer-spin single- molecule<br>magnets   |
| 10.20-10.40 | <b>Harvinder Singh</b> , Chitkara<br>University, Punjab, <b>India</b><br>Dispersion and Stability of<br>nano fly ash particles in<br>SAE 10W-30 lubricant  | <b>Gunina Ekaterina</b> , ITMO<br>University, SPb, Russia, <b>Russia</b><br>Laser-assisted design of<br>functional metal-organic<br>framework derivatives  | <b>Jamal Alsadi</b> , Jadara<br>University, <b>Jordan</b><br>Application of Box-Behnken<br>Design Experiments for the<br>Blending of two Different<br>Polycarbonate with Pigments:<br>Characterization by Micro Ct<br>Scanner and Spectrophotometer |
| 10.40-11.00 | <b>Margherita Porru</b> ,<br>Universita di Pavia, <b>Italia</b><br>Iron oxide-based MRI<br>contrast agents: insights into<br>the coating role on the NMR<br>relaxivities   | <b>Sheta Mohamed</b> , National<br>Research Centre, <b>Egypt</b><br>A novel zinc metal-organic<br>framework nanoparticle:<br>Synthesis, characterization,<br>sensing applications  | <b>Shubhangi Madan</b> , Amity<br>University, <b>India</b><br>Remediation of arsenic<br>contaminated water using nZVI<br>modified electrospun polymeric<br>(PAN/TiO <sub>2</sub> ) nanofibers<br><b>(Virtual)</b>                                   |
| 11.00-11.20 | <b>Rafael Aparecido<br/>Amoresi</b> , Universidade<br>Estadual Paulista - UNESP,<br><b>Brasil</b><br>Nanoparticle morphology:<br>influence on ROS<br>generation and gas sensor<br>response   | <b>Pavel Alekseevskiy</b> ,<br>Department of Physics and<br>Engineering, ITMO University,<br>Saint-Petersburg, <b>Russia</b><br>Mechanical sub Tbyte inch-2<br>Data Recording on Layered<br>MOFs   | <b>Jesus David Coral Perez</b> ,<br>Universitat Rovira i Virgili,<br><b>Spain</b><br>Development of<br>Ca <sub>8</sub> NaBi(PO <sub>4</sub> ) <sub>6</sub> F <sub>2</sub> :xEu/PDMS<br>Nanocomposite for Biosensing<br>Applications                 |
| 11.20-11.40 | <b>Haowen Lin</b> , CEA-Saclay,<br><b>France</b><br>Unravelling the Correlation<br>between Strain,<br>Ferroelectricity, and<br>Ferromagnetism in Epitaxial<br>Multiferroic<br>NiFe <sub>2</sub> O <sub>4</sub> /BaTiO <sub>3</sub><br>heterostructures | <b>Catalina Mihalcea</b> , National<br>Institute of Materials Physics,<br><b>Romania</b><br>The Structure and Morphology<br>of Pure SnO <sub>2</sub> , Gd-doped SnO <sub>2</sub><br>and Pure Gd <sub>2</sub> O <sub>3</sub> Nanoparticles<br>for Applications in Chemo-<br>resistive Gas Sensors | <b>Teresa Esteves</b> , Institute for<br>Bioengineering and Biosciences,<br><b>Portugal</b><br>Lupanine Purification from<br>Lupin Beans Wastewaters Using<br>a Functional Molecularly<br>Imprinted Polymer   |
| 11.40-12.00 | <b>Wojciech Salamon</b> ,<br>Academic Centre for<br>Materials and<br>Nanotechnology, AGH<br>University of Science and<br>Technology, Krakow<br>(Poland), <b>Poland</b>   | <b>Elena Gracia</b> , Universidad Rey<br>Juan Carlos, <b>Spain</b><br>Robust URJC-1 as efficient<br>catalyst for the ligand-free O-<br>Arylation cross-coupling  | <b>Hamza Ennadafy</b> , Hassan II<br>University of Casablanca; Ecole<br>Normale Sup <sup>©</sup> rieure de<br>l'Enseignement Technique de<br>Mohammedia; Laboratory:<br>Modeling and Simulation of  |

|                    |  |   |  |
|--------------------|--|---|--|
|                    | Two-step pathway for BiFeO <sub>3</sub> -based vertically aligned nanocomposites fabrication   |   | Intelligent Industrial Systems (M2S2I)., <b>Marocco</b>  |
| 12.00-12.20        | <b>Gleb Tselikov</b> , Moscow Institute of Physics and Technology, <b>Russia</b><br>Optical properties of transition metal dichalcogenide nanoparticles synthesized by laser ablation  | <b>Jesus Tapiador Cebrain</b> , Rey Juan Carlos University, <b>Spain</b><br>Influence of MOFs's™ organic linker in the cycloaddition reaction of CO <sub>2</sub> and epoxides | <b>Hari Krishna Koduru</b> , 1Georgi Nadjakov Institute of Solid State Physics, Bulgarian Academy of Sciences, 72 Tzarigradsko Chaussee Blvd., Sofia 1784, <b>Bulgaria</b> , <b>Bulgaria</b><br>Fabrication and Characterization of Layer-by-Layer Structured PEO/PVP/NaClO <sub>4</sub> based Solid Polymer Electrolyte Membranes |
