

INTERM 2022
**9th INTERNATIONAL CONGRESS ON MICROSCOPY &
SPECTROSCOPY**

BIOMATSEN 2022
**7th INTERNATIONAL CONGRESS ON BIOMATERIALS &
BIOSENSORS**

NANOMACH 2022
**3rd INTERNATIONAL CONFERENCE ON NANOMATERIALS,
NANOFABRICATION AND NANOCHARACTERIZATION**

INTERPHOTONICS 2022
**4th INTERNATIONAL CONFERENCE ON PHOTONICS
RESEARCH**

APRIL 22-28, 2022

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

TENTATIVE PROGRAM WEDNESDAY, APRIL 20, 2022	
<i>14:00-23:30</i>	REGISTRATION FOR EARLY ARRIVALS (14:00 Check-in)

TENTATIVE PROGRAM THURSDAY, APRIL 21, 2022	
<i>9:00-23:30</i>	REGISTRATION (14:00 Check-in)
<i>Everyday Tours</i>	SOCIAL PROGRAM <ul style="list-style-type: none">• <i>Saklıkent Jeep Safari</i>• <i>Paragliding in Oludeniz</i>

TENTATIVE PROGRAM

FRIDAY, APRIL 22, 2022

INTERM & BIOMATSEN & NANOMACH & INTERPHOTONICS

HALL 1

OPENING SESSION 10:00-10:15	<p>Chairperson: A.Yavuz Oral</p> <p style="text-align: center;">OPENING CEREMONY A.Yavuz Oral</p>
PLENARY SESSION 10:15-11:00	<p>Chairperson: A.Yavuz Oral</p> <p style="text-align: center;">M. Alper Şahiner Seton Hall University, USA</p> <p style="text-align: center;"><i>“SiGe and ZnTe nanoparticles in CdS/CdTe: photovoltaic characteristics simulations and thin film laser deposition”</i></p>
11:00-11:30	COFFEE BREAK
PLENARY SESSION 11:30-12:15	<p>Chairperson: A.Yavuz Oral</p> <p style="text-align: center;">Roland H. Stauber University Medical Center of Mainz, Germany</p> <p style="text-align: center;"><i>“Targeting Cancer Chemotherapy Resistance by Precision Medicine Driven Nanomedicals”</i></p>

12:30-14:00	LUNCH	
PARALLEL SESSIONS 14:00-16:00	<p>INTERM & BIOMATSEN & NANOMACH & INTERPHOTONICS</p> <p>HALL 1</p> <p>Chairperson: Krzysztof Szymański</p> <p>14:00-14:30 Krzysztof Szymański University of Białystok, Poland <i>(Invited speaker)</i> INTERM ID590- Six decades of Mössbauer spectroscopy</p> <p>14:30-15:00 Tetiana Prikhna V. Bakul Institute for Superhard Materials of The National Academy of Sciences of Ukraine, Ukraine <i>(Invited Speaker)</i> INTERM ID593- Possibilities and Features of Auger Spectroscopy Studies of Nanostructures and Nanoinclusions In Composite Ceramic Bulk Materials, Coatings And Thin Films</p> <p>15:00-15:30 Mohammad A. Qasaimeh NYU Abu Dhabi, United Arab Emirates <i>(Invited Speaker)</i> INTERM ID619- Atomic Force Microscopy for Biomechanical Characterization of Cells and Membranes</p> <p>15:30-16:00 Rhiannon Heard Natural History Museum, London, UK <i>(Invited Speaker)</i> INTERM ID622-SEM/EDS That Is Out of This World! Enhancing Low Voltage Quantification for Extra Terrestrial Samples</p>	<p>INTERM & BIOMATSEN & NANOMACH & INTERPHOTONICS</p> <p>HALL 2</p> <p>Chairperson: Narjiss Akerzoul</p> <p>14:00-14:30 Narjiss Akerzoul International University of Rabat, Morocco <i>(Invited speaker)</i> INTERPHOTONICS ID601- Recurrent Aphthous Stomatitis Treated with Low Level Laser Therapy</p> <p>14:30-14:50 Narjiss Akerzoul International University of Rabat, Morocco INTERPHOTONICS ID602- Oral Papilloma Treated with Low Level Laser Therapy</p> <p>14:50-15:10 Junais Habeeb Morkath Kuwait College of Science and Technology, Kuwait <i>(Invited speaker)</i> INTERPHOTONICS ID599- Electric Field Enhancements in Ultrathin Plasmonic Gaps</p> <p>15:10-15:40 Christian Andreasen University of Copenhagen, Denmark <i>(Invited speaker)</i> INTERPHOTONICS ID622- Weed control with laser beams: An eco-friendly alternative to herbicides and mechanical weed control</p>

