

**INTERM 2024**  
**11<sup>th</sup> INTERNATIONAL CONGRESS ON MICROSCOPY &  
SPECTROSCOPY**

**BIOMATSEN 2024**  
**9<sup>th</sup> INTERNATIONAL CONGRESS ON BIOMATERIALS &  
BIOSENSORS**

**NANOMACH 2024**  
**5<sup>th</sup> INTERNATIONAL CONFERENCE ON NANOMATERIALS,  
NANOFABRICATION AND NANOCHARACTERIZATION**

**INTERPHOTONICS 2024**  
**6<sup>th</sup> INTERNATIONAL CONFERENCE ON PHOTONICS  
RESEARCH**

**SEMIMATER 2024**  
**SEMICONDUCTOR MATERIALS & DEVICE PHYSICS  
CONFERENCE**

**APRIL 18-24, 2024**

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

<b>TENTATIVE PROGRAM</b> <b>TUESDAY, APRIL 16, 2024</b>	
<b>14:00-16:30</b>	<b>REGISTRATION FOR EARLY ARRIVALS</b> <b>(14:00 Check-in)</b>

<b>TENTATIVE PROGRAM</b> <b>WEDNESDAY, APRIL 17, 2024</b>	
<b>9:00-16:30</b>	<b>REGISTRATION</b>

	<b>(14:00 Check-in)</b>
Everyday Tours	<b><i>SOCIAL PROGRAM</i></b> <ul style="list-style-type: none"> <li>• <i>Saklıkent Jeep Safari</i></li> <li>• <i>Paragliding in Oludeniz</i></li> </ul>

<b><i>TENTATIVE P R O G R A M</i></b> <b><i>THURSDAY, APRIL 18, 2024</i></b>	
INTERM & <b>BIOMATSEN</b> & <b>NANOMACH</b> & <b>INTERPHOTONICS</b> & <b>SEMIMATER</b>	
HALL 1	
<b>PLENARY SESSION</b> 09:45-10:30	Chairperson: <b>A.Yavuz Oral</b>  <div> <b>Thomas Webster</b>   Hebei University of Technology, Tianjin, China and Interstellar Therapeutics, Mansfield, MA USA   <b>“ID497- A Real BandAid™: Incorporating Artificial Intelligence (AI) into Biomaterials, Nanotechnology, Sensors, and Medicine”</b> </div>
<b>PLENARY SESSION</b> 10:30-11:15	Chairperson: <b>A.Yavuz Oral</b>  <div> <b>Hideaki Shirota</b>   Chiba University, Japan   <b>“ID716- Probing the Intermolecular Vibrations and Reorientation in Liquids and Solutions by Femtosecond Raman-Induced Kerr Effect Spectroscopy”</b> </div>
11:15-11:45	<b>COFFEE BREAK</b>
<b>PLENARY SESSION</b> 11:45-12:30	Chairperson: <b>A.Yavuz Oral</b>  <div> <b>Alper Sahiner</b>  Seton Hall University, USA   <b>“xxxxxxx”</b> </div>

12:30-14:00	<b>LUNCH</b>		
<b>PARALLEL SESSIONS</b> 14:00-16:30	<div> <b>INTERM</b>   <b>HALL 1</b>   Chairperson: <b>Sergey Katsyuba</b>   14:00-14:30  <b>Sergey Katsyuba</b>  Arbuzov Institute of Organic and Physical Chemistry, Russian Federation  <i>(invited speaker)</i>  <b>ID723-</b> Clarifying structure of aqueous solutions by computationally supported spectral analysis   14:30-15:00 </div>	<div> <b>BIOMATSEN &amp; NANOMACH</b>   <b>HALL 2</b>   Chairperson: <b>Ewa Mijowska</b>   14:00-14:30  <b>Ewa Mijowska</b>  West Pomeranian University of Technology, Poland  <i>(invited speaker)</i>  <b>ID842-</b> Borophene as bifunctional electrocatalyst for electrochemical water decomposition (HER/OER) </div>	<div> <b>INTERPHOTONICS &amp; SEMIMATER</b>   <b>HALL 4</b>   Chairperson: <b>Ersin Kayahan</b>   14:00-14:30  <b>Hendrik C Swart</b>  University of the Free State, South Africa  <i>(invited speaker)</i>  <b>ID683-</b>Laser-induced heating decimated luminescence nanothermometry using robust </div>

