

# BIOMED-2024 PROGRAM

FRIDAY: November 1, 2024

## OPENING CEREMONY

09:30-10:30	<b>Kocaeli University State Conservatory Turkish Music Department Concert</b> <b>Assoc. Prof. Dr. Nermin Demirkol</b> ( <i>Symposium Chair</i> ) <b>Prof. Dr. Y. Murat Elçin</b> ( <i>BTES President</i> ) <b>Prof. Dr. Nuh Zafer Cantürk</b> ( <i>Rector of Kocaeli University</i> )
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## OPENING SESSION

10:30-11:00	<b>Chair:</b> Prof. Dr. Vasif Hasırcı <i>Plenary Speaker</i> <b>Prof. Dr. Pavol Sajgalik</b> ( <i>President of Slovak Academy of Sciences, Slovakia</i> ) <b>"Is Silicon Nitride Based Ceramic Suitable for Drug Delivery"</b>
11:00-11:30	<i>Coffee Break</i>
11:30-12:00	<b>Chair:</b> Prof. Dr. Gilson Khang <i>Plenary Speaker</i> <b>Prof. Dr. Y. Murat Elçin</b> ( <i>Ankara University, Türkiye</i> ) <b>"ECM as the Key to Regeneration and 3D Tissue Modeling"</b>
12:00-13:15	Family Picture (Hotel Entrance) & Lunch

## SESSION 1

**Chairs:** Prof. Dr. Pavol Sajgalik, Prof. Dr. Nesrin Hasırcı

13:15-13:45	<i>Plenary Speaker</i> <b>Prof. Dr. Vasif Hasırcı</b> ( <i>Acıbadem University, Türkiye</i> ) <b>"Cell-Instructive Biomaterials for Tissue Engineering"</b>
13:45-14:05	<i>Invited Speaker</i> <b>Prof. Dr. Gültekin Göller</b> ( <i>Istanbul Technical University, Türkiye</i> ) <b>"Research Studies on Bioceramics, Composites and Glass Ceramics"</b>
14:05-14:25	<i>Invited Speaker</i> <b>Dr. S. Yamini Sudha Lakshmi</b> ( <i>University of Madras, India</i> ) <b>"Evaluation and Comparison of Potentised Drug Against Cancer"</b>
14:25-14:35	<b>OP-01-</b> Mesoporous Silica Nanoparticles Mediated Gene Delivery to Target MUC-1 Inhibition in Breast Cancer Micro-Tissues, Ayşenur Pamukçu, Özlem Yıldız, Gülşah Erek Akbaba, <b>Didem Şen Kahraman</b> (İzmir Katip Çelebi University)
14:35-14:45	<b>OP-02-</b> Manufacturing of PHBV/Modified TPS Films as Wound Dressing <b>Serap Mert</b> , Candan Altuntaş, Rumeysa Yıldırım, Gamze Liman, Zehra Seda Halbutoğulları, Gökhan Duruksu, Mehmet Kodal, Yusufhan Yazır ( <i>Kocaeli University</i> )
14:45-14:55	<b>OP-03-</b> Therapeutic Potential of Stem Cell-Derived Extracellular Vesicles Loaded Hydrogels for Testicular Torsion



	<b>Sükrü Öztürk</b> , Merve Gultekinoglu, Elif Conger Onder, Karim Shirinli, Beyza Sima Tatar, N. Dilara Zeybek, Naside Mangır, Kezban Ulubayram ( <i>Hacettepe University</i> )
14:55-15:15	<i>Coffee Break</i>