TENTATIVE PROGRAM							
SATURDAY, APRIL 23, 2022							
INTERM & BIOMATSEN & NANOMACH & INTERPHOTONICS							
HALL 1							
PLENARY SESSION 10:00-10:45	<p>Chairperson: A.Yavuz Oral</p> <p style="text-align: center;">Cengiz S. Ozkan University of California Riverside, USA</p> <p style="text-align: center;"><i>“Materials Design for Energy Storage”</i></p>						
10:45-11:00	COFFEE BREAK						
PARALLEL SESSIONS 11:00-12:30	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center; width: 50%;">INTERM & BIOMATSEN & NANOMACH & INTERPHOTONICS</th> <th style="text-align: center; width: 50%;">INTERM & BIOMATSEN & NANOMACH & INTERPHOTONICS</th> </tr> <tr> <th style="text-align: center;">HALL 1</th> <th style="text-align: center;">HALL 2</th> </tr> </thead> <tbody> <tr> <td> <p>Chairperson: Marek Godlewski</p> <p>11:00-11:30 Marek Godlewski Institute of Physics, Polish Academy of Sciences, Poland <i>(Invited speaker)</i> BIOMATSEN ID405-Thin films of oxides grown by Atomic Layer Deposition for medical application</p> <p>11:30-12:00 John Hardy Lancaster University, UK <i>(Invited speaker)</i> BIOMATSEN ID405- Stimuli-responsive biomaterials for drug delivery, tissue engineering and regenerative medicine</p> <p>12:00-12:30 Agata Krywko-Cendrowska Univeristy of Basel, Switzerland <i>(Invited speaker)</i> BIOMATSEN ID440- Biosensors based on amphiphilic triblock copolymers self-assembled via morphology-induced immobilization of biomolecules</p> </td> <td> <p>Chairperson: Oleg Boyarkine</p> <p>11:00-11:30 Oleg Boyarkine EPFL, Switzerland <i>(Invited Speaker)</i> INTERM ID614- Cold ion fragmentation spectroscopy-mass spectrometry for identification of isomeric carbohydrates and lipids</p> <p>11:30-12:00 Bulent Basol Active Layer Parametrics (ALP), USA <i>(Invited speaker)</i> INTERM ID579- Electrical Characterization of Semiconductor Films Through Depth Profiles Obtained by Differential Hall Effect Metrology (DHEM)</p> <p>12:00-12:30 Mustafa Kansiz Photothermal Spectroscopy Corp, USA <i>(Invited speaker)</i> INTERM ID616- Tri-modal (IR/Raman/Fluorescence) Optical-Photothermal Infrared (O-PTIR) Spectroscopy & Imaging – Advances in Spatial Resolution & Measurements in Water</p> </td> </tr> </tbody> </table>	INTERM & BIOMATSEN & NANOMACH & INTERPHOTONICS	INTERM & BIOMATSEN & NANOMACH & INTERPHOTONICS	HALL 1	HALL 2	<p>Chairperson: Marek Godlewski</p> <p>11:00-11:30 Marek Godlewski Institute of Physics, Polish Academy of Sciences, Poland <i>(Invited speaker)</i> BIOMATSEN ID405-Thin films of oxides grown by Atomic Layer Deposition for medical application</p> <p>11:30-12:00 John Hardy Lancaster University, UK <i>(Invited speaker)</i> BIOMATSEN ID405- Stimuli-responsive biomaterials for drug delivery, tissue engineering and regenerative medicine</p> <p>12:00-12:30 Agata Krywko-Cendrowska Univeristy of Basel, Switzerland <i>(Invited speaker)</i> BIOMATSEN ID440- Biosensors based on amphiphilic triblock copolymers self-assembled via morphology-induced immobilization of biomolecules</p>	<p>Chairperson: Oleg Boyarkine</p> <p>11:00-11:30 Oleg Boyarkine EPFL, Switzerland <i>(Invited Speaker)</i> INTERM ID614- Cold ion fragmentation spectroscopy-mass spectrometry for identification of isomeric carbohydrates and lipids</p> <p>11:30-12:00 Bulent Basol Active Layer Parametrics (ALP), USA <i>(Invited speaker)</i> INTERM ID579- Electrical Characterization of Semiconductor Films Through Depth Profiles Obtained by Differential Hall Effect Metrology (DHEM)</p> <p>12:00-12:30 Mustafa Kansiz Photothermal Spectroscopy Corp, USA <i>(Invited speaker)</i> INTERM ID616- Tri-modal (IR/Raman/Fluorescence) Optical-Photothermal Infrared (O-PTIR) Spectroscopy & Imaging – Advances in Spatial Resolution & Measurements in Water</p>
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12:30-13:30	LUNCH						
13:30-18:00	<p style="text-align: center;">SOCIAL PROGRAM</p> <p style="text-align: center;">13:15-18:00 THE BOAT CRUISE AROUND EXCELLENT BAYS OF BLUE LAGOON & VISIT TO St. NICHOLAS ISLAND</p> <p style="text-align: center;"><i>(Gathering at Congress registration desk)</i></p>						