	<p><b>Oleksandr Kryshstal</b> AGH University of Krakow, Poland (invited speaker) ID728- Examination of phase transformations in single metal and alloy nanoparticles by in situ valence electron energy loss spectroscopy</p> <p>15:00-15:30 <b>Monica Baia</b> Babes-Bolyai University, Romania (invited speaker) ID756- VIBRATIONAL SPECTROSCOPIC INVESTIGATIONS ON PHARMACEUTICALS</p> <p>15:30-16:00 <b>Lucian Baia</b> Babes-Bolyai University, Romania (invited speaker) ID755- Bioactive glasses/glass-ceramics/metal nanoparticles based composites for tissue engineering applications</p>	<p>14:30-14:50 <b>Olga D. Hendrickson</b> Research Center of Biotechnology of the Russian Academy of Sciences, Russian Federation ID506-Application of nanozymes in lateral flow test systems for food control</p>	<p>LaOF:Yb3+, Er3+ upconversion nanophosphors</p> <p>14:30-15:00 <b>Yia-Chung Chang</b> National Cheng-Kung University, Taiwan (invited speaker) ID15-Modeling Carbon-Based Nanostructures and Devices: A Comprehensive Approach</p> <p>15:00-15:20 <b>Khafiz Salikhov</b> Tatarstan Academy of Sciences, Russian Federation ID705- OPTO-ELECTRONIC SENSOR OF HYDROGEN</p> <p>15:20-15:40 <b>Waldemar Swiderski</b> Military Institute of Armament Technology, Poland ID680- A new method for measuring the flux density of terahertz radiation</p>
19:30-21:30	<p><b>DINNER WITH ALL PLENARY SPEAKERS</b></p> <p>(INTERM &amp; BIOMATSEN &amp; NANOMACH &amp; INTERPHOTONICS &amp; SEMIMATER)</p>		

<b>TENTATIVE PROGRAM</b> <b>FRIDAY, APRIL 19, 2024</b>	
INTERM & BIOMATSEN & NANOMACH & INTERPHOTONICS & SEMIMATER	
HALL 1	
<b>PLENARY SESSION</b> 10:00-11:15	<p>Chairperson: <b>A.Yavuz Oral</b></p> <p><b>Kazuo Umemura</b></p> <p>Tokyo University of Science, Japan</p> <p>“ID493- Enzyme and carbon nanotube devices using floatable diatom frustules as a nanoporous silica”</p>
11:15-11:45	<b>COFFEE BREAK</b>
<b>PLENARY SESSION</b> 11:45-12:30	<p>Chairperson: <b>A.Yavuz Oral</b></p> <p><b>XXX</b></p> <p>“xxx”</p>
12:30-13:15	<b>LUNCH</b>

13:15-18:00	<p><b><i>SOCIAL PROGRAM</i></b></p> <p>13:15-18:00 <b><i>GHOST TOWN &amp; BLUE LAGOON</i></b></p> <p><b><i>(Gathering at Congress registration desk)</i></b></p>
19:30-21:30	<p><b><i>DINNER WITH BIOMATSEN INVITED SPEAKERS</i></b></p>

<p><b><i>TENTATIVE PROGRAM</i></b></p> <p><b><i>SATURDAY, APRIL 20, 2024</i></b></p>	
<p>INTERM &amp; BIOMATSEN &amp; NANOMACH &amp; INTERPHOTONICS &amp; SEMIMATER</p>	
<p>HALL 1</p>	
<p>PLENARY SESSION</p> <p>10:30-11:15</p>	<p>Chairperson: <b>A.Yavuz Oral</b></p> <p><b>Günther Rupprechter</b> TU Wien, Austria</p> <p>“ID843- Observing nanostructures and reactants during catalysis by correlative surface microscopy”</p>
<p>11:15-11:45</p>	<p><b>COFFEE BREAK</b></p>
<p>PLENARY SESSION</p> <p>11:45-12:30</p>	<p>Chairperson: <b>A.Yavuz Oral</b></p> <p><b>Alexander Khmaladze</b> SUNY at Albany, USA</p> <p>“ID713- 3D Imaging and Spectroscopy of Complex Biological Systems at the Sub-Cellular, Cellular and Multicellular Levels”</p>
<p>12:30-14:00</p>	<p><b>LUNCH</b></p>

