

APMAS 2022
**12th INTERNATIONAL ADVANCES IN APPLIED PHYSICS &
MATERIALS SCIENCE CONGRESS & EXHIBITION**

ENEFM 2022
**8th INTERNATIONAL CONGRESS ON ENERGY EFFICIENCY &
ENERGY RELATED MATERIALS**

MEDOPTICS 2022
**INTERNATIONAL CONFERENCE OF MEDICAL OPTICS &
EXHIBITION**

OCTOBER 13-19, 2022

**Liberty Hotels Lykia, Oludeniz
MUGLA / TURKEY**

TENTATIVE PROGRAM TUESDAY, OCTOBER 11, 2022	
14:00-23:30	REGISTRATION FOR EARLY ARRIVALS (14:00 Check-in)

TENTATIVE PROGRAM WEDNESDAY, OCTOBER 12, 2022	
9:00-23:30	REGISTRATION (14:00 Check-in)
Everyday Tours	SOCIAL PROGRAM <ul style="list-style-type: none">• Saklikent Jeep Safari• Paragliding in Oludeniz

TENTATIVE PROGRAM THURSDAY, OCTOBER 13, 2022	
APMAS & ENEFM & MEDOPTICS	

HALL 1	
OPENING SESSION 10:15-10:30	<p>Chairperson: A.Yavuz Oral</p> <p style="text-align: center;">OPENING CEREMONY A.Yavuz Oral</p>
10:30-10:45	COFFEE BREAK
PLENARY SESSION 10:45-11:30	<p>Chairperson: A.Yavuz Oral</p> <p style="text-align: center;">M. Alper Şahiner Seton Hall University, USA</p> <p style="text-align: center;">“Materials Based Functional Properties through Local Structural Probing by Synchrotron Based Spectroscopy”</p>
PLENARY SESSION 11:30-12:15	<p>Chairperson: A.Yavuz Oral</p> <p style="text-align: center;">Sabre Kais Purdue University, USA</p> <p style="text-align: center;">“Quantum Machine-Learning for Electronic Structure Calculations of Quantum Materials”</p>

12:30-14:00	LUNCH		
PARALLEL SESSIONS 14:00-16:00	APMAS HALL 1 Chairperson: Lech Tomasz Baczewski 14:00-14:30 Lech Tomasz Baczewski (Invited speaker) Institute of Physics Polish Academy of Sciences, Poland ID1944 - Chiral induced spin selectivity in hybrid heterostructures composed of magnetic thin film with adsorbed chiral molecules 14:30-15:00 Shoaib Answer (Invited speaker) Khalifa University, Abu Dhabi, UAE ID2213 - Cobalt Oxide (CoO) Nanocrystals embedded in Borate (B-O) network to induce an analogue Nano-Memristor for Neuromorphic Applications 15:00-15:30 Arkady Zhukov (Invited speaker) University of Basque Country and Ikerbasque, Spain ID2015 -Engineering of Magnetic Properties of Co-rich Microwires by Post-processing	ENEFM HALL 2 Chairperson: Nurhan Turgut Dunford 14:00-14:30 Nurhan Turgut Dunford (Invited speaker) Oklahoma State University, USA ID359 - Biomass based renewable fuel production pathways 14:30-14:50 Iqra Moez Korea Institute of Science and Technology, Korea, Republic Of ID336 - Sea Salt as a Stable and Cost-Effective Electrode Material for Sodium-Ion Batteries (NIBs) 14:50-15:10 Maria Kopsakangas-Savolainen Finnish Environment Institute/University of Oulu, Finland ID411 - Factors Driving Household Solar PV Choices: Differences between Earlier Adopters, Potential Adopters and Non-Adopters	MEDOPTICS HALL 3 Chairperson: Kirill Larin 14:00-14:30 Kirill Larin (Invited speaker) University Of Houston, USA ID578 - Biomechanics of the eye: from the cornea to the lens to the retina 14:30-15:00 Krzysztof Petelczyc (Invited speaker) Warsaw University of Technology, Poland ID580 - Perceptually Calibrated Scale of Optical Aberrations Generated by Multifocal Corrective Lenses

