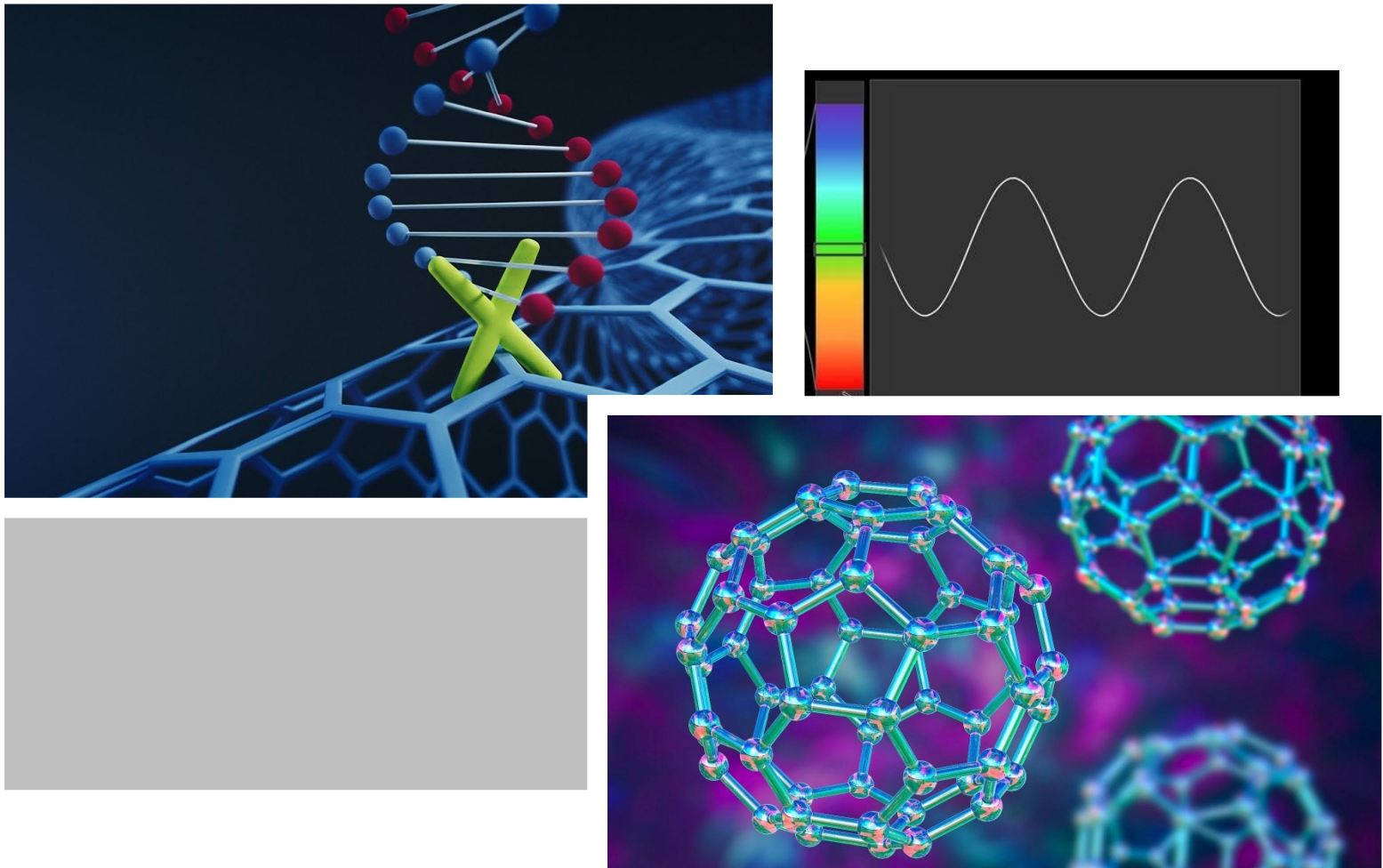




THE PROGRAM

APMAS 2026

GENERA 2026



APMAS 2026
16th International Advances in Applied Physics & Materials Science
Congress & Exhibition
OCTOBER 13-19, 2026

