

# 4<sup>th</sup> INTERNATIONAL GRADUATE RESEARCH SYMPOSIUM - IGRS'25



12 MAY 2025, MONDAY  
ONLINE

MAIN HALL

## OPENING REMARKS

Prof. Dr. Fatma Seniha GÜNER, *Institute Director, Istanbul Technical University*  
Prof. Dr. Hasan MANDAL, *Rector, Istanbul Technical University*

**KEYNOTE SPEAKER**  
**"An Academic Journey From Chemical Engineering to Robotics and Multidisciplinary Impressions of a Scientist"**  
Prof. Dr. Berna ÖZKALE EDELMANN, *Technical University of Munich*

## SESSION - I

TIME	MAIN HALL	HALL - I	HALL - II	HALL - III	HALL - IV	HALL - V	HALL - VI	
10:00 - 11:00	Chair: Assoc. Prof. Dr. Abdullah Aydoğan	Chair: Dr. Demet Aydoğmuş	Chair: Asst. Prof. Dr. Saeed Tasouji Hassanpour	Chair: Assoc. Prof. Dr. Sefer Baday	Chair: Asst. Prof. Dr. Ayşe Elvan Bayraktaroğlu	Chair: Asst. Prof. Dr. Murat Yeşilgözü	Chair: Prof. Dr. Sevinç Asilhan, Asst. Prof. Dr. Emre Avunduk	
11:00 - 12:00	<b>CHEMISTRY</b> "The Design and Application of Novel Free-Radical Catalysts for Olefin Polymerization" "Synthesis of Fluorinated Polymers with Tunable Properties" "Investigation of Fluorescence Properties of ZIF-8 Structures Modified with Graphene Quantum Dots" "Synthesis of Poly(ethylene Glycol) Copolymers with Tunable Properties" "Synthesis of Poly(ethylene Glycol) Copolymers with Tunable Properties" "Synthesis of Poly(ethylene Glycol) Copolymers with Tunable Properties"	<b>METALLURGY AND MATERIALS ENGINEERING</b> "Characterization of Poly(ethylene Glycol) Copolymers with Tunable Properties" "Characterization of Poly(ethylene Glycol) Copolymers with Tunable Properties" "Characterization of Poly(ethylene Glycol) Copolymers with Tunable Properties" "Characterization of Poly(ethylene Glycol) Copolymers with Tunable Properties" "Characterization of Poly(ethylene Glycol) Copolymers with Tunable Properties"	<b>MANAGEMENT ENGINEERING</b> "The Adoption of Smart Small Home Appliances: An Integrative Model of Consumer Acceptance and Behavior" "Understanding Consumer Acceptance and Purchase Intentions in Unmanned Retail Stores" "The Effect of ESG Ratings on Firm's Financial Performance in Borsa Istanbul" "The Effect of ESG Ratings on Firm's Financial Performance in Borsa Istanbul"	<b>DATA ENGINEERING AND BUSINESS ANALYTICS</b> Predictive Analytics and Machine Learning in Business "Analyzing Customer Firm Trading Behavior via Reinforcement Learning: A Comparative Study on RL10" "Smart Retail: The Role of AI in Retail Analytics" "Big Data Analytics for Decision Making" "Artificial Intelligence in Retail Analytics: A Comparative Study on RL10"	<b>INDUSTRIAL ENGINEERING</b> Decision Making "A Bayesian Network-Based Approach for Analyzing Railway Accidents" "A Comparative Analysis of Machine Learning and MCDM Sorting Methods in Electric Vehicle Selection" "Multi-Criteria Decision Making for Selecting Best Banking Service Channel" "Customer Proficiency for Mobile Operating Systems in Smartphones Using Content Analysis"	<b>CONTROL AND AUTOMATION ENGINEERING</b> Advances in Automatic Control Engineering "Low-Cost Adaptive Control for Autonomous Vehicles via Deep Reinforcement Learning Methods" "Control Allocation Strategies for Dual-System VTOL UAVs Under Control Surface Failure: Enhancing Fault Tolerance and Flight Stability" "New Generation of Flight Management System Design for the Fighter Jet" "Fault Diagnosis and Isolation for Different Type Aircrafts with Dynamic Risk Control Envelope Car"	<b>METEOROLOGICAL ENGINEERING</b> Atmospheres, Meteorology "Resilient Energy" "Resilient Energy" "Resilient Energy"	<b>MINING ENGINEERING</b> Excavation Mechanics "Machine Learning-Based Prediction of Roadwork in Tunnel Boring Machines" "Machine Learning-Based Prediction of Roadwork in Tunnel Boring Machines"

## BREAK

## SESSION - II

TIME	MAIN HALL	HALL - I	HALL - II	HALL - III	HALL - IV	HALL - V	HALL - VI
13:00 - 14:00	Chair: Asst. Prof. Dr. Berna Doğan, Asst. Prof. Dr. Hüseyin Enis Karahan	Chair: Dr. Yonca Alkan Gökse	Chair: Asst. Prof. Dr. Saeed Tasouji Hassanpour	Chair: Prof. Dr. Seher Melike Aydoğan	Chair: Assoc. Prof. Dr. Umut Asan	Chair: Asst. Prof. Dr. Erhan Yumuk	Chair: Asst. Prof. Dr. Ramazan Yenigeri
14:00 - 15:00	<b>CHEMISTRY</b> Drug Design & Drug Delivery (Computational and Experimental) "Synthesis of New MOF-Behaving Materials Through In-situ Method" "Synthesis of New MOF-Behaving Materials Through In-situ Method" "Synthesis of New MOF-Behaving Materials Through In-situ Method"	<b>METALLURGY AND MATERIALS ENGINEERING</b> Metals and Alloys "Fabrication of Novel Biodegradable Composites for Bone Tissue Regeneration" "Effect of Surface Modification on the Mechanical Properties of Titanium Alloy for Dental Implants" "Effect of Heat Treatment on the Mechanical Properties of Cold-Chamber Casted Magnesium" "Machine Learning-Based Prediction of the Surface Properties of Biomaterials"	<b>MANAGEMENT ENGINEERING</b> Economics "Central Bank Digital Currencies (CBDC): a contemporary to Anti-Money Laundering (AML) challenges posed by cryptocurrencies" "The Impact of Remote Work on Organizational Performance During the COVID-19 Pandemic" "The Impact of Remote Work on Organizational Performance During the COVID-19 Pandemic"	<b>MATHEMATICAL ENGINEERING</b> Applied Mathematics "The Effect of Water Heterogeneity on Nonlinear Loss Wave Inversion" "Understanding the Dynamics of a System Through Evolutionary Game Theory" "The Effect of Water Heterogeneity on Nonlinear Loss Wave Inversion"	<b>INDUSTRIAL ENGINEERING</b> Industrial Data Analytics "Predicting the Changing Time of Debt Free in Legal Stage Using Machine Learning and Deep Learning Models" "Predicting the Changing Time of Debt Free in Legal Stage Using Machine Learning and Deep Learning Models"	<b>CONTROL AND AUTOMATION ENGINEERING</b> Applications of Control Engineering "Enhanced Aircraft Control Through Total Energy Control System: A Comparative Study with Conventional Autopilot" "Enhanced Aircraft Control Through Total Energy Control System: A Comparative Study with Conventional Autopilot"	<b>DEFENSE TECHNOLOGIES</b> Structural Design and Analysis "Finite Element Analysis of Crack Growth Behavior in the Presence of Crack-Arriving Fibers" "Finite Element Analysis of Crack Growth Behavior in the Presence of Crack-Arriving Fibers"
15:00 - 16:00	Chair: Assoc. Prof. Dr. Volkan Müjdat Tiryaki	Chair: Asst. Prof. Dr. Erçin Çağın Duran	Chair: Asst. Prof. Dr. Saeed Tasouji Hassanpour, Asst. Prof. Dr. Umut Kuruzüm	Chair: Prof. Dr. Esra Özkan Zayım	Chair: Asst. Prof. Dr. Saltuk Duran	Chair: Asst. Prof. Dr. Ali Yeyilyurt	Chair: Asst. Prof. Dr. Ramazan Yenigeri, Dr. Abdülkadir Ünal
16:00 - 17:00	<b>APPLIED INFORMATICS</b> Medical Image Analysis "Improving Tumor Segmentation Performance in Brain MRI via the Deep Learning Approach" "Improving Tumor Segmentation Performance in Brain MRI via the Deep Learning Approach" "Improving Tumor Segmentation Performance in Brain MRI via the Deep Learning Approach"	<b>METALLURGY AND MATERIALS ENGINEERING</b> Corrosion and Wear "Evaluation of Al Matrix Composites Coatings on Magnesium Alloy AZ31" "Evaluation of Al Matrix Composites Coatings on Magnesium Alloy AZ31" "Evaluation of Al Matrix Composites Coatings on Magnesium Alloy AZ31"	<b>MANAGEMENT ENGINEERING</b> Production Management "Performance Evaluation Model Based on Reinforced Learning for the Real-World Consumer Goods Sector (FMCG)" "Performance Evaluation Model Based on Reinforced Learning for the Real-World Consumer Goods Sector (FMCG)" "Performance Evaluation Model Based on Reinforced Learning for the Real-World Consumer Goods Sector (FMCG)"	<b>PHYSICS ENGINEERING</b> Optics and Photonics "The Impact of Surface Roughness on the Light Scattering Properties of Photonic Crystals" "The Impact of Surface Roughness on the Light Scattering Properties of Photonic Crystals" "The Impact of Surface Roughness on the Light Scattering Properties of Photonic Crystals"	<b>HISTORY OF SCIENCE AND TECHNOLOGY</b> History of Engineering "From Design to Homology: Topological Approaches and the Reconstruction of Offshore Platforms in Wind Wave" "From Design to Homology: Topological Approaches and the Reconstruction of Offshore Platforms in Wind Wave"	<b>CONTROL AND AUTOMATION ENGINEERING</b> Applications of Control Engineering "Enhanced Aircraft Control Through Total Energy Control System: A Comparative Study with Conventional Autopilot" "Enhanced Aircraft Control Through Total Energy Control System: A Comparative Study with Conventional Autopilot"	<b>DEFENSE TECHNOLOGIES</b> Artificial Intelligence, Machine Learning, and Deep Learning in Earthquake Engineering "Artificial Intelligence, Machine Learning, and Deep Learning in Earthquake Engineering" "Artificial Intelligence, Machine Learning, and Deep Learning in Earthquake Engineering"