TENTATIVE PROGRAM			
FRIDAY, OCTOBER 14, 2022			
APMAS & ENEFM & MEDOPTICS			
HALL 1			
PLENARY SESSION 10:00-10:45	Chairperson: A.Yavuz Oral <div style="text-align: center;">Jae Sung Lee Ulsan National Institute of Science and Technology, Korea</div> “Solar Hydrogen Production at Scale: Materials and Systems”		
10:45-11:00	COFFEE BREAK		
PARALLEL SESSIONS 11:00-12:30	APMAS HALL 1 Chairperson: Gabriela Toader 11:00-11:30 Gabriela Toader <i>(Invited speaker)</i> Military Technical Academy 'Ferdinand I', Bucharest, Romania ID2161- Co-polymeric hydrogels of N-vinyl pyrrolidone containing phthalocyanine as photocatalyst for the decontamination of sulfur mustard 11:30-11:50 Rashad Badran The Hashemite University, Jordan ID2020- An Application of the analytical solution of the small signal steady-state equations: Analysis of low-temperature field-dependent measurements for nc-Si:H sample	ENEFM HALL 2 Chairperson: Mariama Rebello de Sousa Dias 11:00-11:30 Mariama Rebello de Sousa Dias <i>(Invited speaker)</i> University of Richmond, USA ID398- Evaluating materials for thermophotovoltaic emitters 11:30-11:50 Joaquim Massana Universitat de Girona, Spain ID366- Ahead Scheduling of Controllable Switches and Energy Storage for Optimal Power Flow Considering Forecast Errors 11:50-12:10 Marina Solovyeva Boreskov Institute of Catalysis SB RAS, Russian Federation ID391- Water adsorption dynamics on the metal-organic framework: intensification of heat transfer in sorbent bed	MEDOPTICS HALL 3 Chairperson: Janis Spigulis 11:00-11:30 Janis Spigulis <i>(Invited speaker)</i> University of Latvia, Latvia ID591- Optical Imaging Technologies for Skin Diagnostics 11:30-12:00 Sergey Alexandrov <i>(Invited Speaker)</i> National University of Ireland in Galway, Ireland ID576- Visualization of The Sub-Wavelength Structure of Biomedical Objects with Nano-Sensitivity to Structural Alterations
12:30-13:30	LUNCH		
13:30-18:00	SOCIAL PROGRAM 13:30-18:00 THE BOAT CRUISE AROUND EXCELLENT BAYS OF BLUE LAGOON & VISIT TO St. NICHOLAS ISLAND <i>(Gathering at Congress registration desk)</i>		