GENERA 2026
2nd Global Exchange on Next-Gen Engineering and Life Sciences
Research and Applications
OCTOBER 17-19, 2026

Liberty Hotels Lykia, Oludeniz
MUGLA / TURKEY

PROGRAM <i>SUNDAY, OCTOBER 11, 2026</i>	
<i>14:00-16:30</i>	REGISTRATION FOR EARLY ARRIVALS <i>(14:00 Check-in)</i>

PROGRAM <i>MONDAY, OCTOBER 12, 2026</i>	
<i>9:00-16:30</i>	REGISTRATION <i>(14:00 Check-in)</i>
<i>Everyday Tours</i>	SOCIAL PROGRAM • <i>Saklıkent Jeep Safari</i> • <i>Paragliding in Oludeniz</i>

PROGRAM TUESDAY, OCTOBER 13, 2026	
APMAS	
ARISTO	
PLENARY SESSION 09:45-10:30	Chairperson: A.Yavuz Oral Alper Sahiner Seton Hall University, USA “ID3068-Artificial Intelligence-Driven Materials Characterization via Synchrotron-Based Spectroscopy and Scattering: A Review and Examples”
PLENARY SESSION 10:30-11:15	Chairperson: A.Yavuz Oral Aliaksandr Smirnov Belarusian State University of Informatics and Radioelectronics, Belarus “ID2927- AI cognitive neural networks based on a memristor’s array as synapses”
11:15-11:45	COFFEE BREAK
PLENARY SESSION 11:45-12:30	Chairperson: A.Yavuz Oral Atakan Aral University of Vienna, Austria “ID2938- Neuromorphic Edge Computing for Low-Power Intelligent Sensing”
12:30-14:00	LUNCH
PARALLEL SESSIONS 14:00-16:30	APMAS
	ARISTO Chairperson: Arcady Zhukov 14:00-14:30 Arcady Zhukov Univ. Basque Country, EHU, and Ikerbasque, Spain (invited speaker) ID2941- Recent Advances in Development of Amorphous Microwires for Sensor Applications 14:30-15:00 Konstantin Vorotilov MIREA - Russian Technological University, Russian Federation (invited speaker) ID3009- Molecular Self-Assembly to Advanced Microelectronics: Tailoring Nanostructures and Phase Interactions

	15:00-15:30 Evgeny Troyan Belarusian State University of Informatics and Radioelectronics, Belarus (invited speaker) ID2944- Multilayer Non-Volatile Memory Elements 15:30-16:00 Alexander Sigov MIREA - Russian Technological University, Russian Federation (invited speaker) ID3062- Interface-Mediated Control of Structural and Electrical Properties in Active Dielectric Thin-Film Heterostructures 16:00-16:30 Sasa Sladic University of Rijeka, Croatia (invited speaker) ID3007- Modern Electric Power System Power Surges
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PROGRAM WEDNESDAY, OCTOBER 14, 2026	
APMAS	
ARISTO	
PLENARY SESSION 10:30-11:15	Chairperson: Dagou Zeze Claudia Belviso CNR, Italy “ID2945- Waste-derived zeolite for pollution remediation: an example of the circular economy”
11:15-11:45	COFFEE BREAK
PLENARY SESSION 11:45-12:30	Chairperson: Dagou Zeze Ibrahim Abdulhalim Ben Gurion University of The Negev, Israel “ID3040- Tunable photonic liquid crystal metasurfaces for spectral-polarimetric imaging, biosensing, and energy management applications”
12:30-14:00	LUNCH

PARALLEL SESSIONS 14:00-15:40	APMAS
	ARISTO
	Chairperson: Galina Kalashnikova
	14:00-14:30 Galina Kalashnikova Federal Research Centre “Kola Science Centre of the Russian Academy of Sciences”, Russian Federation (invited speaker) ID3048- Rare and lesser-known minerals as prospective sources for advanced functional materials
	14:30-14:50 Marcin Malek Military University of Technology, Faculty of Civil Engineering and Geodesy, Poland ID3026- Analysis of the Influence of Steel Fibres on the Mechanical Properties of Vibropressed Products
	14:50-15:10 Katarzyna Skroban Łukasiewicz Research Network – Warsaw Institute of Technology, Poland ID2993- Synthesis and Characterization of Electroless Ni–B Composite Coatings with Varying Dispersed Boron Phase Content
	15:10-15:40 Maryam Badv University of Calgary, Canada (invited speaker) ID3039- Design and Engineering of Multifunctional and Antifouling Biomaterials