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13 MAY 2025, TUESDAY  
ONLINE

SESSION - III

TIME	MAIN HALL	HALL - I	HALL - II	HALL - III	HALL - IV	HALL - V	HALL - VI
	Chair: Asst. Prof. Dr. Recep Gül	Chair: Assoc. Prof. Dr. Umut Almaz	Chair: Assoc. Prof. Dr. Almira Büyüktaşkın	Chair: Assoc. Prof. Dr. Özge Özdemir	Chair: Prof. Dr. Mehmet Murat Monkul	Chair: Prof. Dr. Uner Çolak	Chair: Assoc. Prof. Dr. Ersin Sayar
09:00 - 10:00	<b>MUSICOLOGY AND MUSIC THEORY</b> Musical Theory "Exploring Penta-Copter Transformation in Turkish Grand Staff Instrumentation Works within Mevlevi Music" Buse Ergün - İstanbul Technical University "Analysis of Vertical Structures in The Context of Set Theory in Jazz Musicology: A Study on the 'Tone System For Two Flutes, Op. 21'" Orhan Çelik - İstanbul Technical University "Folk Music and Classical Composition: A New Framework for Exploring Music Based on Turkish Folk Music Characteristics" Ayşe Çelik - İstanbul Technical University "Innovative in Broecker's Life Model: Use of Evolutionary Theory in the First Movement of Del Posaada" Ayşe Çelik - İstanbul Technical University	<b>ARCHITECTURE</b> Conservation and Restoration "The Rural Settlement Structure and the Challenge of Preserving Traditional Housing in Tuz Gölü (Büyük Van) Region" Ayşe Çelik - İstanbul Technical University "Evolution of the Transformation of Kırıkkale Urban Conservation Area and its Surroundings between 2000 and 2022 in the Context of Conservation and Sustainability" Ayşe Çelik - İstanbul Technical University "Uzlaşım Fikriyatı in 20th Century Istanbul: History and State of Conservation" Ayşe Çelik - İstanbul Technical University "Urban Music Theory" Nurgül Çelik - İstanbul Technical University	<b>ARCHITECTURE</b> Building Construction Technologies "Impact of Orientation Due to Environmental Factors in Sustainable Performance of Residential Tower Buildings in the Historical Peninsula in Istanbul" Ayşe Çelik - İstanbul Technical University "Evaluation of Damage Mechanisms of Reinforced Concrete Moment Resisting Structures in First Earthquakes in Turkey" Ayşe Çelik - İstanbul Technical University "Evaluation of Light Steel Structural Housing According to Construction Systems" Ayşe Çelik - İstanbul Technical University "Evaluation of Damage Mechanisms in Stone Structural Systems Due to Seismic and Surrounding Areas" Ayşe Çelik - İstanbul Technical University	<b>AERONAUTICAL AND ASTRONAUTICAL ENGINEERING</b> Aircraft Design, Flight Dynamics and Performance "Aerodynamic Performance of a High-Speed Aircraft Configuration" Ayşe Çelik - İstanbul Technical University "Wing Design, Optimization and Performance Analysis for a Tiltrotor Aircraft" Ayşe Çelik - İstanbul Technical University "Stability Analysis of Hypersonic Flow Vehicle Trajectory Under Atmospheric and Spaceflight Conditions" Ayşe Çelik - İstanbul Technical University "Rotary Wing Aircraft" Ayşe Çelik - İstanbul Technical University "A Study on Near and Forward Flight Performance of STVA-200 Black Hawk Helicopter to Obtain Control Chart by using Momentum and Blade Element Method" Ayşe Çelik - İstanbul Technical University	<b>ENERGY SCIENCE AND GEOTECHNICAL ENGINEERING</b> Geotechnics "Modeling Lateral Spreading of Sandy Soils" Ayşe Çelik - İstanbul Technical University "Evaluation of Geotechnical Characteristics of Rocked Concrete Aggregates of 3D Ring Structure" Ayşe Çelik - İstanbul Technical University "Geotechnical Earthquake Engineering" Ayşe Çelik - İstanbul Technical University "Dynamic Site Response Analysis for a Site with a Deep Soil" Ayşe Çelik - İstanbul Technical University	<b>SOIL MECHANICS AND GEOTECHNICAL ENGINEERING</b> Geotechnics "A Study of Change Based Experimental and Numerical Investigation of Soil Behavior and Temperature Distribution" Ayşe Çelik - İstanbul Technical University "Numerical Investigation of Engine Cooling Using Microfluidics" Ayşe Çelik - İstanbul Technical University "Electrochemical and Thermal Modeling of Lithium-Ion Batteries for Temperature Distribution Based on Cathode Materials" Ayşe Çelik - İstanbul Technical University "Flow Control and Thermal Behavior of Bearings Using a Proprietary Valve in a Closed-Loop Lubrication System for Turbine Engines" Ayşe Çelik - İstanbul Technical University	<b>MECHANICAL ENGINEERING</b> Computational Fluid Dynamics "Optimization of Internal Flow Performance in Turbine Compressor Stages" Ayşe Çelik - İstanbul Technical University "Analysis of Effects of Turbine Inlet Disturbance on Blade Tip Leakage Performance" Ayşe Çelik - İstanbul Technical University "Aerodynamic Performance Enhancement of a 2D Airfoil Profile Through Geometric Modifications" Ayşe Çelik - İstanbul Technical University "Optimization of Polymer Jet Impingement System by Evolution Method" Ayşe Çelik - İstanbul Technical University
	Chair: Prof. Dr. Burcu Yıldız	Chair: Dr. Gökrem Günay	Chair: Assoc. Prof. Dr. Tank Serhat Bozkurt	Chair: Assoc. Prof. Dr. Emre Koyuncu	Chair: Assoc. Prof. Dr. Deniz Artan	Chair: Asst. Prof. Dr. Sevan Karaböğülü	Chair: Asst. Prof. Dr. Korhan Şahin
10:00 - 11:00	<b>MUSICOLOGY AND MUSIC THEORY</b> Popular Music "It's Gonna Be a Beautiful Day: A Study on the Musical World" Ayşe Çelik - İstanbul Technical University "The Issue of 'Originality' in Arabic Music: Analysis of Musical Knowledge, Techniques, and Production Practices from Arab Music" Ayşe Çelik - İstanbul Technical University "Analysis of Some Musical Forms from the Arabic Music Conference 1922" Ayşe Çelik - İstanbul Technical University "Music as 'Rhythm' From Reality: Subjective Aesthetic Perception" Ayşe Çelik - İstanbul Technical University	<b>ARCHITECTURE</b> Architectural History "Rural Houses in Residential Architecture: Proposals of Residential Sites according to the Social Hierarchies in the South East" Ayşe Çelik - İstanbul Technical University "Spatial Representation in Recent New Home Cinema: An Analysis Through Agazzi Vanni City De A.D. / 1982 Film" Ayşe Çelik - İstanbul Technical University "Urbanization Through Urbanization: Research on 'Urbanization' Ayşe Çelik - İstanbul Technical University "Turkish Conservation in Istanbul at the Beginning of the 20th Century: The Role of Peruvani" Ayşe Çelik - İstanbul Technical University	<b>ARCHITECTURE</b> Building Construction Technologies "Evaluation of Seismicity Techniques in Residential Concrete Buildings" Ayşe Çelik - İstanbul Technical University "Multi-Agent Reinforcement Learning with Memory Feedback for Collaborative Control of a Robotic System" Ayşe Çelik - İstanbul Technical University "Evaluation of the Seismic Performance of Reinforced Concrete Structures in Relation to Structural Deterioration" Ayşe Çelik - İstanbul Technical University "Design of a New Type of Reinforced Concrete Structure: A Model-Based