TENTATIVE PROGRAM			
SATURDAY, OCTOBER 15, 2022			
APMAS & ENEFM & MEDOPTICS			
HALL 1			
PLENARY SESSION 10:00-10:45	Chairperson: A.Yavuz Oral <div style="text-align: center;"> Vladimir Popok Aalborg University, Denmark “Formation and Applications of Polymer Films with Gas-Phase Aggregated Nanoparticles” </div>		
10:45-11:00	COFFEE BREAK		
PARALLEL SESSIONS 11:00-12:40	APMAS HALL 1 Chairperson: Vladimir Stavrov 11:00-11:30 Vladimir Stavrov <i>(Invited speaker)</i> AMG Technology Ltd., Bulgaria ID2233 -Displacement Monitoring with Highly Performing Piezoresistive Sensors 11:30-12:00 Eduard A. Gevorkyan <i>(Invited speaker)</i> Moscow Witte University, Russian Federation ID1945 - Transverse-Electric Filled in a Waveguide Filled with Space-Time Modulated Magnetodielectric Medium 12:00-12:20 Minvydas Ragulskis Kaunas University of Technology, Lithuania ID2172 - Detection of surface cracks in underwater concrete structures 12:20-12:40 Yusuf Ziya Salik Çelik Halat ve Tel Sanayii A.Ş, Turkey ID2067 - Failure Analysis of Gear Fracture in Wire Rope Production	ENEFM HALL 2 Chairperson: Ernst Bauer 11:00-11:30 Ernst Bauer <i>(Invited speaker)</i> TU Wien, Austria ID381 - Feasible routes to boost thermoelectricity of p- and n-type full-Heusler compounds 11:30-11:50 Aysan Safavi University of Iceland, Iceland ID350 - Kinetic modeling of nutshells pyrolytic products 11:50-12:10 Ausrine Zabielaite Center for Physical Sciences and Technology (FTMC), Lithuania ID345 - Investigation of hydrogen evolution on cobalt nanoparticles supported graphitic carbon nitride	APMAS & MEDOPTICS HALL 3 Chairperson: Alexey Feofanov 11:00-11:30 Alexey Feofanov <i>(Invited speaker)</i> Lomonosov Moscow State University, Russian Federation ID590 - Nanobiophotonics in The Studies of Drug-Chromatin Interactions: Single-Particle Fret Microscopy Approach 11:30-12:00 Yulia Kuznetsova <i>(Invited speaker)</i> Ural Branch of the Russian Academy of Sciences, Russian Federation ID2289 - Glass-ceramics for White Light Emitters: The Effective Conjunction of CdS QDs in Glass and Ce doped garnets 12:00-12:20 Mikhail Proyavin Federal Research Center Institute of Applied Physics of the Russian Academy of Sciences (IAP RAS), Russian Federation ID2184 - Additive manufacturing of all-copper elements with complicated geometry and high surface quality for microwave technologies
12:30-14:00	LUNCH		

PARALLEL SESSIONS 14:00-15:30	APMAS HALL 1	ENEFM HALL 2	MEDOPTICS HALL 3
	<p>Chairperson: Filipe Mergulhao</p> <p>14:00-14:30 Filipe Mergulhao <i>(Invited speaker)</i> University of Porto – FEUP, Portugal ID1996- The Potential of Biomimetic Cabbage Leaves in Preventing Biofouling of Escherichia Coli and Listeria Monocytogenes</p> <p>14:30-15:00 Svetoslav A. Kuzmichev <i>(Invited speaker)</i> Lomonosov Moscow State University, Russian Federation ID2283- Superconducting order parameter in alkali-based iron arsenides by means of the planar break-junction technique</p> <p>15:00-15:20 Sergey Gudoshnikov National University of Science and Technology «MISIS», Russian Federation ID2075- Non-destructive method of scanning magnetometry for determining magnetization of weakly magnetic and magnetically soft materials</p> <p>15:20-15:40 Valentina Zhurikhina Peter the Great St. Petersburg Polytechnic University, Russian Federation ID2024- Local crystallization of glass</p>	<p>Chairperson: Vitezslav Benda</p> <p>14:00-14:30 Vitezslav Benda <i>(Invited speaker)</i> Czech Technical University in Prague, Czech Republic ID371- Innovation drivers in crystalline silicon PV module technology</p> <p>14:30-14:50 Anna Dymerska West Pomeranian University of Technology, Poland ID367- Metal-organic frameworks based on nickel as an active electrocatalyst for oxygen evolution from water decomposition</p> <p>14:50-15:10 Alexandra Grekova Borckov Institute of Catalysis, Russian Federation ID383- Innovative Geometries for Heat Exchangers: Three-Periodic Schwartz Surfaces</p>	<p>Chairperson: XX</p>
15:30-16:00	COFFEE BREAK		
16:00-18:00	<p>FOYER (Poster Session Area)</p> <p>Chairperson: A. Yavuz Oral</p> <p>POSTER SESSION</p> <p>APMAS & ENEFM & MEDOPTICS</p>		