P R O G R A M THURSDAY, OCTOBER 15, 2026	
APMAS	
ARISTO	
PLENARY SESSION 10:30-11:15	Chairperson: A.Yavuz Oral Paul L.A. Popelier University of Manchester, UK “ID2970- FFLUX: Machine Learnt Potentials Based on Quantum Topological Atoms”
11:15-11:45	COFFEE BREAK
PLENARY SESSION 11:45-12:30	Chairperson: A.Yavuz Oral Dagou Zeze Durham University, UK “ID3005- Nanomaterial Engineering for Advanced Functional Devices”
12:30-14:00	LUNCH

PARALLEL SESSIONS 14:00-15:40	APMAS
	ARISTO Chairperson: Federico Montoncello 14:00-14:30 Federico Montoncello University of Ferrara, Italy <i>(invited speaker)</i> ID3022- Vertical Control in Magnonics: Layered Architectures for Tunable Spin-Wave Interactions and Band Engineering 14:30-14:50 Felicia Mihai Horia Hulubei, National Institute for R&D in Physics and Nuclear Engineering, Romania ID2995- Assessment of Low-Energy X-Ray Beam Quality through Dose Distribution Measurements in the Focal Spot Projection Area Using Thermoluminescent Dosimetry 14:50-15:20 Ahmad Ostovari Moghaddam HSE University, Russian Federation <i>(invited speaker)</i> ID3064- Machine Learning Assisted Discovery of a Novel High-Entropy Oxide Catalysts for Selective Reduction of CO₂ to Ethanol 15:20-15:40 Vala Can Askan Gebze Technical University, Turkey ID3070- Sol–Gel Derived Hf₆Ta₂O₁₇ Thin Films for Optical Waveguide Applications
	15:30-16:00 COFFEE BREAK
	16:00-17:00 FOYER (Poster Session Area) Chairperson: A. Yavuz Oral POSTER SESSION I APMAS
	19:30-21:30 SPECIAL DINNER WITH APMAS PLENARY - INVITED SPEAKERS <i>(Authentic Turkish Cuisine)</i>

P R O G R A M FRIDAY, OCTOBER 16, 2026	
APMAS	
ARISTO	
PLENARY SESSION 09:30-10:15	Chairperson: A.Yavuz Oral Peng Jiang University of Florida, USA “ID2934- Reconfigurable Nanooptics and Smart Chromogenic Sensors Enabled by Multi-Stimuli-Responsive Shape Memory Polymers”
10:15-10:45	COFFEE BREAK
PLENARY SESSION 10:45-11:30	Chairperson: A.Yavuz Oral Karina Morgenstern Ruhr-Universität Bochum, Germany “ID3001- Experimenting with individual atoms and molecules – from nano-snowflakes to single-molecule switches”
PLENARY SESSION 11:30-12:15	Chairperson: A.Yavuz Oral Milan Zukovic Pavol Jozef Šafárik University in Košice, Slovakia “ID3066- Higher-order interactions as a route to tunable phase behavior in two-dimensional XY systems”
12:30-13:15	LUNCH
13:15-18:00	<i>SOCIAL PROGRAM</i> <i>13:15-18:00 THE BOAT CRUISE AROUND EXCELLENT BAYS OF BLUE LAGOON & VISIT TO St. NICHOLAS ISLAND</i> <i>(Gathering at Congress registration desk)</i>

