

Timetable A: SpliTech2022 Program

July 5, 2022 IoT Day, University of Split, FESB | TIME: 8:30 – 17:00

July 6, 2022, Hotel Elaphusa, Bol (island of Brač), Virtual Access

TIME	BRAČ 1	HVAR	KORČULA
08:30-09:00	Meet the Editors	IoT Symposium: OPENING	RFID & EM for IoT Symposium: OPENING
09:00-10:30		IoT 1: Security and Blockchain applied to IoT (part 1)	EM-IoT 1: Small antennas and RF sensors for IoT applications
10:30-11:00	Coffee Break		
11:00-11:30	Keynote speech Cecilia Occhiuzzi "RFID in the Industrial IoT era: Data-Driven Approaches for Monitoring Plants and Goods" (BRAČ 1)		
11:30-13:00	Building Decarbonization (Welcoming Address/Plenary/Invited Talks)	IoT 2: Security and Blockchain applied to IoT (part 2)	EM-IoT 2: Fusing RFID – Combining RFID with Other Technologies
13:00-14:00	Lunch		
14:00-14:30	Keynote speech Alice Buffi "RFID Vehicles: a Pervasive Solution for Item Tracking and Beyond" (BRAČ 1)		
14:30-16:00	BD1: Thermal Comfort in Buildings	IoT 3: IoT Innovative Use Cases	EM-IoT 3: RFID: a key technology for Society and Industry
16:00-16:30	Coffee Break		
16:30-18:00	BD2: Mitigation Strategies to Reduce Urban Overheating	IoT 4: Innovative IoT Solutions	EM-IoT 4: RFID and Electromagnetic Devices Empowered by AI techniques
19:00-21:00	GUIDED TOUR		

July 7, 2022, Hotel Elaphusa, Bol (island of Brač), Virtual Access

TIME	BRAČ 1	HVAR	KORČULA
09:00-10:30	Building Decarbonization (Invited Talks)	IoT 5: AI & IoT	EM-IoT 5: The challenges of the young researches in RFID and Electromagnetics for IoT
10:30-11:00		Keynote speech Helen Karatza "Scheduling Real-Time Applications in Cloud Fog and Mist Enviroments" (BRAČ 1)	
11:00-11:30	Coffee Break		
11:30-13:20	OPENING CEREMONY Plenary session: Manos Tentzeris "Inkjet-/3D-/4D-Printed "Zero-Power" RFID-enabled Wireless Ultrabroadband Modules for IoT, SmartAg and Smart Cities" Applications (BRAČ 1) Mattheos Santamouris "Cooling the Cities : Impact of Overheating and Mitigation Science" (BRAČ 1)		
13:20-14:20	Lunch		
14:20-15:50	BD3: Energy Storage in Buildings, Materials and Energy Systems	IoT 6: Big Data and IoT	Workshop on Smart and Efficient Cooling Techniques for Sliceous Photovoltaic Panels: Project Outcomes (2018-2022)
15:50-16:20	Coffee Break		
16:20-17:50	BD4: Energy Efficiency and Energy Savings in Buildings	BD5: NZEB Buildings and Life Cycle Approach	EM-IoT 6: Sensors and EM Solutions for IoT
21:00	CONFERENCE DINNER AND COCKTAILS		

July 8, 2022, Hotel Elaphusa, Bol (island of Brač), Virtual Access

TIME/HALL	BRAČ 1	HVAR	KORČULA
09:00-10:30	BD6: Smart Technologies in Buildings	IoT 7: IoT and Smart Cities	H1: Smart Health
10:30-11:00	Coffee Break		
11:00-12:30	BD7: Energy Modelling and Forecast in Buildings	IoT 8: IoT and Smart Mobility	SS1: Smart City Applications
12:30-13:00	Coffee Break		
13:00-14:30			
14:30	Lunch		

Symposium on IoT organizer: L. Patrono

Symposium on RFID & EM for IoT organizer: L. Catarinucci

Symposium on Building Decarbonization Strategies: M. Santamouris

Workshop: Meet the editors Moderator: Sandro Nižetić Speakers: M. Santamouris, J.J. Klemeš, P.S. Varbanov, Yee Van Fan

Workshop on Smart and Efficient Cooling Techniques for Photovoltaic Technologies organizer: S. Nižetić

Timetable B: SpliTech2022 Program

July 5, 2022 | IoT Day, University of Split, FESB, Virtual Access | TIME: 8:30 – 17:00

