

APMAS 2024

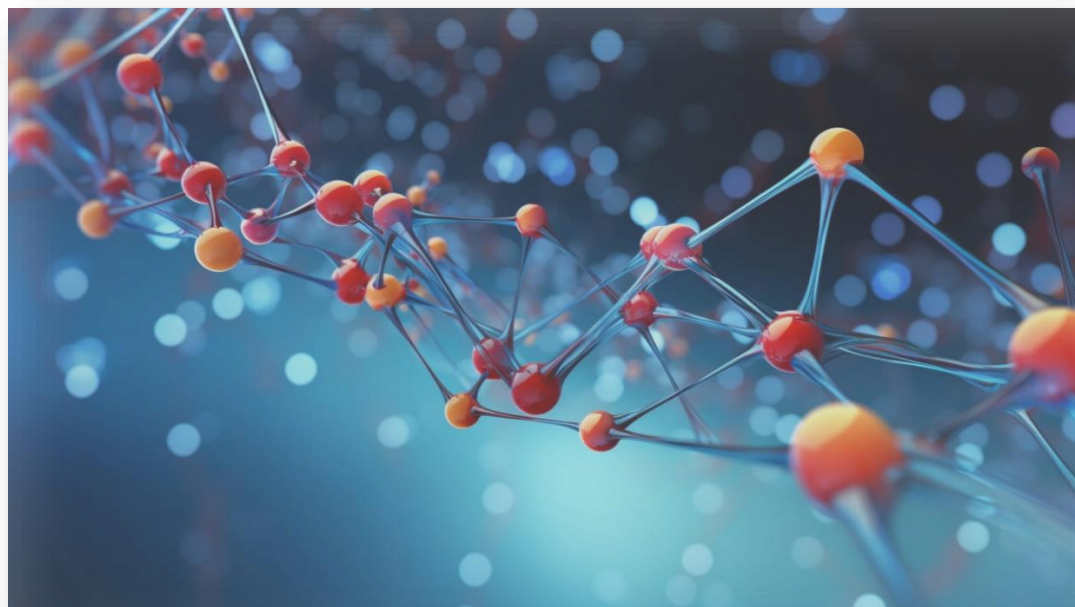
**14th International Advances in Applied
Physics & Materials Science Congress &
Exhibition**

ENEFM 2024

**10th International Congress on Energy
Efficiency and Energy Related Materials**

MEDOPTICS 2024

**3rd International Conference on Medical
Optics**



PROGRAM TIMETABLE

Sponsors



APMAS 2024

14th International Advances in Applied Physics & Materials Science Congress & Exhibition

ENEFM 2024

10th International Congress on Energy Efficiency and Energy Related Materials

MEDOPTICS 2024

3rd International Conference on Medical Optics

October 08-14, 2024

Liberty Hotels Lykia, Oludeniz
MUGLA / TURKEY

PROGRAM

SUNDAY, OCTOBER 06, 2024

14:00-16:30

REGISTRATION FOR EARLY ARRIVALS
(14:00 Check-in)

PROGRAM

MONDAY, OCTOBER 07, 2024

9:00-16:30

REGISTRATION
(14:00 Check-in)

Everyday Tours

SOCIAL PROGRAM

- *Saklıkent Jeep Safari*
- *Paragliding in Oludeniz*

PROGRAM

TUESDAY, OCTOBER 08, 2024

APMAS & ENEFM & MEDOPTICS

YUNUS EMRE 1

PLENARY SESSION 10:30-11:15	Chairperson: A.Yavuz Oral <p style="text-align: center;">Alper Sahiner Seton Hall University, USA</p> <p style="text-align: center;">“ID2782- Artificial Intelligence in Materials Science and Renewable Energy Research”</p>
11:15-11:45	COFFEE BREAK
PLENARY SESSION 11:45-12:30	Chairperson: A.Yavuz Oral <p style="text-align: center;">Lech Tomasz Baczewski Institute of Physics PAS, Poland</p> <p style="text-align: center;">“ID2597- Interaction between chirality and magnetism in hybrid nanostructures”</p>