PROGRAM SATURDAY, OCTOBER 17, 2026	
APMAS & GENERA	
ARISTO	
PLENARY SESSION 09:45-10:30	Chairperson: A.Yavuz Oral Bhagavatula Moorthy Baylor College of Medicine, USA “ID46- Maternal Exposure to Polycyclic Aromatic Hydrocarbons (PAHs) Augments Neonatal Hyperoxic Lung Injury and Causes Dysbiosis of Gut and Lung Microbiome: Implications for bronchopulmonary dysplasia (BPD) in premature infants”
PLENARY SESSION 10:30-11:15	Chairperson: A.Yavuz Oral Aleksandra Weselucha-Birczyńska Jagiellonian University in Kraków, Poland “ID56- TWO-TRACE TWO-DIMENSIONAL (2T2D) CORRELATION SPECTROSCOPY IN EARLY MEDICAL DIAGNOSIS”
11:15-11:45	COFFEE BREAK
PLENARY SESSION 11:45-12:30	Chairperson: Marianne Degerman Skellefteå municipality Umeå university, Sweden “ID55- Laser Photobiomodulation on hard-to-heal ulcers in frail older adults”
12:30-14:00	LUNCH

PARALLEL SESSIONS 14:00-15:30	APMAS & GENERA ARISTO Chairperson: Mehmet Emre Aköz 14:00-14:20 Mehmet Emre Aköz Gebze Technical University, Turkey ID3065- Tailoring Magnetic Coupling in Co/Cu/Co Synthetic Antiferromagnets through Pt Interface Engineering 14:20-14:50 Tatiana Kuzmicheva Lebedev Physical Institute RAS, Russian Federation (invited speaker) ID3029- Crystal growth, transport phenomena, and superconducting properties of K and Cs-based ferroselenides 14:50-15:10 Fanyana Mtunzi Vaal University of Technology, South Africa ID2954- Phytogenic TiO₂–biochar nanocomposite derived from Prunus dulcis for enhanced Rhodamine B removal from aqueous systems 15:10-15:30 Agnes Pholosi Vaal University of Technology, South Africa ID2996- Synthesis of magnetite (Fe₃O₄) nanoparticles functionalised with cyclodextrin via polydopamine coating for the remediation of tetracycline and ciprofloxacin from aqueous solution
	15:30-16:00 COFFEE BREAK
	16:00-17:00 FOYER (Poster Session Area) Chairperson: A. Yavuz Oral POSTER SESSION II APMAS & GENERA

PROGRAM SUNDAY, OCTOBER 18, 2026	
APMAS & GENERA	
PLENARY SESSION 09:45-10:30	Chairperson: Ersin Kayahan Zahid Hasan Princeton University, USA “ID3042- New Frontiers in Topological Quantum Matter”

PLENARY SESSION 10:30-11:15	Chairperson: Ersin Kayahan Carl J. Boehlert Michigan State University, USA “ID33- Composition -Processing-Microstructure-Property Relationships of High Pressure Torsion Processed Zinc-Magnesium Alloys Targeted for Absorbable Biomedical Implant Applications”
11:15-11:45	COFFEE BREAK
PLENARY SESSION 11:45-12:30	Chairperson: Ersin Kayahan Tahir H. Tahirov Eppley Institute for Research in Cancer and Allied Diseases, Fred & Pamela Buffett Cancer Center, University of Nebraska Medical Center, USA “ID60- Mechanism of the Activation of HSV-1 DNA Replication”
12:30-14:00	LUNCH

PARALLEL SESSIONS 14:00-16:40	APMAS & GENERA ARISTO Chairperson: Carmen Tuca 14:00-14:30 Carmen Tuca National Institute for R&D in Physics and Nuclear Engineering, “Horia Hulubei”, IFIN-HH, Radioactive Waste Management Department (invited speaker) ID2973- Key elements on data digitalization methodology for radiological characterization of a Cyclotron U-120- type particle accelerator under decommissioning 14:30-15:00 Eduard Gevorkyan Moscow Witte University, Russia (invited speaker) ID3067- Strong Interaction of a Signal Transverse-Electric and Transverse-Magnetic Waves with a Periodically Modulated Wave of a Magnetodielectric Plate, Placed in a Waveguide 15:00-15:20 Bora Sener Yildiz Technical University, Turkiye ID2940- Evaluation of the Associated Yld2000-2d and Non-Associated Hill48 Models for the Description of Planar Anisotropy in a 1180 MPa Grade High-Strength Steel Sheet 15:20-15:40 Dagmar Merinska Tomas Bata University in Zlin, Czech Republic ID2989-The possibility of using recycled PVB in the mixture with PVC and fillers 15:40-16:10 Oksana Lastochkina Institute of Biochemistry and Genetics, Ufa Federal Research Centre, Russian Academy of Sciences, Russian Federation (invited speaker) ID40- Contribution of Endophytic Bacillus subtilis to Wheat Photosynthetic Performance and Growth Under Combined Drought, Salinity, and Heat 16:10-16:40 Imed Miraoui University of Gafsa, Tunisia (invited speaker) ID61- Natural Fibers for Sustainable Biocomposites: From Renewable Resources to Green Construction
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P R O G R A M	
MONDAY, OCTOBER 19, 2026	
APMAS & GENERA	
PLENARY SESSION 10:00-10:45	Chairperson: Ersin Kayahan Yousry El-Kassaby Faculty of Forestry and Environmental Stewardship, Canada “ID41- Tree Breeding: Transforming Sustainable Forest Management Through a Paradigm Shift”