<b>SESSION 2</b>	
<b>Chairs:</b> Prof. Dr. Anton Fikai, Prof.Dr.Gamze Köse	
15:15-15:35	<i>Invited Speaker</i> <b>Prof. Dr. Sinan Akgöl</b> ( <i>Ege University, Türkiye</i> ) <b>“Natural-based Chemical Sensors”</b>
15:35-15:55	<i>Invited Speaker</i> <b>Prof. Dr. Anton Fikai</b> ( <i>Politehnica University of Bucharest, Romania</i> ) <b>“Smart Drug Delivery Systems and Personalized Therapies”</b>
15:55-16:15	<i>Invited Speaker</i> <b>Assoc. Prof. Dr. Mahmut Parmaksız</b> ( <i>Ankara University, Türkiye</i> ) <b>“Cell-Derived Extracellular Matrix Based 3D Biohybrid Angiogenic Tissue Scaffolds: In-vitro, Ex-ovo and In-vivo Evaluations”</b>
16:15-16:25	<b>OP-04-</b> Development and Characterization of Drug Loaded Chitosan/Silk Fibroin Electrospun Nanofibers For Wound Dressing Material <b>Özlem Ayşe Tosyalı</b> , Okşan Karal-Yılmaz, İmren Esentürk Güzel, Ayça Bal Öztürk ( <i>Beykent University</i> )
16:25-16:35	<b>OP-05-</b> Point-of-Care Test Platform for the Diagnosis of Fabry Disease <b>Ebru Yılmaz</b> , Aslı Erol, Dilan Çelebi Birand, Elif Nur Yükselen, Nihat Serkan Karayalçın, Memed Duman ( <i>Hacettepe University</i> )
16:35-16:45	<b>OP-06-</b> Small Intestinal Submucosa Decellularization with Supercritical Carbon Dioxide, <b>Zeynep Caglar</b> , Busra Kılıç, Halil Murat Aydın ( <i>Hacettepe University</i> )
16:45-16:55	<b>OP-07-</b> Wearable Antennas in the ISM Band for Biomedical Applications <b>Adem Koçyiğit</b> , Burak Çelik, M.Burak Karadeniz, Ebru Efeoğlu, Bahattin Türetken ( <i>Bilecik Şeyh Edebali University</i> )

## SATURDAY: November 2, 2024

### SESSION 3

**Chairs:** Assoc. Prof. Dr. Nermin Demirkol, Dr. S. Yamini Sudha Lakshmi

09:00-09:30	<i>Plenary Speaker</i> <b>Prof. Dr. Nesrin Hasırcı</b> ( <i>Middle East Technical University, Türkiye</i> ) “ <b>Biomaterials and Medical Devices: Development and Regulations</b> ”
09:30-10:00	<i>Plenary Speaker</i> <b>Prof. Dr. Gilson Khang</b> ( <i>Chonbuk National University, South Korea</i> ) “ <b>Current Issues of Biocompatibility for Tissue Engineering &amp; Regenerative Medicine</b> ”
10:00-10:25	<i>Invited Speaker</i> <b>Prof. Dr. Wojciech Swieszkowski</b> ( <i>Warsaw University of Technology, Poland</i> ) “ <b>Advancing Musculoskeletal Tissue Engineering through Microfluidic-Assisted Biofabrication</b> ”
10:25-10:45	<i>Invited Speaker</i> <b>Assoc. Prof. Dr. Yavuz Nuri Ertaş</b> ( <i>Erciyes University, Türkiye</i> ) “ <b>Nanoparticle and Implantable 3D-printed Scaffold-based Approaches for Enhanced Cancer Treatment via Radiotherapy</b> ”
10:45-11:15	<b>POSTER SESSION - I</b> <i>Coffee Break</i>

### SESSION 4

**Chairs:** Prof. Dr. Kezban Ulubayram, Prof. Dr. Sinan Akgöl

11:15-11:25	<b>OP-08-</b> Green Synthesis and Characterization of Citric Acid-PEG Modified Alginate Hydrogels for Biomedical Applications <b>Faustin Hategekimana</b> , Yaşar Murat Elçin ( <i>Ankara University</i> )
11:25-11:35	<b>OP-09-</b> Thermosensitive Polysaccharide-based Hydrogels: Gelation Mechanisms, and Biomedical Applications <b>Serap Durkut</b> ( <i>Ankara University</i> )
11:35-11:45	<b>OP-10-</b> The Design of a Glutathione-Based Injectable Hydrogel from Natural Sources <b>Fatmanur Bostan</b> , Ufuk Koca Çalışkan ( <i>Düzce University</i> )
11:45-11:55	<b>OP-11-</b> Development of Nature-Inspired Electroconductive, Modified Hydrogel Cardiac Tissue Sealants and Evaluation of Their Adhesiveness and Biocompatibility Properties <b>Gülşah Torkay</b> , Yağmur Kalender, Ayça Bal Öztürk ( <i>İstinye University</i> )
11:55-12:05	<b>OP-12-</b> Angiogenic Effects and In Vivo Response of Chitosan/Poly(vinyl alcohol) Microneedle Patches Soghra Salamatı, <b>Elif Conger-Onder</b> , Sukru Ozturk, Karim Shirinli, Beyza Sima Tatar, Naciye Dilara Zeybek, Naside Mangır, Kezban Ulubayram ( <i>Hacettepe University</i> )
12:05-12:15	<b>OP-13-</b> Development and Characterization of a Self-Healing Nanocomposite Hydrogel against Bacterial Infections <b>Ayşenur Pamukçu</b> , <b>Didem Şen Karaman</b> ( <i>İzmir Katip Çelebi University</i> )
12:15-12:25	<b>OP-14-</b> Anti-inflammatory Effects of Exosomes on In-Vitro 3D Spinal Cord Injury Model <b>Ecenaz Merve Namlı</b> , Pelin İlhan, Sinem Ezgi Turunç Özoğlu, Aylin Şendemir ( <i>Ege University</i> )
12:25-12:35	<b>OP-15-</b> Synergistic effect of GO-Ag NP additives on biological properties of an electrospun potential wound dressing material

