



Conference Program



Conference Program

Day 1 Thursday, 11 September

Time		Venue
08:30 – 09:00	Registration	3rd Floor Lobby
09:00 – 09:30	Opening Ceremony <ul style="list-style-type: none">- Welcome address by the <i>Conference Chairman</i>, Assoc. Prof. Paris A. Fokaides- Welcome address by the <i>Rector of Frederick University</i>, Prof. George Demosthenous- Address by <i>EU Commissioner for Fisheries and Oceans</i>, Costas Kadis- Memorial tribute to Prof. Marios Fyrrilas, by the <i>Head of the Department of Mechanical Engineering</i>, Assoc. Prof. Michalis Menicou	Room 306 (Main Seminar Room), 3rd Floor

Time	Room 304	Room 305
09:30 – 11:00	ME01 - Innovative Renewable and Hydrogen Solutions	Arch01 - Design for Green Spaces
11:00 – 11:30	Coffee Break	
11:30 – 13:00	CvE01 - Policy, Design & Innovation	Arch02 - Advances in Architectural Heritage
13:00 – 14:00	Lunch Break	
14:00 – 14:30	Invited Speaker Prof. Konstantinos Komnitsas Contribution of Alkali Activation towards Zero-Waste Management, Low-Carbon Cities and Sustainable Development	Invited Speaker Prof. Agatino Rizzo Re-designing Cities for the Green Transition: Open Questions for Architects, Engineers, and Planners
14:30 – 16:00	CvE02 - Environmental Resilience & Climate Risk	Arch03 - Passive Climatic Design
16:00 – 16:30	Coffee Break	
16:30 – 18:00	CvE03 - Sustainable Construction & Materials	ME02 - Advancing Smart and Integrated Building Assessment

Conference Program

Day 2 Friday, 12 September

Time	Room 304	Room 305
09:00 – 09:30	Invited Speaker Prof. Agis Papadopoulos The Water–Energy Nexus and the Utilization of Renewable Energy Sources: Perspectives and Challenges	Invited Speaker Prof. Dan Doru Micu From Research to Impact: EU-Funded Projects in Energy Transition and Decarbonization
09:30 – 11:00	ME03 – Engineering Innovations in Materials, Manufacturing, Imaging, and Quality Systems	EE01 – Power & Control
11:00 – 11:30	Coffee Break	
11:30 – 12:00	Invited Speaker Prof. Spyridon Pantelakis Rethinking Aviation Sustainability	
12:00 – 13:30	ME04 – Sustainability and Circular Innovation Across Built and Natural Environments	EE02 – Communications
13:30 – 14:30	Lunch Break	
14:30 – 16:00	ME05 – Resilient and Accessible Buildings through Digital Innovation	CS01 – Smart Systems & AI for Urban Efficiency
16:00 – 16:30	Coffee Break	
16:30 – 18:00	ME06 – Sustainable Transport and Energy Innovations	CS02 – IoT for Precision Agriculture & Environmental Monitoring

SESSIONS

Architecture

ID	Presentation Title
Arch01 - Design for Green Spaces	
CASE25_Arch_E_2	"Aphaeresis": Sustainable Pedagogy in Architecture
CASE25_Arch_I_03	Interactivity of Natural and Physical Spaces in Architectural Design
CASE25_Arch_I_07	Urban Narratives In Cyprus: Exploring Commuting Behaviors And Infrastructure Challenges
CASE25_Arch_I_09	Local Authorities as Commons Catalysts: Lessons from Bologna, Amsterdam and Prague
CASE25_Arch_I_12	Enhancing Urban Green Spaces in Cyprus: A Comparative Analysis of Local Planning Approaches Across Europe
Arch02 - Advances in Architectural Heritage	
CASE25_Arch_E_1	Conservation through Demolition: Sustainable Futures for Urban Heritage in Nafpaktos
CASE25_Arch_I_04	Shaping Resilient Futures - The Urban Planning Framework for Cyprus' Architectural Heritage
CASE25_Arch_I_06	Traditional Building Systems and Contemporary Technology. The case of "Archontikon" in Nicosia
CASE25_Arch_I_08	On the Sustainability of Modern Architectural Heritage and Preservation technology. The case of "Archontikon" in Nicosia
CASE25_Arch_I_10	Geometrical Determination of the Typical House of Cyprus in the Post War Period
Arch03 - Passive Climatic Design	
CASE25_Arch_E_4	Sustainable Renovation towards Net-Zero Modern Cultural Heritage: a Brutalist case study
CASE25_Arch_I_01	Enhancing Sustainable Heritage Documentation: Integrating Remote Sensing and HBIM
CASE25_Arch_I_02	Evaluating New European Bauhaus values and principles in FredU Architectural Curriculum
CASE25_Arch_I_05	Digital Culture in Architectural Education: Exploring the Impact of Digital Tools on Architectural Design
CASE25_Arch_I_11	Large Span Sports Centres with Anti-Seismic and Bioclimatic Behaviour in Greece