12:30-14:00	LUNCH	
PARALLEL SESSIONS 14:00-15:00	<p style="text-align: center;">APMAS & ENEFM & MEDOPTICS</p> <p style="text-align: center;">YUNUS EMRE 1</p> Chairperson: Arcady Zhukov 14:00-14:30 Arcady Zhukov Univ. Basque Country, UPV/EHU San Sebastián, Spain <i>(invited speaker)</i> ID2590- Development of Amorphous Microwires with Graded Magnetic Anisotropy 14:30-15:00 Andrei Mitru Romanian Research and Development Institute for Gas Turbines COMOTI, Romania <i>(invited speaker)</i> ID588- Thermal and energy efficiency solutions for natural gas compression using industrial automation	<p style="text-align: center;">APMAS & ENEFM & MEDOPTICS</p> <p style="text-align: center;">ARISTO</p> Chairperson: Pietro Galinetto 14:00-14:30 Pietro Galinetto University of Pavia, Italy <i>(invited speaker)</i> ID2695- SERS performances of PDA-coated silver and gold nano-objects for emerging pollutants monitoring 14:30-14:50 Yonggyu Lee Korea Construction Equipment Technology Institute, Korea, Republic Of ID2772- A Study on the Development and Validation of an Integrated Steering and Driving Dynamics Model for an MR-Based K9 Howitzer Firing Simulator
15:00-15:30	COFFEE BREAK	
PARALLEL SESSIONS 15:30-17:00	<p style="text-align: center;">APMAS & ENEFM & MEDOPTICS</p> <p style="text-align: center;">YUNUS EMRE 1</p> Chairperson: Vijaya Srinivasu Vallabhapurapu 15:30-16:00 Vijaya Srinivasu Vallabhapurapu University of South Africa, South Africa <i>(invited speaker)</i> ID2603- Resistive Switching Memory (ReRAM) through biomaterials 16:00-16:30 Sandra Lepak-Kuc Warsaw University of Technology, Poland <i>(invited speaker)</i> ID2770- Eco-Friendly Carbon-Based Conductive Composites: Shaping the Future of Biosensors and Beyond 16:30-17:00 Gabriel P. Potirniche University of Idaho, USA <i>(invited speaker)</i> ID2578- Experimental and Computational Study of Fatigue Crack Growth in Austenitic Stainless-Steel Alloy 709 at Elevated Temperatures	

PROGRAM WEDNESDAY, OCTOBER 09, 2024	
APMAS & ENEFM & MEDOPTICS	
YUNUS EMRE 1	
PLENARY SESSION 10:00-10:45	<p>Chairperson: A.Yavuz Oral</p> <p style="text-align: center;">Mohamed Naceur BELGACEM</p> <p style="text-align: center;">University Grenoble Alpes, France</p> <p style="text-align: center;">“ID2664- Biomass conversion: The raw material of tomorrow”</p>
10:45-11:15	COFFEE BREAK
PARALLEL SESSIONS 11:15-12:25	<p style="text-align: center;">APMAS & ENEFM & MEDOPTICS</p> <p style="text-align: center;">YUNUS EMRE 1</p> <p>Chairperson: Balázs Illés</p> <p>11:15-11:45 Balázs Illés Budapest University of Technology and Economics, Hungary <i>(invited speaker)</i> ID2602- Properties of Sn99Ag0.3Cu0.7-(ZrO₂/CuO/TiO₂) composite solder joints</p> <p>11:45-12:05 Erdem Sahin Mugla University, Turkey ID2691- Cementitious coatings on magnesium alloys for in vivo passivation</p> <p>12:05-12:25 Chengcheng Wang China Nuclear Power Engineering Co. Ltd, China ID2651- New Requirements of Defense in Depth and Extension of Its Application</p>
12:35-13:15	LUNCH
13:15-18:00	<p style="text-align: center;">SOCIAL PROGRAM</p> <p style="text-align: center;">13:15-18:00 GHOST TOWN & BLUE LAGOON</p> <p style="text-align: center;"><i>(Gathering at Congress registration desk)</i></p>