	<b>Hatice Bilge İşgen</b> , Sema Samatya Yılmaz, Ayşe Aytaç ( <i>Kocaeli University</i> )
12:35-13:30	Lunch

<b>SESSION 5</b>	
Chairs: Prof. Dr. Gültekin Göller, Prof. Dr. Iulian Antoniac	
13:30-13:55	<i>Invited Speaker</i> <b>Prof. Iulian Antoniac</b> ( <i>Politehnica University of Bucharest, Romania</i> ) “ <b>Biodegradable Magnesium Alloys: from Implant Material Concept to Clinical Applications</b> ”
13:55-14:20	<i>Invited Speaker</i> <b>Prof. Stefan Ioan Voicu</b> ( <i>Politehnica University of Bucharest, Romania</i> ) “ <b>Functional Polymeric Membranes for Osseointegration and Hemodialysis</b> ”
14:20-14:30	<b>OP-16-</b> Shaping the future of medicine: Clinical and translational research through 3D bioprinting and biodispensing <b>Anik Islam</b> ( <i>TERRALAB</i> )
14:30-14:40	<b>OP-17-</b> Ti Alloys Coated with CaP-doped Varying Amounts of Zn via Micro-Arc Oxidation (MAO) Technique: Physical and Biological Effectiveness <b>Senem Büyüksungur</b> , Jürgen Schmidt, Tugba Endogan Tanir, Vasif Hasirci, Alina Vladescu (Dragomir), Nesrin Hasirci ( <i>Middle East Technical University</i> )
14:40-14:50	<b>OP-18-</b> A Novel Composite Scaffold Design: Cu <sup>2+</sup> -Doped Borosilicate Glass Integrated with Silk Fibroin and Methacrylated $\kappa$ -Carrageenan for Bone Tissue Engineering <b>Saliha İldem Demirer</b> , Seyithan Kansız, Yaşar Murat Elçin ( <i>Ankara University</i> )
14:50-15:00	<b>OP-19-</b> Production and Characterization of Co-Cr Alloy for Dental Applications by Hot Press and Additive Manufacturing <b>Hasan İsmail Yavuz</b> , Mertcan Kırac, Enes Furkan Sevinç, Fırat Güleç, Ahmet Sever, Egemen Avcu, Rıdvan Yamanoğlu ( <i>Kocaeli University</i> )
15:00-15:10	<b>OP-20-</b> Optimizing Injectable Magneto-Responsive Hydrogels for Biomedical Applications: Dynamic Crosslinking and Amino Functionalization <b>Aslı Nur Güler</b> , Seyithan Kansız, Yaşar Murat Elçin ( <i>Ankara University</i> )
15:10-15:40	<b>POSTER SESSION - II</b>
	<i>Coffee Break</i>