10:45-11:15	COFFEE BREAK
PLENARY SESSION 11:15-12:00	Chairperson: Ersin Kayahan Alexandra Jerao Manitoba Agriculture, Canada “ID52- One Health in Action: Dog management and rabies prevention in northern Manitoba, Canada”
12:30-13:15	LUNCH
13:15-18:00	SOCIAL PROGRAM 13:15-18:00 GHOST TOWN & BLUE LAGOON <i>(Gathering at Congress registration desk)</i>

PROGRAM TUESDAY, OCTOBER 20, 2026	
	Leisure Time Liberty Hotels Lykia offers a premium leisure experience with extensive amenities and a stunning natural setting. The resort features a private beach, multiple swimming pools, an aquapark, diverse dining options, sports facilities, and a fully equipped spa and wellness centre. Combining comfort, entertainment, and relaxation, it provides an ideal atmosphere for guests seeking both tranquillity and active recreation throughout their stay.
12:00	<i>HOTEL CHECK OUT</i>

PROGRAM LEGEND DESCRIPTIONS	
ID-	APMAS 2026 oral presentations
ID-	GENERA 2026 oral presentations

POSTER PROGRAM

THURSDAY, OCTOBER 15, 2026

16:00-17:00

Chairperson: A. Yavuz Oral

APMAS

ID	TITLE	CONTACT AUTHOR
2942	Grading Of Magnetic Anisotropy and Engineering of Domain Wall Dynamics in Fe-Rich Microwires by Stress- Annealing	Valentina Zhukova
2926	Influence of Hydrothermal Carbonisation Temperature on Porous carbon Spheres Preparation	Ance Plavniece
2943	Microstructure and tip shape of crystals in Al-Si alloys	Liubov Toropova
2977	Clay-based Materials for Immobilization of Halide-containing Radioactive Waste	Anna Matveenko
2950	Overview of Research on Silicon Carbonitride Films Fabricated by Hot-wire Chemical Vapor Deposition	Akira IZUMI
2967	Design and Implementation of an OSDP-Native Electronic Handle Lock for Access Control Systems	Selahattin Mert Aydın
2956	AI Earthquake Detection Using MEMS Sensors for Smart Alarm Systems	Andac Kaya
2958	Fe and Ni removal efficiency from water by natural humic acids	Tomáš Bakalár
3037	Synthesis of potassium zeolites from obsidian and bauxite. Investigation on magnetic properties and ammonium removal efficiency	Antonio Lettino & Francesco Cavalcante
3050	Improvement of Hydrometallurgical Methods for Processing High-Silica Bauxite Raw Materials	Leila Imangaliyeva
3051	Hydrochemical Extraction of Scandium from Alumina Production Red mud	Alfiya Manapova
3052	Integrated Processing of Demetallized Slag for the Recovery of Rare Earth Elements and Titanium	Leila Imangaliyeva
3053	Production of Aluminate Solutions for Carbonation by Leaching Red Mud Sinter	Leila Imangaliyeva
3047	Fabrication of Antibacterial Copper Thin Films on Fibrous Substrates via DC Magnetron Sputtering	Bauyrzhan Maratuly
2959	Evaluation of the sorption capacity of zeolites in the removal of selected heavy metals from water	Henrieta Pavolová
3034	Fabrication of Maize Cob/CuS-PVA Nanocomposites for the Removal of Iron (III) Ions from Wastewater	Thokozani Xaba
2988	pH-Responsive Poly(ethylene terephthalate) Track-Etched Membranes for Water-Organic Emulsion Separation	Indira Muslimova
2975	Underfilm corrosion and stress corrosion cracking of metals and inhibition of these dangerous types of metal destruction by surface organosilicon micro- and nanolayers	Maxim Petrunin
3082	The Effect of HVOF Spraying Conditions on The Structure and Properties of High-Entropy CoCrFeNiMn Coatings	Nurmakhanbet Raisov
3074	Thermochromic switching and thermoelectric transport in Sn-doped VO2 thin films prepared by spray pyrolysis	Ardak Ainabayev