TENTATIVE PROGRAM

SUNDAY, APRIL 24, 2022

INTERM & BIOMATSEN & NANOMACH & INTERPHOTONICS

HALL 1

PLENARY SESSION 10:00-10:45	Chairperson: A.Yavuz Oral Thomas Webster Northeastern University, USA <i>"Green Biomaterials: Saving Lives and the Environment"</i>
10:45-11:00	COFFEE BREAK
PARALLEL SESSIONS 11:00-12:40	<p style="text-align: center;">INTERM & BIOMATSEN & NANOMACH & INTERPHOTONICS</p> <p style="text-align: center;">HALL 1</p> <p>Chairperson: Valeri Ligatchev</p> <p>11:00-11:30 Gulsah Congur Bilecik Şeyh Edebali University, Turkey (Invited speaker) BIOMATSEN ID426-Monitoring of Phenol Biosorption by Using a Disposable Electrochemical Sensor Platform</p> <p>11:30-12:00 Valeri Ligatchev N/A, Singapore (Invited speaker) NANOMACH ID760-Anharmonic Lattice Thermal Capacity and Size-Dependent Melting Temperature of Square Graphene Nano-Flakes</p> <p>12:00-12:20 Emilia Visileanu The National Research and Development Institute for Textiles and Leather, Romania NANOMACH ID748-Characteristics of plastic particles in the industrial environment</p> <p>12:20-12:40 Xinying Liu University of South Africa, South Africa NANOMACH ID773-Ethene Hydroformylation using Rh-Co Bimetallic catalyst supported by Reduced Graphene Oxide</p>
12:40-14:00	LUNCH

	INTERM & BIOMATSEN & NANOMACH & INTERPHOTONICS
	HALL 1
PARALLEL SESSIONS 14:00-16:00	<p>Chairperson: Malgorzata Gil-Kowalczyk</p> <p>14:00-14:30 Malgorzata Gil-Kowalczyk Maria Curie-Sklodowska University, Poland <i>(Invited speaker)</i> INTERPHOTONICS ID598- Designing Hybrid Materials with Properties Suitable for Optical Fiber Technology</p> <p>14:30-14:50 Masayuki Itoh Tokyo University of Technology, Japan INTERPHOTONICS ID612-HIGH Optical Confinement Waveguides for High-Speed Wide-Bandwidth Data Transmission and Healthcare Data Transmission for Future Networks</p> <p>14:50-15:10 Roman Parkhomenko CIC NanoGUNE, Spain INTERPHOTONICS ID607-Spasers in the near infrared</p> <p>15:10-15:30 Andrzej Kolek Rzeszów University of Technology, Poland INTERPHOTONICS ID610-Numerical Optimization of Gain Region in Dual Upper State Quantum Cascade Laser</p> <p>15:30-16:00 SVETLANA JOVANOVIC Vinca Institute of Nuclear Sciences, Serbia <i>(Invited speaker)</i> INTERPHOTONICS ID608- Graphene Quantum Dots - From Chemistry to Application in Photodynamic Therapy</p>
16:00-16:15	COFFEE BREAK
16:15-18:00	<p>FOYER (Poster Session Area)</p> <p>Chairperson: A. Yavuz Oral</p> <p>POSTER SESSION</p> <p>INTERM & BIOMATSEN & NANOMACH & INTERPHOTONICS</p>