<div>PARALLEL SESSIONS</div> <div>14:00-16:30</div>	<div>INTERM</div> <div>HALL 1</div> <p>Chairperson: <b>Daniela Djikanovic</b></p> <p>14:00-14:30  <b>Daniela Djikanovic</b>  University of Belgrade, Serbia  (invited speaker)  <b>ID726-</b> Microscopic and spectroscopic monitoring of silicon influence on lignin synthesis. Implications for plant cell wall properties</p> <p>14:30-15:00  <b>Xiping Guo</b>  Northwestern Polytechnical University, China  (invited speaker)  <b>ID731-</b> Preparation and Oxidation Resistance of Silicide Coating on Tungsten Substrate</p> <p>15:00-15:30  <b>Hiromitsu Nakajima</b>  Saitama University, Japan  (invited speaker)  <b>ID735-</b> Analyses of iron species, metals, and pigments in the iron-hyperaccumulator moss <i>Scopelophila ligulata</i></p> <p>15:30-15:50  <b>Ping Guan</b>  Northwestern Polytechnical University, China  <b>ID724-</b>Preparation of Ionic Liquid Electrolyte Suitable for Low Temperature Environment and Its Lithium Ion Battery</p>	<div>BIOMATSEN &amp; NANOMACH</div> <div>HALL 2</div> <p>Chairperson: <b>Marek Godlewski</b></p> <p>14:00-14:30  <b>Marek Godlewski</b>  Polish Academy of Sciences, Poland  (invited speaker)  <b>ID485-</b> ZnO-BASED MARKERS ACTIVATED WITH RARE EARTH IONS FOR THERANOSTIC APPLICATIONS</p> <p>14:30-15:00  <b>MERUYERT NAZHIPKYZY</b>  Satbayev University, Kazakhstan  (invited speaker)  <b>ID881-</b> BIOMASS-DERIVED ACTIVATED CARBONS FOR ELECTROCHEMICAL ELECTRODES</p> <p>15:00-15:30  <b>Sanjairaj Vijayavenkataraman</b>  New York University Abu Dhabi, UAE  (invited speaker)  <b>ID513-</b> 3D bioprinting: Challenges in Commercialization and Clinical Translation</p>
<div>19:30-21:30</div>	<b>DINNER WITH <i>INTERPHOTONICS INVITED SPEAKERS</i></b>	

<div><b>TENTATIVE PROGRAM</b></div> <div><b>SUNDAY, APRIL 21, 2024</b></div>	
<div>INTERM &amp; BIOMATSEN &amp; NANOMACH &amp; INTERPHOTONICS &amp; SEMIMATER</div>	
	<div>HALL 1</div>
<div>PLENARY SESSION</div> <div>10:30-11:15</div>	<p>Chairperson: <b>Ersin Kayahan</b></p> <p><b>My Ali El Khakani</b>  INRS, University of Quebec, Canada</p> <p><b>ID14-</b> Photosensitizing materials via their decoration with pulsed-laser-deposited nanoparticles”</p>
<div>11:15-11:45</div>	<b>COFFEE BREAK</b>