SESSIONS

Computer Science

ID	Presentation Title
CS01 - Smart Systems & AI for Urban Efficiency	
CASE25_CS_I_02	Integrating External Environmental Sensors with Soil Biochemistry for Plant Growth Optimization in Precision Agriculture
CASE25_CS_I_05	A Novel Adaptive Sampling Algorithm for Dependent Variables in Energy-Efficient IoT Sensor Nodes and its Application in Agriculture
CASE25_CS_I_07	Green-HIT: An End-to-End IoT System for Forest Monitoring and Management
CASE25_CS_I_08	AGRILORA: A LoRaWAN-Based System for Efficient Crop Monitoring with Radio Frequency Energy Harvesting
CASE25_CS_I_10	Open-Source BlueOS for Controlling the SeaBot USV
CS02 - IoT for Precision Agriculture & Environmental Monitoring	
CASE25_CS_I_03	Spillover Effect Correction with/out Partial Volume Correction in Postsurgical SPECT/CT Imaging
CASE25_CS_I_04	Energy-Aware Coverage Path Planning in Dynamic Environments Using Deep Predictive Models
CASE25_CS_I_06	A Green Energy-Management Framework for Aggregator Participation in the Day-Ahead Market
CASE25_CS_I_12	Multi-Stage Cascaded Algorithm for Localization with Integrated BEacon Ranking (CALIBER) for Bluetooth-Based Indoor Localization
CASE25_CS_I_13	FoodFlow-1.0: A Smart IoT System for Manual Food Waste Logging for Hotels in the Med Region

SESSIONS

Civil Engineering

ID	Presentation Title
CvE01 - Policy, Design & Innovation	
CASE25_CvE_E_8	Towards the enrichment of Construction VET courses for the Green and Digital Transition: The Buildskills Academy Paradigm
CASE25_CvE_I_01	Reliability-Based Assessment of Eurocode 7 Design Practices Considering Soil Variability
CASE25_CvE_I_02	Enhanced Analysis of Thermal and Strength Characteristics in Concrete Slabs Utilising GGBS and OPC via Finite Element Simulation
CASE25_CvE_I_06	Towards a Harmonized Building Legislation Framework in the European Union: Challenges and Prospects
CASE25_CvE_I_07	The Role of Building Legislation in European Economic Integration: Analyzing the Path to Standardization
CvE02 - Environmental Resilience & Climate Risk	
CASE25_CvE_E_5	Passive House Apartment Building in Hot Climate, Example of Energy Neutral Low-Cost Building
CASE25_CvE_I_09	Analysis of Climate Change Indicators in Troodos Mountain Geopark
CASE25_CvE_I_12	Concrete Sections Reinforced with FRP Bars and Grid: A Sustainable Alternative for Highly Corrosive Environments?
CASE25_CvE_I_13	Risk and Reliability Analysis of Gravity Wall Seismic Performance for Sustainable Slope Stability
CASE25_CvE_E_4	Experimental Investigation and Nonlinear Finite Element Analysis of Corroded Reinforced Concrete Elements Retrofitted with Strain-Hardening Cementitious Composites (SHCCs) and Fiber-Reinforced Polymers (FRPs)
CvE03 - Sustainable Construction & Materials	
CASE25_CvE_E_3	Optimisation of Synthesis Conditions and Investigation of Durability and Transport Properties of High Temperature Performance Geopolymer Coating for Substrates
CASE25_CvE_E_6	Main Factors that Influence Alkali Activation of Slag Produced after Pyrometallurgical Treatment of Laterites
CASE25_CvE_E_7	Contribution of Alkali Activation Towards Zero-Waste Management, Low-Carbon Cities and Sustainable Development
CASE25_CvE_I_03	Optimized Recycled Aggregate Concrete (RAC) formulations for Concrete Armor Units (CAU)
CASE25_CvE_I_04	Comparative Life Cycle Assessment of Cement Production in Isolated Regions: Insights from Regional and Global Benchmark
CASE25_CvE_I_05	Evaluation of Self-Compacting Concrete with Industrial Waste
CASE25_CvE_I_08	Valorization of Waste Diabase Mud from Aggregate Washing for the Development of Value-Added Building Materials