TENTATIVE PROGRAM SUNDAY, OCTOBER 16, 2022				
PARALLEL SESSIONS 10:00-12:30	APMAS HALL 1	ENEFM HALL 2	MEDOPTICS HALL 3	APMAS HALL 4
	<p>Chairperson: Balázs Illés</p> <p>10:00-10:30 Balázs Illés Budapest University of Technology and Economics, Department of Electronics Technology, Hungary <i>(Invited speaker)</i> ID1947- Investigating Sn whisker growth from SnAgCu composite solder joints</p> <p>10:30-11:00 Hong Hocheng <i>(Invited speaker)</i> National Tsing Hua University, Taiwan</p>	<p>Chairperson: Loreta Tamasauskaite-Tamasiunaite</p> <p>10:00-10:30 Fawzi Banat Khalifa University, UAE <i>(Invited speaker)</i> ID374- Synthesis of Pd nanodots on 2D MnFe₂O₄ nanosheets for the cathodic reduction of CO₂ into HCOOH and anodic oxidation of CH₃OH</p> <p>10:30-10:50 Loreta Tamasauskaite-Tamasiunaite</p>		<p>Chairperson: Sang-Wan Ryu</p> <p>10:00-10:30 Sang-Wan Ryu <i>(Invited speaker)</i> Chonnam National University, Korea, Republic Of ID1923- Fabrication of 3-Dimensional ZnO-Si Hierarchical Nanowires Anchored with CdS-Shell for Sustainable Solar Fuel Generation</p> <p>10:30-11:00</p>

	<p>ID2250- Ecofriendly Metal Reclamation from Casting Sand Waste by Bioleaching</p> <p>11:00-11:20 Ari Happonen LUT University, Finland</p> <p>ID2089- Comparing CO2 Emission Realities for Usable Life Cycle of Industrial Use Focused Concrete Floors, Surfaced with Industrial Coatings</p> <p>11:20-11:40 Ondrej Zivotsky Technical University of Ostrava, Czech Republic</p> <p>ID2011- Mn₂FeSi Heusler alloy prepared in bulk, ribbon, and powder form: microstructure and magnetism</p> <p>11:40-12:00 Jacek Ćwik Institute of Low Temperature and Structure Research, PAS, Poland</p> <p>ID1980- High Field Dependence of the Magnetocaloric Effect in Laves Phase RNi₂ Intermetallic Compounds</p>	<p>Center for Physical Sciences and Technology (FTMC), Lithuania</p> <p>ID344- Investigation of oxygen reduction and hydrogen evolution on cobalt nanoparticles-nitrogen-doped carbon</p> <p>10:50-11:10 Younes Abghoui University of Iceland, Iceland</p> <p>ID337- In pursuit of novel material for providing renewable and sustainable energy via green hydrogen production</p> <p>11:10-11:30 Zhandos Tauanov Al-Farabi Kazakh National University, Kazakhstan</p> <p>ID2205- Adsorption of mercury on the surface of coal fly ash derived zeolites and nanocomposites: Equilibrium studies and mechanisms</p>		<p>Rustem Zairov <i>(Invited speaker)</i> Kazan Federal University, Russian Federation</p> <p>ID2247- Lanthanide chelates in colloidal state as promising luminescent biosensors and prospective MRI contrast agents</p> <p>11:00-11:20 Kamila Mizera Central Institute for Labour Protection – National Research Institute, Poland</p> <p>ID2012- The effect of manufacture process properties of epoxy-based hybrid composites</p> <p>11:20-11:40 Jan Przybysz Central Institute for Labour Protection – National Research Institute, Poland</p> <p>ID2010- Flammability and explosive characteristics of mixtures of wood dust</p> <p>11:40-12:00 Krzysztof Gołacki University of Life Sciences in Lublin, Poland</p> <p>ID1951- Studies concerning stress relaxation in apple</p>
12:30-13:30	LUNCH			
13:30-18:00	<p>SOCIAL PROGRAM</p> <p>13:15-18:00 GHOST TOWN & BLUE LAGOON</p> <p><i>(Gathering at Congress registration desk)</i></p>			