Approach" Ayşe Çelik - İstanbul Technical University "Evaluation of Seismicity Techniques in Residential Concrete Buildings" Ayşe Çelik - İstanbul Technical University "The Impact of Seismicity Techniques in Residential Concrete Buildings: The Case of Istanbul" Ayşe Çelik - İstanbul Technical University	<b>AERONAUTICAL AND ASTRONAUTICAL ENGINEERING</b> Control Systems, Adaptive, Intelligent, Digital, Optimal, Pneumatic/Hydraulic "Multi-Agent Reinforcement Learning with Memory Feedback for Collaborative Control of a Robotic System" Ayşe Çelik - İstanbul Technical University "Control System Design for a Robotic System" Ayşe Çelik - İstanbul Technical University "Control System Design for a Robotic System" Ayşe Çelik - İstanbul Technical University "Control System Design for a Robotic System" Ayşe Çelik - İstanbul Technical University "Control System Design for a Robotic System" Ayşe Çelik - İstanbul Technical University	<b>CONSTRUCTION MANAGEMENT</b> Construction Project Management "Optimization of Construction Project Management in the Turkish Building Industry" Ayşe Çelik - İstanbul Technical University "Optimization of Construction Project Management in the Turkish Building Industry" Ayşe Çelik - İstanbul Technical University "Optimization of Construction Project Management in the Turkish Building Industry" Ayşe Çelik - İstanbul Technical University "Optimization of Construction Project Management in the Turkish Building Industry" Ayşe Çelik - İstanbul Technical University	<b>ENERGY SCIENCE AND TECHNOLOGY</b> Energy Conversion and Storage Technologies "Thermodynamic Optimization of a Rankine Cycle for Power Generation" Ayşe Çelik - İstanbul Technical University "Thermodynamic Optimization of a Rankine Cycle for Power Generation" Ayşe Çelik - İstanbul Technical University "Thermodynamic Optimization of a Rankine Cycle for Power Generation" Ayşe Çelik - İstanbul Technical University "Thermodynamic Optimization of a Rankine Cycle for Power Generation" Ayşe Çelik - İstanbul Technical University	<b>MECHANICAL ENGINEERING</b> System Dynamics and Control "Robust System Identification of a Soft Contact System" Ayşe Çelik - İstanbul Technical University "Robust System Identification of a Soft Contact System" Ayşe Çelik - İstanbul Technical University "Robust System Identification of a Soft Contact System" Ayşe Çelik - İstanbul Technical University "Robust System Identification of a Soft Contact System" Ayşe Çelik - İstanbul Technical University
	Chair: Prof. Dr. Burcu Yıldız	Chair: Dr. Ebru Şevkin	Chair: Assoc. Prof. Dr. Feride Şener Yılmaz	Chair: Asst. Prof. Dr. Ali Tatar	Chair: Assoc. Prof. Dr. Onur Behzat Tokdemir	Chair: Asst. Prof. Dr. Sevan Karaböğülü, Prof. Dr. Hakan Ali Çirpan	Chair: Prof. Dr. Erding Altuğ
11:00 - 12:00	<b>MUSICOLOGY AND MUSIC THEORY</b> Ethnomusicology "Exploring Sounds on the Water from an Ecological Perspective: The Case of Halk" Ayşe Çelik - İstanbul Technical University "Exploring Sounds on the Water from an Ecological Perspective: The Case of Halk" Ayşe Çelik - İstanbul Technical University "Exploring Sounds on the Water from an Ecological Perspective: The Case of Halk" Ayşe Çelik - İstanbul Technical University "Exploring Sounds on the Water from an Ecological Perspective: The Case of Halk" Ayşe Çelik - İstanbul Technical University	<b>ARCHITECTURE</b> Architectural History "The Historical Urban of Istanbul: A Collaborative Historical Center" Ayşe Çelik - İstanbul Technical University "Urban Open Space as a Result of Change and Culture in Mediterranean Architecture" Ayşe Çelik - İstanbul Technical University "Building Materials and Technologies" Ayşe Çelik - İstanbul Technical University "Developing One-part Descriptive Models for Urban Planning: A Study on Istanbul" Ayşe Çelik - İstanbul Technical University	<b>ARCHITECTURE</b> Environmental Control and Building Technology "Microclimate and Sustainable Architecture: A Study on Istanbul" Ayşe Çelik - İstanbul Technical University "Microclimate and Sustainable Architecture: A Study on Istanbul" Ayşe Çelik - İstanbul Technical University "Microclimate and Sustainable Architecture: A Study on Istanbul" Ayşe Çelik - İstanbul Technical University "Microclimate and Sustainable Architecture: A Study on Istanbul" Ayşe Çelik - İstanbul Technical University	<b>AERONAUTICAL AND ASTRONAUTICAL ENGINEERING</b> Mechanical Vibrations and Structural Dynamics "Mechanical Vibrations and Structural Dynamics" Ayşe Çelik - İstanbul Technical University "Mechanical Vibrations and Structural Dynamics" Ayşe Çelik - İstanbul Technical University "Mechanical Vibrations and Structural Dynamics" Ayşe Çelik - İstanbul Technical University "Mechanical Vibrations and Structural Dynamics" Ayşe Çelik - İstanbul Technical University	<b>CONSTRUCTION MANAGEMENT</b> Construction Project Management "The Role of Cloud-Based Construction Management Systems in Enhancing Project Efficiency" Ayşe Çelik - İstanbul Technical University "The Role of Cloud-Based Construction Management Systems in Enhancing Project Efficiency" Ayşe Çelik - İstanbul Technical University "The Role of Cloud-Based Construction Management Systems in Enhancing Project Efficiency" Ayşe Çelik - İstanbul Technical University "The Role of Cloud-Based Construction Management Systems in Enhancing Project Efficiency" Ayşe Çelik - İstanbul Technical University	<b>ENERGY SCIENCE AND TECHNOLOGY</b> Renewable Energy "Feasibility Assessment of Hydrogen Fuel Cell Integration in the Smart Grid with the Structural and Operational Considerations" Ayşe Çelik - İstanbul Technical University "Feasibility Assessment of Hydrogen Fuel Cell Integration in the Smart Grid with the Structural and Operational Considerations" Ayşe Çelik - İstanbul Technical University "Feasibility Assessment of Hydrogen Fuel Cell Integration in the Smart Grid with the Structural and Operational Considerations" Ayşe Çelik - İstanbul Technical University "Feasibility Assessment of Hydrogen Fuel Cell Integration in the Smart Grid with the Structural and Operational Considerations" Ayşe Çelik - İstanbul Technical University	<b>MECHANICAL ENGINEERING</b> Machine Dynamics, Vibration, and Acoustics "Comparison of Time and Frequency Domain Approaches for Finite Element Analysis Using the Finite Element Method" Ayşe Çelik - İstanbul Technical University "Comparison of Time and Frequency Domain Approaches for Finite Element Analysis Using the Finite Element Method" Ayşe Çelik - İstanbul Technical University "Comparison of Time and Frequency Domain Approaches for Finite Element Analysis Using the Finite Element Method" Ayşe Çelik - İstanbul Technical University "Comparison of Time and Frequency Domain Approaches for Finite Element Analysis Using the Finite Element Method" Ayşe Çelik - İstanbul Technical University