TENTATIVE PROGRAM		
MONDAY, APRIL 25, 2022		
PARALLEL SESSIONS 10:00-12:20	INTERM & BIOMATSEN & NANOMACH & INTERPHOTONICS	INTERM & BIOMATSEN & NANOMACH & INTERPHOTONICS
	HALL 1	HALL 2
	<p>Chairperson: Fumin Huang</p> <p>10:00-10:30 Fumin Huang Queen's University Belfast, UK <i>(Invited speaker)</i> NANOMACH ID755- Gold-Assisted Exfoliation of Extraordinarily Large-Size Monolayer Crystals of Two-Dimensional Materials</p> <p>11:00-11:20 Andrei Maksimov Cherepovets State University, Russian Federation NANOMACH ID734-Study of swelling and softening effects in lithium-ion battery separators in electrolyte solvents</p> <p>11:20-11:40 Olga Maksimova Cherepovets State University, Russian Federation</p>	<p>Chairperson: Filipe Mergulhao</p> <p>10:00-10:30 Filipe Mergulhao FEUP, Portugal <i>(Invited speaker)</i> INTERM ID596-Using Microscopy to Assess the Effects of Surface Properties and Culture Medium During Recombinant Protein Production in Biofilms</p> <p>10:30-11:00 Leonid Kulik Institute of Solid-State Physics Russian Academy of Sciences, Russian Federation <i>(Invited speaker)</i> INTERM ID620- Optical spectroscopy of neutral excitations in Laughlin liquids</p> <p>11:00-11:30 Eugene Bukhanov Kirensky Institute of Physics FRC «KSC of SB RAS», Russian Federation</p>

	<p>NANOMACH ID735- Investigation of the influence of the molecular structure in polymer coatings on its optical properties</p> <p>11:40-12:00 Shivani Shisodia Université du Littoral Côte d'Opale, France</p> <p>NANOMACH ID775- Study of Thermoelectric Performances in Thin-Films vs Bulk Pellets</p> <p>12:00-12:20 Haseeb Khan King Saud University, Saudi Arabia</p> <p>NANOMACH ID772- Complement activation and inflammatory cytokine response by iron oxide nanoparticles</p>	<p>(Invited speaker) INTERPHOTONICS ID611- Influence of growth environment on structural and optical characteristics of barley</p> <p>11:30-11:50 Daria Derusova Tomsk Polytechnic University, Russian Federation</p> <p>INTERPHOTONICS ID582-Air-coupled scanning laser Doppler vibrometry imaging of acoustic waves generated by a gas discharge emitter</p> <p>11:50-12:20 Olga Pechanova Slovak Academy of Sciences, Slovakia</p> <p>(Invited speaker) BIOMATSEN ID417- Protective Effects of Aliskiren-loaded Polymeric Nanoparticles on Cardiovascular System in Experimental Hypertension</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>(Gathering at Congress registration desk)</p>	

TENTATIVE PROGRAM		
TUESDAY, APRIL 26, 2022		
INTERM & BIOMATSEN & NANOMACH & INTERPHOTONICS		
HALL 1		
PLENARY SESSION 10:00-10:45	<p>Chairperson: A.Yavuz Oral</p> <p style="text-align: center;">Mihri Ozkan University of California Riverside, USA</p> <p style="text-align: center;"><i>"Multifunctional Materials for Mitigating Environmental Problems"</i></p>	
10:45-11:00	COFFEE BREAK	
PARALLEL SESSIONS 11:00-12:30	<p style="text-align: center;">INTERM & BIOMATSEN & NANOMACH & INTERPHOTONICS</p> <p style="text-align: center;">HALL 1</p> <p>Chairperson: Valeri Barsegov</p> <p>11:00-11:30 Valeri Barsegov University of Massachusetts, USA (Invited speaker) INTERM ID618-Dynamic Force Spectroscopy in silico: exploring strength, deformability and toughness of biological particles</p> <p>11:30-12:00 Mehmet Emin ŞEKER Giresun University, Turkey (Invited speaker) INTERM ID598- A Novel Approach to Sample Preparation Techniques for Bioactive Compounds</p> <p>12:00-12:30 Simona Rada Technical University of Cluj-Napoca, Romania (Invited speaker) INTERM ID583- Structure of silica-yttria-zirconia advanced bioceramics doped with metal oxides</p>	<p style="text-align: center;">INTERM & BIOMATSEN & NANOMACH & INTERPHOTONICS</p> <p style="text-align: center;">HALL 2</p> <p>Chairperson: Luminita Marin</p> <p>11:00-11:30 Luminita Marin "Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania (Invited speaker) BIOMATSEN ID434- Chitosan imination: an opportunity towards biomaterials with broad application spectrum</p> <p>11:30-12:00 Tukayi Kudanga Durban University of Technology, South Africa (Invited speaker) BIOMATSEN ID435- Laccases in biocatalysis and modification of biomaterials</p> <p>12:00-12:30 Juska Vušlat Tyndall National Institute, Ireland (Invited speaker) BIOMATSEN ID433-Micro/Nanoarchitectures integrated silicon microtechnologies based sensing applications</p>