PLENARY SESSION 11:45-12:30	Chairperson: <b>A.Yavuz Oral</b>  <div>XXX</div> <div>“xxx”</div>			
12:30-14:00	<b>LUNCH</b>			
PARALLEL SESSIONS 14:00-16:00	<b>INTERM</b>  <b>HALL 1</b>  Chairperson: <b>Antony Ali ASSAF</b>  14:00-14:30 <b>Antony Ali ASSAF</b> Nantes Université, France <i>(invited speaker)</i> <b>ID720-</b> Raman spectroscopy applied on living samples: Monitoring of algal cells production in photobioreactors  14:30-15:00 <b>Urška Gradišar Centa</b> University of Ljubljana, Slovenia <i>(invited speaker)</i> <b>ID750-</b> Characterization of composite materials  15:00-15:30 <b>Holger Klein</b> CNRS, France <i>(invited speaker)</i> <b>ID758-</b> Going to extremely low doses: electron crystallography with the dose-symmetric electron diffraction tomography	<b>BIOMATSEN</b>  <b>HALL 2</b>  Chairperson: <b>Arcady Zhukov</b>  14:00-14:30 <b>Arcady Zhukov</b> University of Basque Country, Spain <i>(invited speaker)</i> <b>ID494-</b> DEVELOPMENT OF SMART COMPOSITES WITH FERROMAGNETIC MICROWIRES  14:30-15:00 <b>Anil Koklu</b> ASELSAN, Turkiye <i>(invited speaker)</i> <b>ID491-</b> Detection of disease biomarkers via electrical and fluorescence-based biosensors  15:00-15:30 <b>Olga Pechanova</b> Slovak Academy of Sciences, Slovakia <i>(invited speaker)</i> <b>ID490-</b> Simvastatin- and coenzyme-Q10-loaded polymeric nanoparticles increased nitric oxide synthase activity via the Akt-eNOS pathway in obese Zucker rats	<b>NANOMACH</b>  <b>HALL 3</b>  Chairperson: <b>Josep Nogues</b>  14:00-14:30 <b>Josep Nogues</b> Catalan Institute of Nanoscience and Nanotechnology (ICN2), Spain <i>(invited speaker)</i> <b>ID876-</b> Anisometric Fe3O4 nanoparticles as versatile theranostic agents  14:30-14:50 <b>Jacek Podwórny</b> Łukasiewicz Research Network-Institute of Ceramics and Building Materials, Poland <b>ID910-</b> Phase transformation in Ag-TiO2 nanocomposites  14:50-15:10 <b>Anna Pajor-Świerzy</b> Jerzy Haber Institute of Catalysis and Surface Chemistry Polish Academy of Sciences, Poland <b>ID856-</b> Fabrication of conductive coatings based on nickel@silver core@shell nanoparticles by low-temperature sintering methods	<b>INTERPHOTONICS &amp; SEMIMATER</b>  <b>HALL 4</b>  Chairperson: <b>Ersin Kayahan</b>  14:00-14:30 <b>Constantin Meis</b> CEA – Saclay, France <i>(invited speaker)</i> <b>ID678-</b> Quantized field of single photons. The photon electric field and the photon wave function.  14:30-15:00 <b>Tamara Basova</b> Siberian Branch of Russian Academy of Sciences, Russian Federation <i>(invited speaker)</i> <b>ID3-</b> Chemiresistive gas sensors based on metal phthalocyanines and their hybrid structures with metal nanoparticles  15:00-15:20 <b>Alena Zavadilová</b> Czech Technical University in Prague, Czech Republic <b>ID687-</b> Laser-induced breakdown spectroscopy of uranium in eye-safe area
19:30-21:30	<b>DINNER WITH NANOMACH INVITED SPEAKERS</b>			

<b>TENTATIVE PROGRAM</b> <b>MONDAY, APRIL 22, 2024</b>	
<b>INTERM &amp; BIOMATSEN &amp; NANOMACH &amp; INTERPHOTONICS &amp; SEMIMATER</b>	
<b>HALL 1</b>	
PLENARY SESSION 10:30-11.15	Chairperson: <b>A.Yavuz Oral</b>  <div>XXX</div> <div>“xxx”</div>

12:30-13:15	<b>LUNCH</b>
13:15-18:00	<b>SOCIAL PROGRAM</b>  <b>13:15-18:00 THE BOAT CRUISE AROUND EXCELLENT BAYS OF BLUE LAGOON &amp; VISIT TO St. NICHOLAS ISLAND</b>  <i>(Gathering at Congress registration desk)</i>
19:30-21:30	<b>DINNER WITH INTERM INVITED SPEAKERS</b>