SESSIONS

Electrical Engineering

ID	Presentation Title
EE01 - Power & Control	
CASE25_EE_I_01	Harnessing Wind Energy From Highway Traffic To Power Led Directional Lighting Systems
CASE25_EE_I_04	Cooperative Adaptive Cruise Control Strategies for RIS assisted Automated Driving using Cooperative Perception Messages
CASE25_EE_I_05	Towards a general Machine Learning model for energy profile predictions in Smart Energy Communities in Cyprus
CASE25_EE_I_06	The Synergistic Role of Aggregators and Grid Suppliers within Energy Communities: The case of Cyprus
CASE25_EE_I_11	Lithium-Ion Battery Simulation with complex 3D porous structures
CASE25_EE_I_13	Advanced 3D Simulation of PN-Junctions Using the Lattice Boltzmann D3Q19 Model
EE02 - Communications	
CASE25_EE_I_02	True Time Delay Bandpass Filters for FR-3 Band Beamforming: A Triple-Tapered Stub Approach.
CASE25_EE_I_03	Investigation of Precipitable Water Vapor (PWV) and heavy Rainfall Relationship over Coastal Regions in Cyprus
CASE25_EE_I_07	Ionospheric response of the January 2025 Geomagnetic Storm over Europe
CASE25_EE_I_08	Liquid Antennas as Components For Sustainable Wireless Systems
CASE25_EE_I_09	Additively Manufactured RF Components Using Nanocomposite Conductive Materials and NonHomogeneous Dielectric Substrates
CASE25_EE_I_10	Challenges in Improving GNSS Positioning over Cyprus by Ingesting Ionospheric Characteristics into an Ionospheric Mitigation Algorithm
CASE25_EE_I_12	RF Filter Architectures for Tuneable and Reconfigurable Communication System