PROGRAM THURSDAY, OCTOBER 10, 2024	
APMAS & ENEFM & MEDOPTICS	
YUNUS EMRE 1	
PLENARY SESSION 10:00-10:45	<p>Chairperson: A.Yavuz Oral</p> <p style="text-align: center;">Ahmed Abdala</p> <p style="text-align: center;">Hamad Bin Khalifa University, Doha, Qatar</p>

	"ID553- High-performance Membranes for Energy Efficient Air cooling"	
10:45-11:15	COFFEE BREAK	
PARALLEL SESSIONS 11:15-12:45	<p style="text-align: center;">APMAS & ENEFM</p> <p style="text-align: center;">YUNUS EMRE 1</p> <p>Chairperson: Konstantin Vorotilov</p> <p>11:15-11:45 Konstantin Vorotilov RTU MIREA, Russian Federation <i>(invited speaker)</i> ID2640- THIN POROUS FILMS: HOW TO CONTROL MICROSTRUCTURE AND ELECTRICAL PROPERTIES?</p> <p>11:45-12:15 Juris Blums Riga Technical University, Latvia <i>(invited speaker)</i> ID594- Developing key components of energy-independent wearables: human body energy harvesting and self-powered sensors</p> <p>12:15-12:45 Alexander Sigov MIREA - Russian Technological University, Russian Federation <i>(invited speaker)</i> ID2644-PHYSICAL PHENOMENA IN PZT THIN FILMS</p>	<p style="text-align: center;">MEDOPTICS</p> <p style="text-align: center;">ARISTO</p> <p>Chairperson: Ersin Kayahan</p> <p>11:15-11:45 Alexey V. Feofanov Lomonosov Moscow State University, Russian Federation <i>(invited speaker)</i> ID611- Nanobiophotonics: decoding molecular interactions in chromatin</p> <p>11:45-12:15 Horace Crogman California State University Dominguez Hills, USA <i>(invited speaker)</i> ID606- Epigallocatechin Gallate (EGCG) Mitigates the Effects of Camptothecin-induced Oxidative Stress on Bone-like Cancer Cells (UMR 106-01 BSP)</p> <p>12:15-12:45 M.L. Thakur Sidney Kimmel Cancer Center, USA <i>(invited speaker)</i> ID612- Biophotonic imaging for noninvasive detection and therapy of oncologic diseases</p>
12:30-14:00	LUNCH	

PARALLEL SESSIONS 14:00-16.10	APMAS & ENEFM YUNUS EMRE 1	MEDOPTICS ARISTO
	Chairperson: Amela Ajanovic	Chairperson: Ersin Kayahan
	14:00-14:30 Amela Ajanovic Vienna University of Technology - TU WIEN, Austria <i>(invited speaker)</i> ID554- Techno-economic analysis of hydrogen production and transportation	14:00-14:30 Christos Boutopoulos University of Montreal, Canada <i>(invited speaker)</i> ID607- Improving the safety and precision of eye surgery interventions with “smart” fiber-based OCT systems
	14:30-15:00 Eugenia Rossi di Schio Alma Mater Studiorum - University of Bologna, Italy <i>(invited speaker)</i> ID568- The reuse of end-of-life Home Materials (EoLHM) in buildings’ energy harvesting	14:30-15:00 NICOLA DALDOSSO University of Verona, Italy <i>(invited speaker)</i> ID609- Light emitting porous nano-silicon as a multimodal platform for theranostics
	15:00-15:20 Qianwen Liu China Nuclear Power Engineering Co., Ltd, China ID559- Risk-Informed Defense-in-depth Strategy for Nuclear Power Plant	15:00-15:30 Kostadinka Bizheva University of Waterloo, Canada <i>(invited speaker)</i> ID608- Line-Scan Optical coherence tomography for in-vivo cellular resolution imaging of the human cornea and limbus
15:20-15:40 Vanni Lughi University of Trieste, Italy ID562- Recyclable Composites Based on Natural and Waste Materials for Thermal Insulation Applications: An Example Of “Deep Materials Sustainability”		
15:40-16:10 Vladimir Krasnov Stockholm University, Sweden <i>(invited speaker)</i> ID597- Perspectives of energy-efficient superconducting computer		
16:10-16:40	COFFEE BREAK	
16:40-17:40	FOYER (Poster Session Area) Chairperson: A. Yavuz Oral POSTER SESSION- I APMAS & ENEFM & MEDOPTICS	