| 12.20-12.40        | <b>Cristian Radu</b> , National Institute for Material Physics, <b>Romania</b><br>New software for 3D characterization of nanoparticle systems   | <b>Orlando Lima Jr.</b> , University of Minho, <b>Portugal</b><br>Safe driving: smart, self-cleaning, and thermochromic road paints to alert drivers to iced surfaces         | <b>Jiri Brus</b> , Institute of Macromolecular Chemistry CAS, <b>Czech Republic</b><br>Rich Structure and Molecular Dynamics of Chain Walking Polymerized Polyethylene as seen by Advanced NMR Spectroscopy  |
| 12.40-13.00        | <b>Tomasz Jankowski</b> , Central Institute for Labour Protection - National Research Institute, <b>Poland</b><br>Utilizing the ionization detector to measure the concentration of nanoaerosols   |   | <b>Georgy Ermolaev</b> , Moscow Institute of Physics and Technology, <b>Russia</b><br>Topological darkness in van der Waals materials  |
| <b>13.00-15.00</b> | <b>Lunch Break</b>   |   |  |
| <b>15.00-17.00</b> | <b>In Person - e-Posters (<a href="#">Link 3</a>)</b>  |   |  |
|                    | Session Chairs:<br><b>Estelina Da Silva</b> , University of Porto, Portugal<br><b>João Grilo</b> , University of Aveiro, Portugal<br><b>Elby Titus</b> , University of Aveiro, Portugal  |   |  |
| 1                  | <b>Lesia Volyniuk</b> , Kaunas University of Technology, <b>Lithuania</b><br>Investigation of hole-transporting properties of organic semiconductors used for the preparation of functional layers of additive-free perovskite solar cells |   |  |
| 2                  | <b>Simona Renda</b> , University of Salerno, <b>Italy</b><br>Insights in the application of highly conductive structured catalysts to CO <sub>2</sub> catalytic hydrogenation to methane: a CFD study                                      |   |  |
| 3                  | <b>Dmytro Volyniuk</b> , Kaunas University of Technology, <b>Lithuania</b>   |   |  |

|    |   |
|----|---|
|    | Photophysical investigations and exciplex-forming properties of the derivatives acridone and quinacridone with carbazolyl or phenoxazinyl substituents  |
| 4  | <b>Henrique Gil</b> , University of Aveiro, Portugal<br>Water Quality Assessment via Electronic-tongue based Printed Nanostructured Sensors Optimized by Artificial Neural Networks Methods   |
| 5  | <b>Francisco Teixeira</b> , University of Aveiro, Portugal<br>Efficient Solution-Processable TADF OLEDs via Solvent Engineering Process   |
| 6  | <b>Andreia Lopes</b> , University of Aveiro, Portugal<br>OFET Sensors for the Analysis of Gynecological Infections  |
| 7  | <b>Luiz Pereira</b> , University of Aveiro, Portugal<br>Amine biomarkers for Bacterial Vaginosis detection using an electronic-Nose and electronic-Tongue system with nanostructured flexible sensors   |
| 8  | <b>Olga Muccioli</b> , University of Salerno, Italy<br>Iridium-based catalysts for propane dehydrogenation reaction   |
| 9  | <b>Carmen M Rangel</b> , Laboratório Nacional de Energia e Geologia, Portugal<br>Study of the degradation of Nafion modified membranes  |
| 10 | <b>Brigita Abakeviene</b> , Kaunas University of Technology, Lithuania<br>Deposition and Study of the Hydrophilic Diamond-Like Carbon and Diamond-Like Nanocomposite Films  |
| 11 | <b>Kamil Nowak</b> , Faculty of Physics and Applied Computer Science, AGH University of Science and Technology, 30-059 Krakow, Poland, Poland<br>Fermi level tuning with non-stoichiometric growth conditions of Bi <sub>2-x</sub> Te <sub>3+x</sub> crystals |
| 12 | <b>Kristyna Jelinkova</b> , IOCB of the CAS, Czech Republic<br>Preparation of precursors for porphene   |
| 13 | <b>Veronika Urbanova</b> , IOCB of the CAS, Czech Republic<br>Electrochemistry behind the preparation of porphene.  |
| 14 | <b>Jan Plutnar</b> , Institute of Organic Chemistry and Biochemistry of the CAS, Czech Republic<br>Porphene   |
| 15 | <b>Zili Sideratou</b> , Institute of Nanoscience and Nanotechnology, Greece<br>ATM kinase inhibitor delivery using a mitochondriotropic drug delivery system for sensitization of mammospheres to doxorubicin   |
| 16 | <b>Samira Otmani</b> , Energy Research Center, ENS, Mohammed V University, Rabat, Morocco, Morocco<br>Silver-lanthanides thermodynamic description  |
| 17 | <b>Estelina Lora da Silva</b> , University of Porto, Portugal<br>Effects of Strain in Curved Graphene   |