TENTATIVE PROGRAM	
MONDAY, OCTOBER 17, 2022	
APMAS & ENEFM & MEDOPTICS	
HALL 1	
PLENARY SESSION 10:30-11:15	<p>Chairperson: A.Yavuz Oral</p> <p style="text-align: center;">Neil Mathur</p> <p style="text-align: center;">Cambridge University, UK</p> <p style="text-align: center;">“Large electrocaloric effects in PST multilayer capacitors over a wide range of useful temperatures”</p>
11:15-11:30	COFFEE BREAK

PARALLEL SESSIONS 11:30-12:40	APMAS HALL 1	ENEFM HALL 2	MEDOPTICS HALL 3	APMAS HALL 4
	<p>Chairperson: Henrikas Cesiulis</p> <p>11:30-12:00 Henrikas Cesiulis <i>(Invited speaker)</i> Vilnius University, Lithuania ID2118- Complexity of electronic waste recycling: the path of EPT company in SMARTELECTRODES projects</p> <p>12:00-12:30 Carmen Tuca <i>(Invited speaker)</i> "Horia Hulubei" National Institute for Physics and Nuclear Engineering, Romania ID2085- Radiation protection program on the Cyclotron U-120 type particle accelerator decommisioning</p>	<p>Chairperson: Reinhard Haas</p> <p>11:30-12:00 Reinhard Haas TU Wien, Austria <i>(Invited speaker)</i> ID415- Conditions for Competitive, Sustainable and Democratic Electricity Systems</p> <p>12:00-12:30 Elena Alekseeva Saint Petersburg University, Russian Federation <i>(Invited speaker)</i> ID312- Influence of The Synthesis Conditions to Catalytic Activity of The Oxygen Reduction Catalysts</p>	<p>Chairperson: XX</p>	<p>Chairperson: Alexander Sigov</p> <p>11:30-12:00 Alexander Sigov <i>(Invited speaker)</i> MIREA – Russian Technological University, Russian Federation ID2238- PZT ferroelectric capacitors: role of interfaces</p> <p>12:00-12:20 Alonso Hirata Flores Gustavo Center For Nanoscience and Nanotechnology-Unam, Mexico ID1985- Rare Earth-Doped Y3Al5O12 (YAG) Nanophosphors: Synthesis and Applications in Energy-Savings Devices and Nanomedicine</p> <p>12:20-12:40 Claudiu Filip National Institute for R&D of Isotopic and Molecular Technologies, Romania ID1982- Study of polydopamine strong adhesion by solid-state NMR</p>
12:30-14:00	LUNCH			