PROGRAM FRIDAY, OCTOBER 11, 2024	
APMAS & ENEFM & MEDOPTICS	
	YUNUS EMRE 1
PLENARY SESSION 10:30-11:15	Chairperson: A.Yavuz Oral Dominik Zumbühl University of Basel and NCCR SPIN, Switzerland

	“ID2659- Quantum Computing with Silicon Spins”	
11:15-11:45	COFFEE BREAK	
PLENARY SESSION 11:45-12:30	<p>Chairperson: Ersin Kayahan</p> <p style="text-align: center;">Meltem Izzetoglu Villanova University, USA</p> <p style="text-align: center;">“ID613- Multimodal Diffuse Optical Methods for The Assessment of Brain Function and Injury”</p>	
12:30-14:00	LUNCH	
PARALLEL SESSIONS 14:00-15:00	APMAS & ENEFM & MEDOPTICS YUNUS EMRE 1	
	<p>Chairperson: Bing Guo</p> <p>14:00-14:30 Bing Guo Texas A&M University at Qatar, Qatar <i>(invited speaker)</i> ID585- Solar photovoltaic soiling loss: quantification, measurement and monitoring</p> <p>14:30-15:00 Satoshi Kokado Shizuoka University, Japan <i>(invited speaker)</i> ID2593- Theoretical study on in-plane, out-of-plane, and transverse anisotropic magnetoresistance effects for ferromagnetic films</p>	
15:00-15:30	COFFEE BREAK	
PARALLEL SESSIONS 15:30-17:00	APMAS YUNUS EMRE 1	ENEFM ARISTO
	<p>Chairperson: Wael Alnahhal</p> <p>15:30-16:00 Wael Alnahhal Qatar University, Qatar <i>(invited speaker)</i> ID2773- Mechanical Properties of Recycled Aggregate Concrete Incorporating Recycled Concrete Powder</p> <p>16:00-16:20 Ngonidzashe Masunga University of South Africa, South Africa ID2733- Looking at photocatalysis from a different perspective: considering hybridisation of low energy waves with visible light for organic pollutant removal</p> <p>16:20-16:40 Jamil Renno Qatar University, Qatar ID2573- Base Excitation and Finite Element Simulation for Assessing the Risk of Acoustic Induced Fatigue</p>	<p>Chairperson: Giuseppe Forte</p> <p>15:30-16:00 Giuseppe Forte University of Catania, Italy <i>(invited speaker)</i> ID599- Enhancing Dye-sensitized solar cells efficiency: insights from Density Functional Theory</p> <p>16:00-16:30 Ladislav Kavan J. Heyrovsky Institute of Physical Chemistry, Czech Republic <i>(invited speaker)</i> ID598- Work Function and Photo/electrochemistry of Oxide Semiconductors (SnO₂ TiO₂ and ZnO)</p> <p>16:30-17:00 Alexandra Ushakova INEOS RAS, Russian Federation Sergo Ordzhonikidze Russian State University for Geological Prospecting, Russian Federation <i>(invited speaker)</i> ID601- Novel liquids for increasing the mobility of aqueous solutions for low permeable and ultra-low permeable oil formations</p>