<b>SESSION 6</b>	
<b>Chairs:</b> Prof. Dr. Eser Elçin, Prof. Dr. Stefan Ioan Voicu	
15:40-15:50	<b>OP-21-</b> The Effect of Methacrylation Degree on the Printability and Physicochemical Properties of $\kappa$ -Carrageenan Bioinks <b>Seyithan Kansız</b> , Murat Taner Vurat, Mahmut Parmaksız, Ayşe Eser Elçin, Yaşar Murat Elçin ( <i>Ankara University</i> )
15:50-16:00	<b>OP-22-</b> Synthesis and Modification of Ti <sub>3</sub> C <sub>2</sub> MXene (Titanium Carbide) for Biomedical Applications <b>Özge Lalegül- Ülker</b> ( <i>Ankara University</i> )
16:00-16:10	<b>OP-23-</b> Hierarchical TiO <sub>2</sub> Nanotube Arrays Enhance Mesenchymal Stem Cell Adhesion and Regenerative Potential Through Surface Nanotopograph Nur Kubra Tasdemir, <b>Bogac Kilicarslan</b> , Gozde Imren, Beren Karaosmanoglu, Ekim Z. Taskiran, Cem Bayram ( <i>Hacettepe University</i> )
16:10-16:20	<b>OP-24-</b> Cost-Effective Technique for the Preparation of Novel Si <sub>3</sub> N <sub>4</sub> Based Functionally Graded Biomaterials with Improved Bioactivity <b>Yasemin Tabak</b> , Şeyda Polat, Ayşen Kılıç, Arzu Taş Ekiz, Monika Tatarkova, Peter Tatarko, Miroslav Hnatko, Hakan Ünsal, Pavol Šajgalík (Tübitak)
16:20-16:30	<b>OP-25-</b> Preliminary Investigation of the Usability of Brown Meagre Otoliths in Biomaterial Development <b>Nihal Derin Çoşkun</b> , Nermin Demirkol ( <i>Ordu University</i> )
16:30-16:40	<b>OP-26-</b> Mussel-Inspired Breakthrough in Lung Tissue Adhesives: Antibacterial and Highly Adhesive DOPA-Modified GelMA/ Silk Fibroin for Enhanced Healing and Air Leakage Prevention <b>Burçin İzbudak</b> , Erkan Rayaman, Emine Alarçin, Gökçen Yaşayan, Ayça Bal-Öztürk ( <i>İstinye University</i> )
16:40-16:50	<b>OP-27-</b> Highly Specific and Sensitive Detection of West Nile Virus via CRISPR-CAS Mechanism <b>Aslı Erol</b> , Dilan Çelebi Birand , Ebru Yılmaz, Memed Duman ( <i>Hacettepe University</i> )
16:50-17:00	<b>OP-28-</b> Development of a Magnetically Actuated Drug Delivery System through Hollow Microneedles <b>Buğra Kağan Ünal</b> , Soner Çakmak, Fatih Şentürk, Lokman Uzun, İsmail Cengiz Koçum ( <i>Hacettepe University</i> )
17:00-17:10	<b>OP-29-</b> Altering Culture Conditions of A549 Cell Line for Improved In Vitro Alveolar Barrier Models <b>Neval Sevinc Ozdemir</b> , Halime Kenar, Vasif Hasırcı ( <i>Acıbadem Mehmet Ali Aydınlar University</i> )
17:10-18:00	TERRA LAB Bioprinting Workshop, <b>Dr. Flore-Anne Poujade</b>
19:30-22:30	Gala Dinner

## SUNDAY: November 3, 2024

### SESSION 7

**Chairs:** Assoc. Prof. Dr. Yavuz Nuri Ertaş, Assoc.Prof.Dr.Cem Bayram

09:30-09:40	<b>OP-30-</b> From Laboratory to Clinic: Regulatory Requirements for Tissue Engineering Products <b>Umut Doğu Seçkin</b> , Aylin Şendemir ( <i>Ege University</i> )
09:40-09:50	<b>OP-31-</b> A New Arthrodesis Nail Design Yasin Doğu, <b>İbrahim Mutlu</b> ( <i>Kocaeli University</i> )
09:50-10:00	<b>OP-32-</b> Tribological Characterization of Alumina Ceramic for Dental Applications Against Tungsten Carbide <b>Zeynep Taşlıçukur Öztürk</b> , Mustafa Alper Yılmaz, Yasemin Tabak ( <i>National Defense University</i> )
10:00-10:10	<b>OP-33-</b> Sensitive Cell Line for the Detection of Botulinum Neurotoxin A <b>Deniz Simsek</b> , Ceyda Caliskan, Charlotte Leese, Ciara Doran, Andrew Peden, Liz Seward, Bazbek Davletov ( <i>Sheffield University</i> )
10:10-10:20	<b>OP-34-</b> Development and Characterization of Naturally Derived Scaffolds for Bone Tissue Engineering <b>Miray Yıldırım</b> , Aysel Koç Demir, Ayşe Eser Elçin ( <i>Ankara University</i> )
10:20-10:30	<b>OP-35-</b> Synthesis and Biological Activity of Functionalized Graphene Oxide Nanolayers with Schiff Bases via Non-covalent Interactions <b>Gunel Aliyeva</b> , Boğac Kılıçarslan, Merve Gültekinöğlü Bayram, Cem Bayram, Ulviyya Hasanova, Zarema Gahramanova, ( <i>Hacettepe University</i> )
10:30-10:40	<b>OP-36-</b> Engineering naturally based composite hydrogel as flexible bioadhesivefor wound healing of internal organs <b>Ahmet Erdem</b> , Dilara Küçük, Feyzanur Şentürk, Aygün Iseyeva, Gökhan Duruksu ( <i>Kocaeli University</i> )
10.40-11:00	<b>ANNOUNCEMENT OF BEST POSTER AWARDS &amp; CLOSING</b>
13:30-16:30	<b>SOCIAL-CULTURAL TRIP</b>