SESSIONS

Mechanical Engineering

ID	Presentation Title
ME01 - Innovative Renewable and Hydrogen Solutions	
CASE25_ME_E_10	Introduction to the Creation of a Method for Short-Term Forecasting of Energy Yield from Solar Thermal Collector
CASE25_ME_E_15	Perspective of Shallow Geothermal Systems in the Republic of Croatia
CASE25_ME_E_05	Residual-Refined Temporal Fusion Transformer for Occupancy-Aware Day-Ahead Energy Forecasting
CASE25_ME_E_08	Experimental Investigation of Solar Panel Convective Cooling: Turbulence-Reduced Wind Tunnel Study
CASE25_ME_I_12	Energy Transition in European Union after the Unprecedented Energy Crisis
CASE25_ME_I_22	Green Hydrogen Production by Using Recycle Aluminum Metal Without the Use of Electricity
CASE25_ME_I_23	Hydrogen Enhanced Efficiency of Gas Burners for Central Heating Boilers
ME02 - Advancing Smart and Integrated Building Assessment	
CASE25_ME_E_01	Rethinking building assessment: Beyond Energy Performance Certificates and the Smart Readiness Indicator in the Greek context
CASE25_ME_E_16	What HVAC and Building Professionals need to know?
CASE25_ME_E_18	Combined Evaluation of the Smart Readiness Indicator (SRI) and the Energy Performance Certificate (EPC) in Residential Building Renovation
CASE25_ME_E_04	Smart Assessment in the Context of Urban Decarbonization: Comparative Analysis and Methodological Insights through the Case Study of Western Macedonia Region in Greece
CASE25_ME_I_06	Smart Data Collection for Building Sustainability Assessment: The Case of Call Centres and the Smart Readiness Indicator
CASE25_ME_I_10	Towards Integrated Building Assessment: A Unified Certificate for Energy Performance and Smart Readiness
ME03 - Engineering Innovations in Materials, Manufacturing, Imaging, and Quality Systems	
CASE25_ME_E_19	Advancing Quality and Performance in the Textile Industry: A Sustainability Engineering Review of TQM Practices, ISO 9001 Standards, and Safety Culture Integration
CASE25_ME_I_14	Effect of FDM Process Parameters on the Mechanical Response of PLA Structures for Orthopedic Applications
CASE25_ME_I_15	Simulation-driven Design, 3D-Printing and Testing of Metallic Implant Auxetic Structures with Adjusted Stiffness for Improved Bone Integration
CASE25_ME_I_18	Efficient Implementation of Stochastic Reconstruction Methods in Emission Tomography
CASE25_ME_I_25	Point Spread Function Reconstruction in 18F PET/CT Myocardial Perfusion Studies
CASE25_ME_I_26	Experimental and Simulation Approaches to Strength and Quality Enhancement of Composite Sandwich Structures in Leisure Water Skis

SESSIONS Mechanical Engineering

Continued

ID	Presentation Title
ME04 - Sustainability and Circular Innovation Across Built and Natural Environments	
CASE25_ME_E_17	Resilient Water Management in Smart Buildings: Insights from the COVID-19 Pandemic
CASE25_ME_E_02	BIM-LCA Data Fidelity for Building-Passport Workflows: IFC Export vs Drawing Take-Off
CASE25_ME_E_06	Disassembly of Building Envelopes in Greece: Early Insights into Unlocking the Potential of Circular Design and Construction Practices
CASE25_ME_I_01	Advancing Green University Campuses: Challenges, Best Practices, and the Role of Environmental Management Systems
CASE25_ME_I_02	Navigating the Bio-economy Landscape: Crafting Sustainable and Circular Futures for Underrepresented Southern European Regions
CASE25_ME_I_16	Advancing Sustainable Aquaculture in Cyprus: Challenges, Innovations, and Future Perspectives
ME05 - Resilient, and Accessible Buildings through Digital Innovation	
CASE25_ME_E_13	On the Application of Forecast Control of Heating in University Building Cooling
CASE25_ME_E_03	Evaluation of Building Energy Model for Space Cooling
CASE25_ME_I_05	A Data-Driven Framework for Operational Energy Performance Certification Aligned with Directive (EU) 2024/1275
CASE25_ME_I_07	Enhancing Accessibility in the Built Environment Using IoT-Enabled Smart Sensors
CASE25_ME_I_08	Comparative Assessment of Smart Ready Technologies Using Economic and Technological Metrics
CASE25_ME_I_09	Reviewing Resilience Enhancement Solutions for the Built Environment under Climate Stressors
ME06 - Sustainable Transport and Energy Innovations	
CASE25_ME_I_17	Hydrogen-Powered UAVs: A Sustainable and Efficient Solution for Aerial Surveillance and Data Collection
CASE25_ME_E_12	Innovative Framework to Sustainability Assessment and Sustainable Design in Aviation
CASE25_ME_I_13	The role of Natural Gas Vehicles in the energy transition era
CASE25_ME_I_19	Modelling of Advanced Biofuels Production and Utilisation in Internal Combustion Engines
CASE25_ME_I_20	Fuel Savings and Reduction of Exhaust Gas Emissions of Existing ICEs by Application of Hydrogen Technologies
CASE25_ME_I_21	Demonstration of a Prototype Unit Producing Green Hydrogen, Heat and Alumina by Catalytic Water Decomposition With Recycle Aluminum Metals
CASE25_ME_I_27	Crashworthy Capability of Roadside Guardrail Systems after Electric Vehicle Impacts