| 18 | <b>Carolina Barbosa</b> , University of Porto, Portugal<br>Pressure-Induced Phase Transformations of Sr <sub>3</sub> Hf <sub>2</sub> O <sub>7</sub>   |
| 19 | <b>Alibek Zhakypov</b> , Al-Farabi Kazakh National University, Kazakhstan<br>Synthesis of iron nano-sized particles encapsulated in a carbon shell by liquid-phase arc discharge  |

|    |  |
|----|--|
|    |  |
| 20 | <b>Adriana Marinoiu</b> , National Research and Development Institute for Cryogenic and Isotopic Technologies, <b>Romania</b><br>Iodine-doped Graphene Oxide: One-pot Synthesis and Application as Electrocatalyst   |
| 21 | <b>Jurate Petroniene</b> , Vilnius University, <b>Lithuania</b><br>Miniaturized Biosensor Based on Carbon Nanomaterials and Glucose Oxidase  |
| 22 | <b>Daeyou Kim</b> , Hankuk University of Foreign Studies, <b>South Korea</b><br>Impact of silane treatment of Fe <sup>2+</sup> -Si <sup>4+</sup> -Cr and carbonyl iron powder on the magnetic characteristics of an inductor core  |
| 23 | <b>Juste Rozene</b> , Vilnius Gediminas Technical University, <b>Lithuania</b><br>Yeast-Based Microbial Biofuel Cell Modified by Multi-Walled Carbon Nanotubes   |
| 24 | <b>Sang Woo Kim</b> , Department of Physics and Oxide Research Center, Hankuk University of Foreign Studies, <b>South Korea</b><br>Effect of microstructural deformation on the microwave absorption performance of (NiZn)Fe <sub>2</sub> O <sub>4</sub> /nanoferrite composites |
| 25 | <b>Yeon Jun Choi</b> , Department of Physics and Oxide Research Center, Hankuk University of Foreign Studies, <b>South Korea</b><br>Effect of adding various powders with small particles on the magnetic properties and core-loss reduction of soft magnetic composites         |
| 26 | <b>Maria Isabel Rodr guez Tapiador</b> , CIEMAT, <b>Spain</b><br>Pressure effect on the properties of sputtered copper nitride films as solar absorbers  |
| 27 | <b>Ismaila Taiwo Bello</b> , University of South Africa, <b>South Africa</b><br>Strain Engineering Analysis and In-situ Crystallites Size-dependent of electrochemical Performances of Co-doped MoS <sub>2</sub> using Williamson-Hall Methods                                   |
| 28 | <b>Alvaro Vilchez Cozar</b> , University of Malaga, <b>Spain</b><br>Preparation of N-doped Carbon/Metal Phosphides as Promising Trifunctional Electrocatalysts Toward the OER, ORR and HER   |
| 29 | <b>Kyung Mox Cho</b> , GFHIM, Pusan National University, <b>Republic of Korea</b><br>Fabrication of NiFe(CO <sub>3</sub> )(OH) <sub>2</sub> Composite Nano-sheet Arrays for Supercapacitor   |
| 30 | <b>Kwangho Kim</b> , GFHIM, Pusan National University, <b>Korea Republic of</b><br>Hydrothermally Processed Ni(OH) <sub>2</sub> Nano-sheet Electrode for Supercapacitor  |
| 31 | <b>Diego Lopez-Carballeira</b> , Czech Technical University in Prague, <b>Czech Republic</b><br>Charge transfer on functionalized diamond  |
| 32 | <b>Martina Urbanova</b> , Institute of Macromolecular Chemistry CAS, <b>Czech Republic</b><br>The development and characterization of mucoadhesive self-emulsifying pellets for drug delivery to the intestine   |
| 33 | <b>Roman Yatskiv</b> , Institute of Photonics and Electronics of the CAS, <b>Czech Republic</b><br>Tunable visible emission in nanostructured thin films and bulk ZnO  |

|    |   |
|----|---|
| 34 | <b>Marta Zaborowska</b> , Silesian University of Technology, <b>Poland</b><br>Electrospun niobium oxide 1D nanostructures and their applications in textile industry wastewater treatment   |
| 35 | <b>Zili Sideratou</b> , NCSR Demokritos, Institute of Nanoscience and Nanotechnology, <b>Greece</b><br>Efficient antibacterial performance of carbon nanodisks decorated with guanidinylated hyperbranched polyethyleneimine derivatives. |
| 36 | <b>Fotios Katsaros</b> , NCSR Demokritos, <b>Greece</b><br>An investigation on catalytic performance of SAPO-34/ZSM5 and ZSM-5/SAPO-34 core/shell structures for the conversion of methane to aromatics                                   |
| 37 | <b>Antonio Coppola</b> , Universite degli studi di Salerno, <b>Italy</b><br>Experimental and theoretical study of oxidative bio-ethanol reforming over bimetallic structured catalyst   |
| 38 | <b>Filipe Amaral</b> , Polytechnic Institute of Coimbra, <b>Portugal</b> , Study of the Addition of Glycerol and its effects on the thermal behavior of Galactomannan   |