POSTER PROGRAM SATURDAY, OCTOBER 17, 2026 16:00-17:00 FOYER (Poster Session Area) Chairperson: A. Yavuz Oral POSTER SESSION II APMAS & GENERA		
ID	TITLE	CONTACT AUTHOR
2984	Stability and magnetic ordering near the antiphase boundary in Ni ₂ MnGa	František Máca
2928	Ultrafast subwavelength CVD-graphene nanoheater for the generation of broadband photoacoustic waves	Ales Mrzel
3006	Electrochemical deposition of nickel - boron composite coatings: the influence of bath composition with organic additives on surface morphology and tribological properties	Anna Gajewska-Midziałek
2960	Obtaining selected critical elements using deep eutectic solvents	Maria Kanuchova
2979	Energy Consumption Analysis of Hybrid and Electric Vehicles in Real Driving Cycles	Jacek Pielecha
3015	Antifibrotic Effects of Polyphenolic Extracts in an Experimental Model of Pulmonary Fibrosis	Zarina Shulgau
3008	Sensitivity of Laser Diffraction Sizing to Optical Parameters: A Comparative Study of Mie and Fraunhofer Scattering Models in Heterogeneous Media	Igaz Dusan & Viliam Bárek
2968	Biochar as a biomaterial for reducing the soil acidity: a long-term field study	Ján Horák
3018	Plant-Derived Exosome-Like Nanoparticles from Polyphenol-Rich Berries as Natural Nanocarriers for Quercetin Delivery	Nursultan Kalamov
3055	Symbolic Regression for Input Variable Selection and Sensitivity Analysis Plasma Torch	Jaroslav Frantik
2949	Numerical and experimental study of functional borates of the BaO–B ₂ O ₃ –BaF ₂ system	Tatyana Bekker
3017	Biomarker Panels Reflect the Development of Pulmonary Fibrotic Processes in Coal Miners	Alexandr Gulyayev
3016	Grape Polyphenol Concentrate Improves Oxidative Stress Markers in Coal Miners with Occupational Lung Disease Predictors	Sergazy Shynggys
2951	Accentuated Adsorption of Cu ²⁺ and Pb ²⁺ from Aqueous Solution Using Activated Macadamia Nutshell	Mokete Phele
3049	Synthesis and properties of castor oil-based non-isocyanate polyurethane films	SangBum Kim
2980	Non-Intrusive Assessment of Efficiency of Fuel Cell in FCHEV in Real Driving Conditions	Piotr Pielecha
2981	Research on a hybrid rail vehicle in terms of energy consumption and ecology	Lukasz Rymaniak
2978	Electronic and Magnetic Anisotropy in Ba _{1-x} K _x Fe ₂ As ₂ Single Crystals: An Angular- Dependent NRMA and DFT Study	Tshiwela Caroline Ramashitja

2933	Co-Au core shell nano particles: Microwave Absorption and Bio-ReRAM	Tebogo Mahule
3071	Development and Characterization of Plane Tree Leaf-Derived Porous Carbon for Supercapacitor Electrode Applications	Seda Kol
58	Endophyte-Induced Root Architectural Remodeling Drives Genotype-Specific Zn/Fe Biofortification In Wheat Under High-Moisture Field Conditions	Liudmila Pusenkova
66	Prospects For the Application of Chlorella Vulgaris as a Biologically Active Feed Additive and Biofertilizer	Zhanar Kassymova & Lazzyat Orazzhanova