PROGRAM
SATURDAY, OCTOBER 12, 2024
APMAS

YUNUS EMRE 1	
PARALLEL SESSIONS 10:30-12:20	<p>Chairperson: Emil Babić</p> <p>10:30-11:00 Emil Babić University of Zagreb, Croatia <i>(invited speaker)</i> ID2668- High entropy alloys: some prospects and problems</p> <p>11:00-11:30 Carmen Tuca National Institute for R&D in Physics and Nuclear Engineering, Romania <i>(invited speaker)</i> ID2609- Assessment of Soil Activity Levels from Decommissioning Area of A VVR-S Nuclear Research Reactor</p> <p>11:30-11:50 Miroslav Cieslar Charles University, Czech Republic ID2674- Self propagating high temperature synthesis in Ti-Ni core-shell nanoparticles</p> <p>11:50-12:20 Sergei Katsyuba Kazan Scientific Center of Russian Academy of Sciences, Russian Federation <i>(invited speaker)</i> ID2779- Self-assembly formation of water-soluble nanoparticles explored by computational techniques</p>
12:30-13:15	LUNCH
13:15-18:00	<p style="text-align: center;"><i>SOCIAL PROGRAM</i></p> <p style="text-align: center;"><i>13:15-18:00 THE BOAT CRUISE AROUND EXCELLENT BAYS OF BLUE LAGOON & VISIT TO St. NICHOLAS ISLAND</i></p> <p style="text-align: center;"><i>(Gathering at Congress registration desk)</i></p>

PROGRAM	
SUNDAY, OCTOBER 13, 2024	
APMAS	
YUNUS EMRE 1	
PLENARY SESSION 10:30-11:15	<p>Chairperson: A.Yavuz Oral</p> <p style="text-align: center;">Janusz Lewinski</p> <p style="text-align: center;">Polish Academy of Sciences, Poland</p> <p style="text-align: center;">“ID2767- Effect of preparation methodologies on the properties of ZnO QDs and metal halide perovskites”</p>
11:15-11:45	COFFEE BREAK

PARALLEL SESSIONS 11:45-12:35	Chairperson: Victor Pavlov 11:45-12:15 Victor Pavlov Ioffe Institute, RAS, Russian Federation <i>(invited speaker)</i> ID2731- ULTRAFAST PHOTO-INDUCED PHENOMENA IN EUROPIUM CHALCOGENIDES 12:15-12:35 Michał Zieliński Nicolaus Copernicus University, Poland ID2576- Exploiting underlying crystal lattice for efficient computation of multi-million atoms nanostructures
12:30-14:00	LUNCH

PARALLEL SESSIONS 14:00-15:20	APMAS YUNUS EMRE 1
	Chairperson: Wolfgang Werner 14:00-14:30 Wolfgang Werner TU Wien, Austria <i>(invited speaker)</i> ID2774- Electron Beam Attenuation and Energy Dissipation between 0 eV and Relativistic Energies 14:30-15.00 Alessandra Bellissimo Technische Universität Wien, Austria <i>(invited speaker)</i> ID2778- Electron Emission from Graphitic Surfaces in the Low-Energy Regime 15:00-15:20 Mara-Georgiana Popovici ELI-NP, Horia Hulubei National Institute for R&D in Physics and Nuclear Engineering, Romania ID2717-Radiation protection and dosimetry in high power laser-driven experiments
15:30-16:00	COFFEE BREAK
16:00-17:00	FOYER (Poster Session Area) Chairperson: A. Yavuz Oral POSTER SESSION- II APMAS