July 6, 2022, Hotel Elaphusa, Bol (island of Brač), Virtual Access

TIME	VIS	ŠOLTA
09:00-10:30	E1: Power engineering, Microgrids and Forecasting – I	EM1: Engineering Modelling - Electromagnetics
10:30-11:00	Break	
11:00-11:30	Keynote speech Cecilia Occhiuzzi <i>“RFID in the Industrial IoT era: Data-Driven Approaches for Monitoring Plants and Goods” (BRAČ 1)</i>	
11:30-13:00	E2: Power engineering, Microgrids and Forecasting - II	EM2: Engineering Modelling and Optimisation – (part I)
13:00-14:00	Lunch	
14:00-14:30	Keynote speech Alice Buffi <i>“RFID Vehicles: a Pervasive Solution for Item Tracking and Beyond” (BRAČ 1)</i>	
14:30-16:00	E3: Photovoltaic Technologies and Systems	Workshop on Smart and Efficient Cooling Techniques for Sliceous Photovoltaic Panels: Project Outcomes (2018-2022)
16:00-16:30	Coffee Break	
16:30-18:00	E4: Energy Systems, Technologies and Modelling	EM3: Engineering Modelling and Optimisation - (part II)
19:00-21:00	GUIDED TOUR	

July 7, 2022, Hotel Elaphusa, Bol (island of Brač), Virtual Access

TIME	VIS	ŠOLTA	BRAČ 2
09:00-10:30	TUTORIAL: An Overview on Blockchain and Distributed Ledger Technologies applied to IoT: from basic concepts to applications	mESC conference	mESC conference
10:30-11:00	Keynote speech Helen Karatza <i>“Scheduling Real-Time Applications in Cloud Fog and Mist Enviroments” (BRAČ 1)</i>		
11:00-11:30	Coffee Break		
11:30-13:20	OPENING CEREMONY Plenary session: Manos Tentzeris <i>“Inkjet-/3D-/4D-Printed “Zero-Power” RFID-enabled Wireless Ultrabroadband Modules for IoT, SmartAg and Smart Cities” Applications (BRAČ 1)</i> Mattheos Santamouris <i>“Cooling the Cities : Impact of Overheating and Mitigation Science” (BRAČ 1)</i>		
13:20-14:20	Lunch		
14:20-15:50	TUTORIAL: EMF Safety of a WPT System to Recharge a Compact Electric Vehicle	mESC conference	mESC conference
15:50-16:20	Coffee Break		
16:20-17:50	TUTORIAL: Efficient Stochastic-deterministic Dosimetry Procedures for exposures to mm Waves range for 5G Systems	mESC conference	mESC conference
21:00	CONFERENCE DINNER AND COCKTAILS		

July 8, 2022, Hotel Elaphusa, Bol (island of Brač), Virtual Access

TIME/HALL	VIS	ŠOLTA
09:00-10:30	E5: Energy Efficiency and Renewable Energy Systems	E6: Energy Conversion and Energy Analysis
10:30-11:00	Coffee Break	
11:00-12:30	P1: Professional Paper (Energy – part 1)	SS1: Sustainable and Secure enviroments
12:30-13:00	Coffee Break	
13:00-14:30	P2: Professional Paper (Energy – part 2)	
14:30	Lunch	

Wednesday, July 6

Wednesday, July 6 9:00 - 10:30

E1: Power Engineering, Microgrids and Forecasting - I

Room: Vis

Bagging Ensemble Classifier for Predicting Lightning Flashovers on Distribution Lines

Petar Sarajcev (University of Split, Croatia)

Optimal scheduling of battery energy storage in microgrid to minimize electricity and fuel costs

Zvonimir Šimić, Danijel Topić and Marina Dubravac (J. J. Strossmayer University of Osijek, Croatia)

Day-ahead Electricity Price Forecasting Using LSTM Networks

Marija Miletić and Ivan Pavić (University of Zagreb, Croatia); Hrvoje Pandzic (Fer, Croatia); Tomislav Capuder (Zagreb, Croatia)

The optimal use of stationary battery storage in a prosumer power system

Goran Knežević, Nemanja Mišljenović, Nikša Radić and Andrej Brandis (FERIT Osijek, Croatia)

Towards Consumer-Oriented Demand Response Systems

Vitor A. C. C. Almeida (Federal University of Piauí (UFPI), Brazil); Ricardo A. L. Rabelo (Federal University of Piauí (UFPI), Brazil); Arthur Carvalho (Miami University, Farmer School of Business, USA); Virginia Pilloni (University of Cagliari, Italy)

Laboratory Setup for Stability and Optimization Studies of Hybrid Microgrids

Mateo Beus (FER, Croatia); Lin Herenčić (University of Zagreb, Croatia); Hrvoje Pandzic (Fer, Croatia); Ivan Rajšl (FER, Croatia)

EM-IoT 1: Small antennas and RF sensors for IoT applications

Room: Korčula

Passive RFID-Based Phone Call System Integrated into Clothing and Furniture

Asif Shaikh, Shiva Jabari, Ruowei Xiao, Oguz Buruk, Juho Hamari and Johanna Virkki (Tampere University, Finland)

Planar Inverted-F Antenna for Bluetooth Applications

Karima Rabaani and Mohamed karim Azizi (University of Tunis El Manar, Tunisia); Luca Catarinucci and Riccardo Colella (University of Salento, Italy)