BREAK

SESSION - IV

TIME	MAIN HALL	HALL - I	HALL - II	HALL - III	HALL - IV	HALL - V	HALL - VI
	Chair: Assoc. Prof. Dr. Gökhan Deneç	Chair: Assoc. Prof. Dr. Bihler Almaz	Chair: Prof. Dr. Hatice Ayataç	Chair: Prof. Dr. Mehmet Şahin	Chair: Asst. Prof. Dr. Ömer Tuğrul Turan	Chair: Assoc. Prof. Dr. Ömer Ferhanoğlu	Chair: Prof. Dr. Ala Muğan
13:00 - 14:00	<b>MUSIC</b> Sound Engineering and Design "Transformation of Digital Audio into Analogue in Music" Ayşe Çelik - İstanbul Technical University "Methodology in Participatory Music Analysis: Insights from Audio Modeling Based on Neural Networks" Ayşe Çelik - İstanbul Technical University "Spatial Audio Mixing in 3D: Acoustic Characteristics, Experimentation and Applications for Immersive Sound" Ayşe Çelik - İstanbul Technical University "Music Memory and the Relationship Between Music, Memory and Emotion in Turkey: The Past, Present, and Future" Ayşe Çelik - İstanbul Technical University	<b>ARCHITECTURE</b> Architecture Design Theory "Soft Methods: (Re)Defining Architecture Through Performative Practice" Ayşe Çelik - İstanbul Technical University "Urban Open Space as a Result of Change and Culture in Mediterranean Architecture" Ayşe Çelik - İstanbul Technical University "Building Materials and Technologies" Ayşe Çelik - İstanbul Technical University "Architect Excursions: Exploring Spatial History Through Memory Through Spatial Practices" Ayşe Çelik - İstanbul Technical University	<b>URBAN AND REGIONAL PLANNING</b> Transportation Planning and Urban Infrastructure "Towards Walkable and Green Cities: A Study on Istanbul" Ayşe Çelik - İstanbul Technical University "Towards Walkable and Green Cities: A Study on Istanbul" Ayşe Çelik - İstanbul Technical University "Towards Walkable and Green Cities: A Study on Istanbul" Ayşe Çelik - İstanbul Technical University "Towards Walkable and Green Cities: A Study on Istanbul" Ayşe Çelik - İstanbul Technical University	<b>AERONAUTICAL AND ASTRONAUTICAL ENGINEERING</b> Theoretical, Computational and Experimental Aerodynamics and Fluid Dynamics "Fully Coupled CFD-DEM Simulation for Particle Flow in a Turbulent Flow" Ayşe Çelik - İstanbul Technical University "Fully Coupled CFD-DEM Simulation for Particle Flow in a Turbulent Flow" Ayşe Çelik - İstanbul Technical University "Fully Coupled CFD-DEM Simulation for Particle Flow in a Turbulent Flow" Ayşe Çelik - İstanbul Technical University "Fully Coupled CFD-DEM Simulation for Particle Flow in a Turbulent Flow" Ayşe Çelik - İstanbul Technical University	<b>STRUCTURAL ENGINEERING</b> Structural Analysis and Design "Seismic Performance of Gravity Structures with Slab-Beam Connections" Ayşe Çelik - İstanbul Technical University "Seismic Performance of Gravity Structures with Slab-Beam Connections" Ayşe Çelik - İstanbul Technical University "Seismic Performance of Gravity Structures with Slab-Beam Connections" Ayşe Çelik - İstanbul Technical University "Seismic Performance of Gravity Structures with Slab-Beam Connections" Ayşe Çelik - İstanbul Technical University	<b>ELECTRONICS AND COMMUNICATION ENGINEERING</b> Computational Solid Mechanics "Hybrid Optimization for Elastic Beams: A Comparative Study with Detailed FE" Ayşe Çelik - İstanbul Technical University "Hybrid Optimization for Elastic Beams: A Comparative Study with Detailed FE" Ayşe Çelik - İstanbul Technical University "Hybrid Optimization for Elastic Beams: A Comparative Study with Detailed FE" Ayşe Çelik - İstanbul Technical University "Hybrid Optimization for Elastic Beams: A Comparative Study with Detailed FE" Ayşe Çelik - İstanbul Technical University	<b>MECHANICAL ENGINEERING</b> Computational Solid Mechanics "Hybrid Optimization for Elastic Beams: A Comparative Study with Detailed FE" Ayşe Çelik - İstanbul Technical University "Hybrid Optimization for Elastic Beams: A Comparative Study with Detailed FE" Ayşe Çelik - İstanbul Technical University "Hybrid Optimization for Elastic Beams: A Comparative Study with Detailed FE" Ayşe Çelik - İstanbul Technical University "Hybrid Optimization for Elastic Beams: A Comparative Study with Detailed FE" Ayşe Çelik - İstanbul Technical University
	Chair: Dr. Jane Harrison	Chair: Prof. Dr. Ozan Önder Özener	Chair: Assoc. Prof. Dr. Başak Demireç	Chair: Asst. Prof. Dr. Saliha Banu Yılmaz	Chair: Assoc. Prof. Dr. Murat Yılmaz	Chair: Prof. Dr. Ece Olcaç Güneş	Chair: Prof. Dr. Ala Muğan
14:00 - 15:00	<b>MUSIC</b> Musical Theory "Effects of Performance Space on Sound Reproduction Practices" Ayşe Çelik - İstanbul Technical University "Cyber Music and Electronic Expression in Recent Scholarship: A Study on the 'A' and 'B' Characteristics" Ayşe Çelik - İstanbul Technical University "Sonic Memory of the 20th Century: A Study on the 'A' and 'B' Characteristics" Ayşe Çelik - İstanbul Technical University "Challenging Conventions: Case Works No. 20 and the Soundscapes of 19th-Century Music" Ayşe Çelik - İstanbul Technical University	<b>ARCHITECTURE</b> Architecture Design Theory "The Performance of the Archive or Archive as Event: Exploring Architecture" Ayşe Çelik - İstanbul Technical University "Reading Architectural Memory through Chronotopical Image: A Study on Istanbul" Ayşe Çelik - İstanbul Technical University "Climate Change and Planning" Ayşe Çelik - İstanbul Technical University "Climate Change Adaptation in Urban Morphology: A Case Study of London" Ayşe Çelik - İstanbul Technical University	<b>URBAN AND REGIONAL PLANNING</b> Urban Design, Urban Planning, and Urban Infrastructure "Urban Design, Urban Planning, and Urban Infrastructure" Ayşe Çelik - İstanbul Technical University "Urban Design, Urban Planning, and Urban Infrastructure" Ayşe Çelik - İstanbul Technical University "Urban Design, Urban Planning, and Urban Infrastructure" Ayşe Çelik - İstanbul Technical University "Urban Design, Urban Planning, and Urban Infrastructure" Ayşe Çelik - İstanbul Technical University	<b>AERONAUTICAL AND ASTRONAUTICAL ENGINEERING</b> Theoretical, Computational and Experimental Aerodynamics and Fluid Dynamics "Digital Twin Application in System-Level Modeling for Aerospace Applications of a Rocket Engine: A Review" Ayşe Çelik - İstanbul Technical University "Digital Twin Application in System-Level Modeling for Aerospace Applications of a Rocket Engine: A Review" Ayşe Çelik - İstanbul Technical University "Digital Twin Application