PROGRAM MONDAY, OCTOBER 14, 2024
APMAS
YUNUS EMRE 1

PARALLEL SESSIONS 10:30-12:00	<p><i>Chairperson: Eduard Gevorkyan</i></p> <p>10:30-11:00 Eduard Gevorkyan Moscow Witte University, Russia <i>(invited speaker)</i> ID2605- On the Theory of Transition Radiation of a Charge in a Waveguide Filled with an Anisotropic Magnetodielectric Medium</p> <p>11:00-11:30 Svetoslav Kuzmichev Lomonosov Moscow State University, Russian Federation <i>(invited speaker)</i> ID2629- Direct observation of Spin Exciton in Superconducting Oxynictides by Andreev Spectroscopy</p> <p>11:30-12:00 Tatiana Kuzmicheva Lebedev Physical Institute RAS, Russian Federation <i>(invited speaker)</i> ID2637- Spectroscopic Study of $K0.8Fe1.7(Se,S)2$ Selenides in the Superconducting and the Normal State</p>
12:00	<i>Hotel Check Out</i>

<i>PROGRAM LEGEND DESCRIPTIONS</i>	
ID-	APMAS 2024 oral presentations
ID-	ENEFM 2024 oral presentations
ID-	MEDOPTICS 2024 oral presentations

POSTER PROGRAM

THURSDAY, OCTOBER 10, 2024

16:40-17:40

FOYER (Poster Session Area)

Chairperson: A. Yavuz Oral

POSTER SESSION- I

APMAS & ENEFM & MEDOPTICS

ID	TITLE	CONTACT AUTHOR
2591	TUNING OF SECOND ORDER PHASE TRANSITION OF NIMNGA HEUSLER-TYPE GLASS-COATED MICROWIRES.	Valentina Zhukova
2604	Influence of SAC0307-Al ₂ O ₃ composite solder joints on thermal parameters of power electronics devices	Agata Skwarek
2625	Two-dimensional Valleytronic Materials: From Principles to Device Applications	Sake Wang
2630	Mesoporous SiO ₂ -TiO ₂ Submicron Particles With High Photocatalytic Efficiency for Degradation of Organic Substances Under Solar and Artificial Light	Kuralay Rustembekkyzy
2623	Electronic Lock with Remote Control	Raşit Önver & Ibrahim Alpay
2737	Evaluation of Mare's Milk-Derived Exosomes as Novel Therapeutic Carriers: Comparative Isolation Techniques and Quercetin Bioavailability Enhancement	Shynggys Sergazy
2751	Modeling the operation of a gas compressor station to minimize fuel costs for protection against surge zone	Dinara Zhussupova
2600	Study and Characterization of new dosimeter MAGIC-Glytaraldehyde	Sounila Brahimi Moussa
2587	Diffusion mechanisms in superabsorbent hybrid hydrogels structures usable as water and nutrients carriers/releasers	Gabriela Craciun
2633	Functional borates and fluoride borates and their high-pressure modifications	Tatyana Bekker
2680	Improved Stability and Endurance in ReRAM using Novel Organic-Inorganic Tandem Structure for Synaptic Computing Applications	Sachin Desarada
2652	Doping effect on ferroelectric/piezoelectric properties of Nb-modified BiFeO ₃ -BaTiO ₃ ceramics	myongho kim
2643	Plastic deformation of bronze under water by laser radiation	Viacheslav Zheleznov
2724	Synthesis of 1-(2,4,6-trimethylpyridin-3-yl)ethan-1-ol and study of its hemorheological and antifibrotic activity	Alexander Gulyayev
2579	The Directional Formation and Anti-corrosion Action of Self-Assembled Siloxane Nanolayers on Copper Surface	Maxim Petrunin
2681	Chitosan based new ReRAMs for Green Computing	SREEDEVI VALLABHAPURAPU
558	Study of oxygen reduction and evolution on palladium-modified cobalt-phosphorus and cobalt-iron-phosphorus coatings	Loreta Tamasauskaitė-Tamasiunaite
557	Cobalt-iron-phosphorus catalysts for hydrogen and oxygen evolution	Eugenijus Norkus