<b>TENTATIVE PROGRAM</b> <b>TUESDAY, APRIL 23, 2024</b>	
<b>INTERM &amp; BIOMATSEN &amp; NANOMACH &amp; INTERPHOTONICS &amp; SEMIMATER</b>	
<b>PLENARY SESSION</b> 11:00-11:45	Chairperson: <b>A.Yavuz Oral</b>   <div>XXX</div> <div>“xxx”</div>
12:30-14:00	<b>LUNCH</b>

PARALLEL SESSIONS 14:00-17:00	<p style="text-align: center;"><b>INTERM &amp; NANOMACH</b></p> <p style="text-align: center;"><b>HALL 1</b></p> <p>Chairperson: <b>Ovidiu Crisan</b></p> <p>14:00-14:30  <b>Ovidiu Crisan</b>  National Institute for Materials Physics, Romania  (invited speaker)  <b>ID893-</b> Magnetic Nanolayered Systems with THz Emission Properties</p> <p>14:30-14:50  <b>Karolina Dudek</b>  Łukasiewicz - Institute of Ceramics and Building Materials, Poland  <b>ID909-</b> Functionalization of the NiTi shape memory alloy surface by innovative hybrid coatings</p>	<p style="text-align: center;"><b>BIOMATSEN</b></p> <p style="text-align: center;"><b>HALL 2</b></p> <p>Chairperson: <b>Owen J Guy</b></p> <p>14:00-14:30  <b>Owen J Guy</b>  Swansea University, UK  (invited speaker)  <b>ID486-</b> Graphene and silicon chip technologies for biosensing applications</p> <p>14:30-15:00  <b>Vasa Radonic</b>  BioSense Institute, Serbia  (invited speaker)  <b>ID488-</b> INNOVATIONS IN GOLD ELECTRODE MANUFACTURING FOR COST-EFFECTIVE BIOSENSORS</p> <p>15:00-15:30  <b>Darya Alontseva</b>  D. Serikbayev East Kazakhstan Technical University, Kazakhstan  (invited speaker)  <b>ID511-</b> Enhancing the biocompatibility and bacteria resistance of 3D printed Ti6Al4V alloy endoprosthetic implants by applying Ta and Ta-Cu coatings</p> <p>15:30-15:50  <b>Daniel Gillard</b>  Swansea University, UK  <b>ID487-</b> Molecular Vapor Deposition (MVD) – for biosensing applications</p>
	17:00-17:30 <b>COFFEE BREAK</b>	
	17:30-18:30 <b>FOYER (Poster Session Area)</b>  Chairperson: A. Yavuz Oral  <b>POSTER SESSION</b>  INTERM & BIOMATSEN & NANOMACH & INTERPHOTONICS & SEMIMATER	

TENTATIVE PROGRAM WEDNESDAY, APRIL 24, 2024	
INTERM & BIOMATSEN & NANOMACH & INTERPHOTONICS & SEMIMATER	
HALL 1	



<div>PARALLEL SESSIONS 10:30-11:40</div>	<p>Chairperson: <b>Klimonsky Sergey</b></p> <p>10:30-11:00  <b>Klimonsky Sergey</b>  Lomonosov Moscow State University, Russian Federation  (invited speaker)  <b>ID685</b>- Stripe patterned photonic crystals: preparation and properties</p> <p>11:00-11:20  <b>Krzysztof Szczepanowicz</b>  Jerzy Haber Institute of Catalysis and Surface Chemistry, Poland  <b>ID860</b>- Theranostic nanocarriers to the central nervous system therapies</p> <p>11:20-11:40  <b>Klaudia Zielinkiewicz</b>  West Pomeranian University of Technology, Poland  <b>ID845</b>- Bulk scale fabrication of few-layered borophene - a combined strategy</p>
12:00	<b>Hotel Check Out</b>

PROGRAM LEGEND DESCRIPTIONS	
ID-	INTERM 2024 oral presentations
ID-	BIOMATSEN 2024 oral presentations
ID-	NANOMACH 2024 oral presentations
ID-	INTERPHOTONICS 2024 oral presentations
ID-	SEMIMATER 2024 oral presentations