in System-Level Modeling for Aerospace Applications of a Rocket Engine: A Review" Ayşe Çelik - İstanbul Technical University "Digital Twin Application in System-Level Modeling for Aerospace Applications of a Rocket Engine: A Review" Ayşe Çelik - İstanbul Technical University	<b>STRUCTURAL ENGINEERING</b> Structural Analysis and Design "Design and Analysis of Inverted-Differential Cylindrical Structures for Launch Vehicles: Material Modeling and Nonlinear Factor Correlation with Finite Element Method" Ayşe Çelik - İstanbul Technical University "Design and Analysis of Inverted-Differential Cylindrical Structures for Launch Vehicles: Material Modeling and Nonlinear Factor Correlation with Finite Element Method" Ayşe Çelik - İstanbul Technical University "Design and Analysis of Inverted-Differential Cylindrical Structures for Launch Vehicles: Material Modeling and Nonlinear Factor Correlation with Finite Element Method" Ayşe Çelik - İstanbul Technical University "Design and Analysis of Inverted-Differential Cylindrical Structures for Launch Vehicles: Material Modeling and Nonlinear Factor Correlation with Finite Element Method" Ayşe Çelik - İstanbul Technical University	<b>ELECTRONICS AND COMMUNICATION ENGINEERING</b> Bio-Medical, Bio-Inspired Circuits/Systems "Parametric Investigation of Mechanical Properties for a Laser-Induced Forward Transfer (LIFT) Assisted Manufacturing" Ayşe Çelik - İstanbul Technical University "Parametric Investigation of Mechanical Properties for a Laser-Induced Forward Transfer (LIFT) Assisted Manufacturing" Ayşe Çelik - İstanbul Technical University "Parametric Investigation of Mechanical Properties for a Laser-Induced Forward Transfer (LIFT) Assisted Manufacturing" Ayşe Çelik - İstanbul Technical University "Parametric Investigation of Mechanical Properties for a Laser-Induced Forward Transfer (LIFT) Assisted Manufacturing" Ayşe Çelik - İstanbul Technical University	<b>MECHANICAL ENGINEERING</b> Computational Solid Mechanics "Hybrid Optimization for Elastic Beams: A Comparative Study with Detailed FE" Ayşe Çelik - İstanbul Technical University "Hybrid Optimization for Elastic Beams: A Comparative Study with Detailed FE" Ayşe Çelik - İstanbul Technical University "Hybrid Optimization for Elastic Beams: A Comparative Study with Detailed FE" Ayşe Çelik - İstanbul Technical University "Hybrid Optimization for Elastic Beams: A Comparative Study with Detailed FE" Ayşe Çelik - İstanbul Technical University
	Chair: Dr. Robert Oliver Beahrs	Chair: Assoc. Prof. Dr. Ashkan Şenel	Chair: Prof. Dr. Hayriye Eşbah Tunçay	Chair: Assoc. Prof. Dr. Ramazan Çağlar	Chair: Assoc. Prof. Dr. Enes Zengin	Chair: Prof. Dr. Berna Örs Yalçın	Chair: Asst. Prof. Dr. Alper Tolga Çalkı
15:00 - 16:00	<b>MUSIC</b> Musical Performance "Western as a Cultural Identity: A Study on the 'A' and 'B' Characteristics" Ayşe Çelik - İstanbul Technical University "The Resilience of Classical Harmonies and Lyrical Melodies: An Ecological Look into the Sound of Earthly Products" Ayşe Çelik - İstanbul Technical University "Exploring Dance Floor Tactility: Sound Engineering and Acoustic Study through Audio Pauses" Ayşe Çelik - İstanbul Technical University	<b>ARCHITECTURE</b> Architecture Design Theory "The Potentialities, Opportunities, and Spatial Projections of the Concept" Ayşe Çelik - İstanbul Technical University "Exploring Transformation and Urban Design: Rethinking Architectural Production through Adaptive Real Estate" Ayşe Çelik - İstanbul Technical University "Exploring Transformation and Urban Design: Rethinking Architectural Production through Adaptive Real Estate" Ayşe Çelik - İstanbul Technical University "Exploring Transformation and Urban Design: Rethinking Architectural Production through Adaptive Real Estate" Ayşe Çelik - İstanbul Technical University	<b>LANDSCAPE ARCHITECTURE</b> Landscape Design "Landscape Design: A Study on Istanbul" Ayşe Çelik - İstanbul Technical University "Landscape Design: A Study on Istanbul" Ayşe Çelik - İstanbul Technical University "Landscape Design: A Study on Istanbul" Ayşe Çelik - İstanbul Technical University "Landscape Design: A Study on Istanbul" Ayşe Çelik - İstanbul Technical University	<b>AERONAUTICAL AND ASTRONAUTICAL ENGINEERING</b> Theoretical, Computational and Experimental Aerodynamics and Fluid Dynamics "Adaptation of a Generalized Observer for Nonlinear System Identification and Control: A Review" Ayşe Çelik - İstanbul Technical University "Adaptation of a Generalized Observer for Nonlinear System Identification and Control: A Review" Ayşe Çelik - İstanbul Technical University "Adaptation of a Generalized Observer for Nonlinear System Identification and Control: A Review" Ayşe Çelik - İstanbul Technical University "Adaptation of a Generalized Observer for Nonlinear System Identification and Control: A Review" Ayşe Çelik - İstanbul Technical University	<b>STRUCTURAL ENGINEERING</b> Structural Analysis and Design "Reinforced Concrete Structures: A Study on Istanbul" Ayşe Çelik - İstanbul Technical University "Reinforced Concrete Structures: A Study on Istanbul" Ayşe Çelik - İstanbul Technical University "Reinforced Concrete Structures: A Study on Istanbul" Ayşe Çelik - İstanbul Technical University "Reinforced Concrete Structures: A Study on Istanbul" Ayşe Çelik - İstanbul Technical University	<b>ELECTRONICS AND COMMUNICATION ENGINEERING</b> Bio-Medical, Bio-Inspired Circuits/Systems "Design of a Low-power Power Management IC for IoT Applications" Ayşe Çelik - İstanbul Technical University "Design of a Low-power Power Management IC for IoT Applications" Ayşe Çelik - İstanbul Technical University "Design of a Low-power Power Management IC for IoT Applications" Ayşe Çelik - İstanbul Technical University "Design of a Low-power Power Management IC for IoT Applications" Ayşe Çelik - İstanbul Technical University	<b>MECHANICAL ENGINEERING</b> Automotive "Effect of Injection Timing on Performance of a Spark-Ignition Engine" Ayşe Çelik - İstanbul Technical University "Effect of Injection Timing on Performance of a Spark-Ignition Engine" Ayşe Çelik - İstanbul Technical University "Effect of Injection Timing on Performance of a Spark-Ignition Engine" Ayşe Çelik - İstanbul Technical University "Effect of Injection Timing on Performance of a Spark-Ignition Engine" Ayşe Çelik - İstanbul Technical University