570	ICT FOR SMART AND ENERGY EFFICIENT BUILDINGS	Dimitar Karastoyanov
572	NEW ANTHRONE DERIVATIVES AS LIGHT EMITTING SUBSTANCES	Jelena Kirilova
580	Development of On-Board Charger and Solar inverter using Power Module based on Wide Bandgap	Yong-Su Noh
581	Phase Shift Modulation Method for Low Voltage-Light Load Area of Load Resonant Converter with Wide Output Voltage	Dongmyoung Joo

POSTER PROGRAM
SUNDAY, OCTOBER 13, 2024
16:00-17:00

FOYER (Poster Session Area)

Chairperson: A. Yavuz Oral

POSTER SESSION- II

APMAS

ID	TITLE	CONTACT AUTHOR
2607	Evaluation of hardness and composition of SiCN films deposited by HWCVD method	A. Izumi
2594	Covalent Organic Frameworks for Homojunction SMOSCs and Electrode Materials	Ion grosu
2667	Synthesis of metal-organic framework compounds on PET track-etched membranes for CO2 capture	Ilya Korolkov
2669	Skin dose assessment for patients undergoing medical radiography by LiF:Cu,Mg,P, BeOSL and halide film passive dosimeter systems	Felicia Mihai
2619	Novel 9,9'-Dispiro- and Trispirobifluorene Building Blocks for the Access to Smart Supramolecular and Covalent Organic Frameworks	Ioana Georgeta Grosu
2677	Towards the theory of crystal growth ahead of the moving solid-liquid phase interface: A U-shaped anomalous behaviour of the crystallization velocity of melt undercooling	Liubov Toropova
2592	Nonvolatile memory cells based on thin film disorder chalcogenide semiconductors	Aliaksandr Smirnov
2750	BENZENE OXIDATION OVER Pt LOADED ON FLY ASH ZEOLITE X	Yuri Kalvachev
2598	Picosecond Ultrasonic Photoacoustic Emitter Based on Graphene-Decorated Gold Nanoparticles	Aleš Mrzel
2608	Evaluation of tritium release from contaminated HEPA filters in extreme conditions	Cristian Postolache
2572	Viscoelastic response of sugar beet root tissue to mechanical loading	Krzysztof Gołacki
2627	Manufacturing of biocompatible coatings for medical implants using robotic microplasma spraying: ensuring coating uniform thickness and specified porosity	Alexander Krasavin
2639	Additive robotic microplasma spraying of multilayer bioactive coatings	Albina Kadyroldina
2647	In vitro testing of microplasma sprayed titanium and hydroxyapatite coatings on Ti6Al4V alloy substrates: the effect of materials and spraying parameters on coating bioactivity and corrosion resistance	Yuliya Safarova (Yantsen)
2626	Enhancing microbial resistance of additive manufactured titanium implants by magnetron sputtering of Nb-Cu and Ta-Cu coatings	Bagdat Azamatov
2638	Manufacturing and research of Ta and Ta-Cu bioactive and antimicrobial coatings of titanium endoprosthesis implants	Darya Alontseva
2641	Recycling of waste aluminium foil as a low-carbon feedstock substitute	Jan Najser

2697	Harnessing PEGylated PLGA Nanoparticles for Drug Delivery of Cdc42 Inhibitor: Unveiling Anti-Cancer Efficacy in Colon Cancer Cell Lines	Aislu Yermekova
2713	Development of 3D coffee ring structure on soft compliant PDMS substrate and interplaying factors	Maryam Jalali
2698	A study of in vitro cytotoxicity of fullerene- and fullerenol-dihydroquercetine complexes: possible implications for the treatment of neurodegenerative disorders	Sholpan Askarova
2743	ANTI-ICING PERFORMANCE OF TRANSPARENT EPOXY-BASED NANOCOMPOSITE COATINGS	Bartłomiej Przybyszewski
2761	A Compositional Engineering and Phase Transitions of DMaxFA1-xPb13 Perovskites	Iwona Justyniak
2723	Synthesis, molecular docking and in vitro α -glucosidase inhibition potential of novel thiourea derivatives based on 3-aminopyridin-2(1H)-ones	Zarina Shulgau

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