12:30-14:00	LUNCH	
PARALLEL SESSIONS 14:00-15:50	<p style="text-align: center;">INTERM & BIOMATSEN & NANOMACH & INTERPHOTONICS</p> <p style="text-align: center;">HALL 1</p> <p>Chairperson: Denis Kouamé</p> <p>14:00-14:30 Denis Kouamé Université Toulouse III, IRT, France <i>(Invited speaker)</i> INTERM ID632-New advances in image processing</p> <p>14:30-15:00 Mario Marchetti Université Gustave Eiffel - MAST - FM2D, France <i>(Invited speaker)</i> INTERM ID586-Implementation of Raman spectroscopy to civil engineering materials</p> <p>15:00-15:30 Adam Sweetman University of Leeds, UK <i>(Invited speaker)</i> INTERM ID623- Recent advances in the study of molecular and 2D systems using non-contact atomic force microscopy</p>	<p style="text-align: center;">INTERM & BIOMATSEN & NANOMACH & INTERPHOTONICS</p> <p style="text-align: center;">HALL 2</p> <p>Chairperson: Arkady Zhukov</p> <p>14:00-14:30 Arkady Zhukov University of Basque Country and Ikerbasque, Spain <i>(Invited speaker)</i> BIOMATSEN ID413-Advanced functional magnetic microwires for magnetic sensors suitable for bio-medical applications</p> <p>14:30-15:00 Marek Wiśniewski Nicolaus Copernicus University in Toruń, Poland <i>(Invited speaker)</i> NANOMACH ID780- Nanomaterials as catalysts for non-thermal plasma-assisted CO2 reduction to valuable compounds</p> <p>15:00-15:20 Merve Kubra Aktan KU Leuven, Belgium BIOMATSEN ID416- Studies on Characteristics, Antimicrobial Behaviour and Cell Viability of DNase I Coated Titanium Surfaces via Alternating Current Electrophoretic Deposition</p> <p>15:20-15:50 Shirley Knauer University of Duisburg-Essen, Germany <i>(Invited speaker)</i> NANOMACH ID786-Nano and beyond: Targeting protein hot spots on the cancer-relevant protein Surviving by supramolecular ligands</p>

TENTATIVE PROGRAM
WEDNESDAY, APRIL 27, 2022

INTERM & BIOMATSEN & NANOMACH & INTERPHOTONICS

HALL 1

Chairperson: **Ana Silva**

10:00-10:30

Ana Silva

I3N - University of Aveiro, Portugal

(Invited speaker)

INTERM ID612- X-ray fluorescence spectroscopy and imaging analysis using gaseous detectors

10:30-11:00

Pawel Weronski

J. Haber Institute of Catalysis and Surface Chemistry, Polish Academy of Sciences, Poland

(Invited speaker)

INTERM ID627- Spectral analysis of the image of random monolayer

11:00-11:20

Cieslar Miroslav

Charles University, Faculty of Mathematics and Physics, Czech Republic

INTERM 568- Precipitation in Al-Li-based alloy studied by in-situ TEM

11:20-11:40

Lucia Bajtošová

Charles University, Faculty of Mathematics and Physics, Czech Republic

INTERM 569- High-temperature transformations in Al-Li-based alloy studied by ACOM-TEM during in-situ heating

11:40-12:10

Heinz Wilhelm Siesler

University of Duisburg-Essen, Germany

(Invited speaker)

INTERM ID591- On-Site Quality Control and Protection against Product Counterfeiting by Handheld Vibrational Spectrometers: Anywhere and Anytime

PARALLEL SESSIONS 10:00-12:10

12:30-
13:30

LUNCH

13:30-
18:00

SOCIAL PROGRAM

13:15-18:00 FETHIYE CITY TOUR & THE ROCK TOMBS

(Gathering at Congress registration desk)

TENTATIVE PROGRAM
THURSDAY, APRIL 28, 2022

INTERM & BIOMATSEN & NANOMACH & INTERPHOTONICS

HALL 1

Chairperson: **Wolfgang Werner**

10:30-11:00

Wolfgang Werner

TU Vienna, Austria

(Invited speaker)

INTERM ID611- Low energy electron emission from surfaces, 2D-Materials formation of 2-D electron cascade in the STM-field emission regime

11:00-11:30

Alexander Khmaladze

SUNY at Albany, USA

(Invited speaker)

INTERM ID621- The study of cell death mechanisms by Raman and transport of intensity phase-imaging techniques

PARALLEL SESSIONS 10:30-11:30

12:00	Hotel Check Out
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<i>PROGRAM LEGEND DESCRIPTIONS</i>	
ID-	INTERM 2022 oral presentations
ID-	BIOMATSEN 2022 oral presentations
ID-	NANOMACH 2022 oral presentations
ID-	INTERPHOTONICS 2022 oral presentations