MAIN HALL

KEYNOTE SPEAKER

"Reconstructing A Turkish Identity in Boston: Jazz, Mehter, Byzantine Music and the Process of Internalization"  
Prof. Dr. Mehmet Ali SANLIKOL, *New England Conservatory - Boston*

# 4<sup>th</sup> INTERNATIONAL GRADUATE RESEARCH SYMPOSIUM - IGRS'25



SESSION - V							
TIME	MAIN HALL	HALL - I	HALL - II	HALL - III	HALL - IV	HALL - V	HALL - VI
17:00 - 18:00	<p>Chair: Prof. Dr. Kamile Perçin Akgül, Dr. Görkem Giray</p> <p><b>TRADITIONAL DANCES</b> Dance, Traditional Dances in terms of its role in interdisciplinary interaction in performance areas "The Resurgence of Traditional Dance in Turkey: The Bazaar Dance 'Tül' Project" Gökçe Ayar, İstanbul Technical University</p> <p><b>POLITICAL STUDIES</b> Political and Social Thought "State's Construction of 'Othering' Mechanisms, Stigmatization and Discrimination Processes" Özge Çelikkaya, İstanbul Technical University</p> <p>Political Philosophy "An Evaluation of Aristotle, Plato and Aristotle Regarding Their Conceptualizations of Political Legitimacy" Özge Çelikkaya, İstanbul Technical University</p>	<p>Chair: Asst. Prof. Dr. Eoem Tezel</p> <p><b>ARCHITECTURE</b> Project and Construction Management "A Literature Review On Sustainable Structures in The Construction Industry" Esin Çelikkaya, İstanbul Technical University</p> <p>"Investigating the Role of Data Management in Architecture for Sustainable Building of Construction (A Literature Review)" Nesrin Çelikkaya, İstanbul Technical University</p> <p><b>Sustainable Design</b> "Investigating Circular Economy Through Digital Circularity Model" Nesrin Çelikkaya, İstanbul Technical University</p>	<p>Chair: Assoc. Prof. Dr. Merve Tomaş</p> <p><b>FOOD ENGINEERING</b> Food Biotechnology "Production of Protein Composites from Single Protein by Response Assisted Extrusion" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p><b>Functional Foods</b> "Comparative and Technological Properties of Aquatic From Liquid Lipid" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p>"Plant Based Protein in Infant Soya: Comparison of Sensory, Functional and Bioactive Properties" Ayşe Nur Yıldırım, İstanbul Technical University</p>	<p>Chair: Assoc. Prof. Dr. Salih Başçı Öztürk</p> <p><b>ELECTRIC POWER &amp; ENERGY SYSTEMS</b> "Techno-Economic Investigation of Nuclear Energy Towards Achieving Net-Zero Emissions" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p><b>Power Electronics</b> "A Real Time Response Detection and Mitigation Method for Short Arches Power Filter" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p><b>Electrical Machines</b> "Investigation of the Effect of Space Vector PWM Technique on Zero Sequence Voltage Formation in Open-Switch Windings" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p>"Determination of Absolute Dependent Insulation Breakdown of Strained DC Starter Generators" Ayşe Nur Yıldırım, İstanbul Technical University</p>	<p>Chair: Assoc. Prof. Dr. Enes Zengin</p> <p><b>STRUCTURAL ENGINEERING</b> Structural Performance "Seismic Performance Evaluation and Comparison of Different Structural Systems Using Nonlinear Time History Analysis" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p><b>HYDRAULICS AND WATER RESOURCES ENGINEERING</b> Hydrology "Spatio-Temporal Analysis of Long-Term Streamflow Trends and Climate Impacts on Evapotranspiration" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p><b>HEAT FLUID</b> "Investigation of the Effect of Space Vector PWM Technique on Zero Sequence Voltage Formation in Open-Switch Windings" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p><b>MECHANICAL ENGINEERING</b> Autonomous Vehicles "Determinations Induced by Thermal Cycling at Grain Boundaries of Fine Grained Marbles" Ayşe Nur Yıldırım, İstanbul Technical University</p>	<p>Chair: Prof. Dr. Volkan Sezer</p> <p><b>MECHANICAL ENGINEERING</b> Robotics "Comprehensive Of MPC Based Motion Control Algorithms On Multi-DOF Robot Platform" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p>"Electro-Viscous Hysteresis Modeling, Energy Efficiency Analysis, and Economic Comparison with Conventional Diesel Engine" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p>"A Study on the Performance of GAN, PLS, and JPCA in a 3D-Based Tasking Framework" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p>"Investigation and Optimization of the Effect of Different Model Architectures on Game Model and Strength in the Game with Single Stage Four One" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p><b>HEAT FLUID</b> "Generation of Proper Inflow Conditions with Hydrodynamic Quality Analysis: A Case Study For An Axially-Flowing Pipe Flow" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p>"Multi-Objective Aerodynamic Shape Optimization of Helicopter Rotor" Ayşe Nur Yıldırım, İstanbul Technical University</p>	<p>Chair: Assoc. Prof. Dr. Alaadin Burak İrez</p> <p><b>MECHANICAL ENGINEERING</b> Automotive "Electro-Viscous Hysteresis Modeling, Energy Efficiency Analysis, and Economic Comparison with Conventional Diesel Engine" Ayşe Nur Yıldırım, İstanbul Technical University</p>
18:00 - 19:00		<p>Chair: Assoc. Prof. Dr. Orkan Zeynel Güzelci</p> <p><b>INTERNATIONAL MASTER OF INTERIOR ARCHITECTURAL DESIGN</b> Interior Architecture "Use of Wabi-Sabi Based Materials as an Interior Design Concept: A Digital Publication Approach" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p>Technology in Interior Design "A Strategy for Outdoor Preparation in A Market Trading: The Case of Istanbul" Ayşe Nur Yıldırım, İstanbul Technical University</p>	<p>Chair: Prof. Dr. Nese Şahin Yeşilçubuk, Asst. Prof. Dr. Çiğdem Yılmaz Çolak</p> <p><b>FOOD ENGINEERING</b> Sustainable Foods "Development and Characterization of Biodegradable Films Enriched with Protein Extracted from Agro-Industrial Pea Waste and Soy-Products" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p><b>Food Processing</b> "Effects of Austere Range Sourd Treatment on the Microbiological Quality of Strawberry During Post-Harvest Storage" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p><b>MOLECULAR BIOLOGY - GENETICS AND BIOTECHNOLOGY</b> Metagenomics and Protein Engineering "Bio-Optical Interactions on Synthetic CPDs/CPDs From Hydrothermal Vents" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p>"Recombinant Production of Two Novel Ferredoxin-NADP+ Reductases from <i>Parasponnia ramensis</i> K12_M11" Ayşe Nur Yıldırım, İstanbul Technical University</p>				