	APMAS HALL 1	ENEFM HALL 2	MEDOPTICS HALL 3	APMAS HALL 4
PARALLEL SESSIONS 14:00-15:30	<p>Chairperson: Andrey Lipovskii</p> <p>14:00-14:30 Andrey Lipovskii (Invited speaker) Alferov University, Russian Federation ID2023- Second Harmonic Generation in Poled Glasses: Conventional Views and New Insights</p> <p>14:30-14:50 Alina Marinela Ionescu National Institute of Materials Physics, Romania ID1983- Superconductor/Ferromagnet Heterostructure YBa₂Cu₃O_{7-x}/CaRuO₃</p> <p>14:50-15:10 Melania Onea National Institute of Materials Physics, Romania ID1979- The influence of process parameters on structural and morphological properties of different metallic nanowires</p> <p>15:10-15:30 Paul Olaru AGIR_Univ.POLITEHNICA Bucuresti, Romania ID2130- The future technologically ironmaking-H₂ (Hydrogen)</p>	<p>Chairperson: Amela Ajanovic</p> <p>14:00-14:30 Amela Ajanovic (Invited speaker) Vienna University of Technology (TU WIEN), Austria ID416- Prospects for Renewable Fuels in Road Transport</p> <p>14:30-15:00 Jules Thibault (Invited speaker) University of Ottawa, Canada ID368- Optimisation of a biobutanol production process integrated with a mixed-matrix pervaporation membrane</p>	<p>Chairperson:</p>	<p>Chairperson: Konstantin Vorotilov</p> <p>14:00-14:30 Konstantin Vorotilov (Invited speaker) RTU MIREA, Russian Federation ID2237- Molecular Self-Assembly of Porous and Composite Films</p> <p>14:30-14:50 Anca Aldea National Institute of Materials Physics, Romania ID2095- Metallized electropun polymeric fibers as a new platform for flexible (bio)sensors</p> <p>14:50-15:10 Vasily Milyutin Slovak Academy of Sciences, Slovakia ID2038- Soft magnetic composites FeSi/Al₂O₃-B₂O₃ with increased resonance frequency</p> <p>15:10-15:30 Daniela Oprea-Bratu National Institute of Materials Physics, Romania ID1981- Electrospun nanostructured scaffold for electrochemical sensing in cell cultures</p>

TENTATIVE PROGRAM
TUESDAY, OCTOBER 18, 2022

	APMAS HALL 1	ENEFM HALL 2	MEDOPTICS HALL 3
PARALLEL SESSIONS 10:00-12:10	Chairperson: Evgeny Barkanov 10:00-10:30 Evgeny Barkanov <i>(Invited speaker)</i> Riga Technical University, Latvia ID2255 - Effectiveness and productivity improvement of conventional pultrusion technology 10:30-10:50 Ekaterina Politova Russian Academy of Sciences, Russian Federation ID1978 - Structure and ferroelectric properties of modified lead-free perovskite materials 10:50-11:10 Mihaela-Cristina Bunea National Institute of Materials Physics, Romania ID2076 - Electrochemical characterization of screen-printed electrodes modified with conductive materials 11:10-11:30 Anastasia Parshina Northern (Arctic) Federal University named after M.V. Lomonosov, Russian Federation ID1969 - Characteristics of arctic brown algae cellulose 11:30-11:50 Tiberius Florian Frigioescu Romanian Research and Development Institute for Gas Turbines – COMOTI, Romania ID2168 - Development of a new UAV concept and flight method to increase flight autonomy and maximum flight speed using wings and tilt motors 11:50-12:10 Genene Tessema Mola University of KwaZulu-Natal, South Africa ID2127 - Metal plasmon resonances induced enhanced photons harvesting in inverted thin film organic solar cell	Chairperson: XX	Chairperson:
12:30-13:30	LUNCH		
13:30-18:00	<i>SOCIAL PROGRAM</i> 13:15-18:00 FETHIYE CITY TOUR & THE ROCK TOMBS <i>(Gathering at Congress registration desk)</i>		

TENTATIVE PROGRAM
WEDNESDAY, OCTOBER 19, 2022

PARALLEL SESSIONS 10:00-11:00	APMAS & ENEFM & MEDOPTICS HALL 1
	<p>Chairperson: Natalia Tsyntsaru</p> <p>10:00-10:30 Natalia Tsyntsaru <i>(Invited speaker)</i> Vilnius University/Institute of Applied Physics, Lithuania ID2119- Design of materials based on electrodeposited iron group metals</p> <p>10:30-11:00 Vijaya Srinivasu Vallabhapurapu <i>(Invited speaker)</i> University of South Africa, South Africa ID1915- Low Field Microwave Absorption in Novel Spin Systems: Magnetics to Multiferroics</p>
12:00	Hotel Check Out

PROGRAM LEGEND DESCRIPTIONS	
ID-	APMAS 2022 oral presentations
ID-	ENEFM 2022 oral presentations
ID-	MEDOPTICS 2022 oral presentations