## 14 MAY 2025, WEDNESDAY ONLINE SESSION - VI

SESSION - VI								
TIME	MAIN HALL	HALL - I	HALL - II	HALL - III	HALL - IV	HALL - V	HALL - VI	
09:00 - 10:00	<p>Chair: Prof. Dr. Bihter Erol</p> <p><b>GEOMATICS ENGINEERING</b> Geomatics Information Systems "Estimating Vertical Curve Control Parameters in the Amazon Rain Region Using AIS and GIS Data" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p>"Spatio-Temporal Analysis of the Effect of the February 7 Turkey Earthquake" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p>"Transformation of Solid Waste Management in Bursa: A GIS-Based MCDM Approach to Landfill Site Selection Beyond Evaluation" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p>"Spatial Problems and Effective Factors in Hospital Location Selection" Ayşe Nur Yıldırım, İstanbul Technical University</p>	<p>Chair: Asst. Prof. Dr. Bihter Erol</p> <p><b>COMPUTER SCIENCE</b> Data Science "A Data Driven Approach to Process Detection Through Event-Driven Machine Learning with Process Mining" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p>"EET Image Detection Using Deep Learning and Transfer Learning Models (DOPM)" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p>"Resilient Reconstruction Applications For Aerial Image Restoration" Ayşe Nur Yıldırım, İstanbul Technical University</p>	<p>Chair: Asst. Prof. Dr. Abdulkadir Çapar</p> <p><b>ECOLOGY AND EVOLUTION</b> Anthropocene "Exploring the Anthropocene Phenomenon of Climate Change: Climate Conditions" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p>"Unfolding the Character of Turkey's Biodiversity Politics" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p><b>Paleo-Biology</b> "The Geobiology of the Ankaru Basin: Insights from the Geology and Geochemistry of the Basin" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p>"Exploring the Evolution of Socio-Ecological Systems Through Agent-Based Modeling: Insights from North Central Anatolia During the Early Bronze Age" Ayşe Nur Yıldırım, İstanbul Technical University</p>	<p>Chair: Assoc. Prof. Dr. Bülent Arıkan</p> <p><b>GEOMATICS ENGINEERING</b> Geomatics Information Systems "Spatial Analysis and Optimization of E-Governance Capacity's Parcel Collection Operations: The Case of Eskişehir, Istanbul" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p><b>Remote Sensing</b> "Evaluating the Temporal Consistency of SAR and Optical Vegetation Indices for Carbon Monitoring Using Sentinel-1 and Sentinel-2" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p><b>GEOGRAPHIC INFORMATION TECHNOLOGIES</b> Artificial Intelligence and Machine Learning in Remote Sensing Analysis "Current Challenges in Post-Management and Control Approaches From Geographic Information Technologies (GIS)" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p>Remote Sensing Applications in Natural Disaster and Natural Resource Management "Spatiotemporal Change Analysis and Future Projections of Wetlands in Central Anatolia, Turkey" Ayşe Nur Yıldırım, İstanbul Technical University</p>	<p>Chair: Assoc. Prof. Dr. Etilaf Küçükşayracı</p> <p><b>INDUSTRIAL DESIGN</b> Historical, Cultural and Social Context of Design "Decoding Text Attachment Between Design Process and Its Users: Understanding by using Metaphors" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p>"Optimizing User Experience in a 3D-Modeling Software Using User-Centered Design" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p>"Uncovering the Chair Makers' Practices: An Ethical Understanding of the Intersection of Design, Media, and Community" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p><b>Product Design</b> "Testing the Aesthetic Responses to Smart Household Appliances in the Context of Incremental Innovation" Ayşe Nur Yıldırım, İstanbul Technical University</p>	<p>Chair: Assoc. Prof. Dr. Etilaf Küçükşayracı</p> <p><b>INDUSTRIAL DESIGN</b> User Studies "An Analysis of Learning Behavior Through Reality in a Paper World &amp; Human Psychology" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p>"NBD for Game Development: A Framework for Game and Adaptive Audio Design" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p><b>AI in Gaming</b> "Preliminary Study on the Feasibility of Neural Network-Based Generative AI Models in Video Game Music Production" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p>"A Comparative Study for Analyzing LLM Performance in Multi-Modal Content Generation" Ayşe Nur Yıldırım, İstanbul Technical University</p>	<p>Chair: Assoc. Prof. Dr. Derya Güleç Özer</p> <p><b>GAME AND INTERACTION TECHNOLOGIES</b> Game Production "An Analysis of Learning Behavior Through Reality in a Paper World &amp; Human Psychology" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p>"NBD for Game Development: A Framework for Game and Adaptive Audio Design" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p><b>AI in Gaming</b> "Preliminary Study on the Feasibility of Neural Network-Based Generative AI Models in Video Game Music Production" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p>"A Comparative Study for Analyzing LLM Performance in Multi-Modal Content Generation" Ayşe Nur Yıldırım, İstanbul Technical University</p>	<p>Chair: Assoc. Prof. Dr. Mehmet Emin Şalgamcıoğlu</p> <p><b>URBAN DESIGN</b> Design and Evaluation of Public Spaces "The Transformation Effect of Digital Art Installations on Public Spaces: The Case of Bosphorus Tower" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p>"Effects Of Building And Street Intervention On Behavior: An Experiment Through Privacy In Kiosk" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p>"Urban Design and Identity" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p>"The Impact of Space on Mood Regulation: The Relationship Between Sound and Context" Ayşe Nur Yıldırım, İstanbul Technical University</p>
10:00 - 11:00	<p>Chair: Prof. Dr. Bihter Erol</p> <p><b>GEOMATICS ENGINEERING</b> Remote Sensing "Aerial Control Detection Using Deep Learning Networks on Remote Sensing Images" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p>"Investigation of Anthropogenic Effects in Protected Wetlands Using Remote Sensing and Geographic Information Systems: A Case Study of Marmara Sea Lake and Bird Reservoir National Park" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p>"Enhancing Sentinel-1 SAR Classification Accuracy: The Impact of SAR on Urbanization Performance" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p>"Urban Wood Texture Site Selection in the Aegean Sea" Ayşe Nur Yıldırım, İstanbul Technical University</p>	<p>Chair: Dr. Meriç Yücel</p> <p><b>COMPUTER ENGINEERING</b> Artificial Intelligence "Multi-Task ECG Classification Using a Mixture of Experts Transformer Model" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p>"The Role of Artificial Intelligence in Enhancing Software Quality: A Multiscale Literature Review" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p>"An Intelligent, Adaptive, and Self-Improving Reinforcement Learning Approach" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p><b>Computer Networks</b> "Adaptive Consensus Algorithms for Blockchain Networks" Ayşe Nur Yıldırım, İstanbul Technical University</p>	<p>Chair: Asst. Prof. Dr. Recep Kaya</p> <p><b>ENVIRONMENTAL ENGINEERING</b> Air Pollution and Control "Effects of Air Pollutants on Respiratory Diseases in Elderly" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p>"Prebiotic Experimental Investigation of Aquaculture and Remote Control Processes for Desalting Seawater" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p>"Enhancing Revenue Domestic Performance: A CFD-Based Study of Randomized Feed Space Geometries" Ayşe Nur Yıldırım, İstanbul Technical University</p>	<p>Chair: Prof. Dr. Himmet Karaman</p> <p><b>INDUSTRIAL DESIGN</b> Spatial Data Algorithms and Visualization and 3D GIS Technologies "Tactical Map Production Processes and Application Areas for 'Visual Impoverishment'" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p>"Warping Urban Heat Island Effect Through Machine Learning: The Case of Istanbul" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p>"City Model Production with LLM Technology and Integration of Urban Transformation with GIS: The Example of Zeytinliköy District" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p>"Analysis of Customer Complaints in Mobile Communication Networks with GIS" Ayşe Nur Yıldırım, İstanbul Technical University</p>	<p>Chair: Assoc. Prof. Dr. Bülent Arıkan</p> <p><b>SUSTAINABILITY</b> Life Cycle Assessment "The Intersection of Sustainability and Decarbonization: Application in Turkey and Europe" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p><b>Sustainable Development Goals</b> "Enhanced Efficiency of PLD-Based Membranes via Operating Optimization with Temperature" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p><b>Water and Waste Management</b> "Evaluating the Water Footprint of Food Products: A Comparative Study of Meat and Cereals in Turkey" Ayşe Nur Yıldırım, İstanbul Technical University</p>	<p>Chair: Assoc. Prof. Dr. Koray Gelmez</p> <p><b>INDUSTRIAL DESIGN</b> Theory and Methodology in Industrial Design "Understanding Creativity: A Theory-Based Investigation into the Psychology of Designers' Creativity during the Ideation Phase" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p>"From Narrative as Antecedent: Exploring New Possibilities" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p>"Exploring Narrative in Design Research: An Ethical Mapping of Evidence-Based Concepts" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p>"Humanly Through the Product Process: A Human Centered Approach in Incorporation in Industrial Design Process" Ayşe Nur Yıldırım, İstanbul Technical University</p>	<p>Chair: Assoc. Prof. Dr. Derya Güleç Özer</p> <p><b>GAME AND INTERACTION TECHNOLOGIES</b> User Studies "An Analysis of Learning Behavior Through Reality in a Paper World &amp; Human Psychology" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p>"NBD for Game Development: A Framework for Game and Adaptive Audio Design" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p><b>AI in Gaming</b> "Preliminary Study on the Feasibility of Neural Network-Based Generative AI Models in Video Game Music Production" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p>"A Comparative Study for Analyzing LLM Performance in Multi-Modal Content Generation" Ayşe Nur Yıldırım, İstanbul Technical University</p>	<p>Chair: Assoc. Prof. Dr. Mehmet Emin Şalgamcıoğlu</p> <p><b>URBAN DESIGN</b> Urban Conservation "A Study of Meaning in Urban: Ancient Cities as Open-Air Museum" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p><b>Urban Resilience</b> "Shaping Resilient Cities: Resilience as a Tool for Open Space Networks" Ayşe Nur Yıldırım, İstanbul Technical University</p>
11:00 - 12:00	<p>Chair: Prof. Dr. Bihter Erol</p> <p><b>GEOMATICS ENGINEERING</b> Natural Hazards "Seismic Hazard Assessment of Submarine Earthquake Sources and Probabilistic Seismic Risk" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p>"Deep Risk Analysis with Deep Learning Artificial Intelligence Techniques" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p>"On the Role of Earth Observations and Remote Sensing in Environmental and Climate Change" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p><b>Phytogeography</b> "Determining a High Definition Map (HD Map) via VLSI On-Chip Logic Deep Learning-Based Object Detection Model" Ayşe Nur Yıldırım, İstanbul Technical University</p>	<p>Chair: Assoc. Prof. Dr. Şerif Bahtiyar</p> <p><b>COMPUTER ENGINEERING</b> Cyber Security "Reputation Based Decision Making Consensus Mechanism for UAV Swarms with Ethereum Blockchain" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p>"Enhancing IoT Based Detection: A Streamlined Approach to Feature Selection" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p>"Neuro-inspired Computing and Memristor-Based Network Attack Detection Systems: New Approaches in Cybersecurity" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p><b>Embedded Systems</b> "Comparison of the Effects of Different Compiler Environments on Communication Signal Detection Between" Ayşe Nur Yıldırım, İstanbul Technical University</p>	<p>Chair: Asst. Prof. Dr. Ebru Acuner Türet</p> <p><b>SUSTAINABILITY</b> Climate Change Mitigation "Assessing Decarbonization Strategies and Decoupling Trends of Turkey's Private Sector Companies" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p>"The Relationship between Sustainable Finance and the Carbon Border Adjustment Mechanism (CBAM): A Policy Impact Assessment and Hypothesis Case Study of the Iron Ore" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p><b>Smart and Sustainable Cities</b> "Investigation of Green Building Towards Net-Zero Carbon in Cities: Example in ITU Ayazağa Campus" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p><b>Phytogeography</b> "An Inclusive Digital Accessibility Policy for Individuals with Disabilities" Ayşe Nur Yıldırım, İstanbul Technical University</p>	<p>Chair: Assoc. Prof. Dr. Bülent Arıkan</p> <p><b>SUSTAINABILITY</b> Life Cycle Assessment "The Intersection of Sustainability and Decarbonization: Application in Turkey and Europe" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p><b>Sustainable Development Goals</b> "Enhanced Efficiency of PLD-Based Membranes via Operating Optimization with Temperature" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p><b>Water and Waste Management</b> "Evaluating the Water Footprint of Food Products: A Comparative Study of Meat and Cereals in Turkey" Ayşe Nur Yıldırım, İstanbul Technical University</p>	<p>Chair: Assoc. 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Prof. Dr. Alihan Erkmen</p> <p><b>ART HISTORY</b> Art History "An Historical Perspective on the Evolution of Contemporary Art in Turkey" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p>"From Traditional to Contemporary: The Evolution of Turkish Contemporary Art" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p><b>Art and Technology</b> "The Role of Digital Technologies in Modern Sculpture: Exploring Experience Museum" Ayşe Nur Yıldırım, İstanbul Technical University</p>

\* THE PRESENTATION DURATION IS DEFINED AS 15 MINUTES, INCLUDING Q-A (ONLY FOR ORAL PRESENTATION)

## 14 MAY 2025, WEDNESDAY IN PERSON, ITU Süleyman Demirel Arts and Conference Center, Ayazağa Campus

TIME	GROUND FLOOR and FIRST FLOOR IN PERSON	TIME	CONFERENCE HALL IN PERSON	TIME	WORKSHOP HALL IN PERSON
09:00 - 12:45	<p><b>POSTER SESSION</b></p>	<p>10:00 - 11:30</p>	<p><b>"3 MINUTE THESIS" Competition</b></p>	<p>10:00 - 11:00</p> <p><b>SCIENCE, TECHNOLOGY AND SOCIETY (STS)</b> Communication of Science and Technology "A Bibliometric Analysis of Research on Healthcare Services" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p>Social Dimensions of Science and Technology "The Impact of Rural Practices on Rural Production and Trade Policies in Turkey: The Case of Samsat" Ayşe Nur Yıldırım, İstanbul Technical University</p> <p>Social and Ethical Dimensions of AI "Unethical Consequences of Generative AI: Product Liability: A Product Management Perspective" Ayşe Nur Yıldırım, İstanbul Technical University</p>	<p>11:15 - 12:00</p> <p><b>KEYNOTE SPEAKER</b> STS - Talk "Democratic Science And Participation in the Digital Era: Insights from Citizen Science Projects in the Environmental And Marine Sciences" Asst. Prof. Alessandra Genzi, Aalborg University - Denmark * The distinguished speaker is hosted within the scope of ERASMUS+ programme.</p>
12:45-13:00			<p><b>CLOSING REMARKS</b> Prof. Dr. Fatma Seniha GÜNER , Institute Director, Istanbul Technical University</p>		
13:00 - 14:00			<p><b>CONCERT AND PERFORMANCE PROGRAMME, CONFERENCE HALL</b> Istanbul Technical University, Turkish Music State Conservatory</p>		