Design of Supershaped Dielectric Lens Antenna for 6 G applications

Gianvito Mevoli (Polytechnic University of Bari, Italy); Pietro Bia (Elettronica Group, Italy); Luciano Mescia (Polytechnic University of Bari, Italy)

Cavity backed sinuous antenna for IoT applications

Claudio Maria Lamacchia and Michele Gallo (IAMAttek Srl, Italy); Pietro Bia (Elettronica Group, Italy); Domenico Caggiano (IAMAttek Srl, Italy); Luciano Mescia (Polytechnic University of Bari, Italy)

A Wireless Synchronized System for the Long-Term Global Health Monitoring

Giuseppe Coviello and Gianfranco Avitabile (Politecnico di Bari, Italy); Claudio Talarico (Gonzaga University, USA); Janet Wang-Roveda (University of Arizona, USA); Antonello Florio (Politecnico di Bari, Italy)

A Wireless Strain Sensor based on Piezoresistive Fabrics

Sandra Rodini, Simone Genovesi, Giuliano Manara and Filippo Costa (University of Pisa, Italy)

EM1: Engineering Modelling - Electromagnetics


Room: Šolta

Absorbed Power Density in a Multilayer Tissue Model due to Radiation of Dipole Antenna at GHz Frequency Range: Part I Theoretical Background

Dragan Poljak (University of Split, Croatia); Anna Šušnjara (University of Split & FESB, Croatia); Lucija Kraljević (University of Split, FESB, Croatia)

Does COVID-19 Behave as Lightning Strike?

Ante Lojić Kapetanović and Dragan Poljak (University of Split, Croatia)

Electric Field Radiated by a Vertical Dipole Antenna Above a Lossy Half Space by using Calculated and Assumed Current Distribution 

Enida Cero Dinarević (FESB, Bosnia and Herzegovina); Dragan Poljak (University of Split, Croatia); Vicko Doric (University of Split, FESB, Croatia)

Absorbed Power Density in a Multilayer Tissue Model due to Radiation of Dipole Antenna: Part II Results 

Dragan Poljak (University of Split, Croatia); Anna Šušnjara (University of Split & FESB, Croatia); Lucija Kraljević (University of Split, FESB, Croatia)

A Simplified Analytical Model for Human Exposure to Electromagnetic Radiation of HF Wireless Power Transmitter

Petra Rasic, Zoran Blažević, Maja Škiljo and Dragan Poljak (University of Split, Croatia)

IoT 1: Security & Blockchain applied to IoT (part 1)

Room: Hvar

Cyber-Attack Mitigation in Cloud-Fog Environment Using an Ensemble Machine Learning Model 

Francesco Nocera, Sergio Abascià, Marco Fiore, Awais Aziz Shah, Marina Mongiello, Eugenio Di Sciascio and Giuseppe Acciani (Politecnico di Bari, Italy)

A Threat Model for Extensible Smart Home Gateways 

Fulvio Corno and Luca Mannella (Politecnico di Torino, Italy)

Incentivized Security-Aware Computation Offloading for Large-Scale Internet of Things Applications 

Talal Halabi (The University of Winnipeg, Canada); Adel Abusitta (McGill University, Canada); Glaucio Carvalho (Brock University, Canada); Benjamin C. M. Fung (McGill University, Canada)

COTIIP: a new covert channel based on incomplete IP packets 

Franco Tommasi, Christian Catalano, Alessandro Caniglia and Ivan Taurino (University of Salento, Italy)

Secure and Efficient Web of Things Digital Twins using Permissioned Blockchains 

Iakovos Pittaras and George C. Polyzos (Athens University of Economics and Business, Greece)

Wednesday, July 6 11:30 - 13:00

E2: Power Engineering, Microgrids and Forecasting - II

Room: Vis

Faults Location in Transmission Lines using Mel Frequency Cepstral Coefficients 

Breno Silva (IFMA, Brazil); Hermes Branco and Lucas Sa (Federal University of Piaui, Brazil); Ricardo A. L. Rabelo (Federal University of Piaui (UFPI), Brazil)

Grid Voltage Amplitude and Frequency Real-Time Estimation using Linear Kalman Filter 

Antonijo Kunac, Goran Petrovic and Marin Despalatovic (University of Split, FESB, Croatia); Petar Sarajcev (University of Split, Croatia)

Evaluating Anomaly Detection Algorithms through different Grid scenarios using k-Nearest Neighbor, iforest and Local Outlier Factor 

Nils Jakob Johannesen, Mohan Kolhe and Morten Goodwin (University of Agder, Norway)

Options for Application of Distributed Ledger Technologies in Development and Operation of Energy Communities 

Erica Svetec (Green Energy Cooperative (ZEZ), Croatia); Lin Herencić and Alen Hrga (University of Zagreb, Croatia)

Evaluating the performance of photovoltaic simulation tools: case study of grid-connected 31 kWp photovoltaic system 

Ivan Bevanda (Ilička 17, Bosnia and Herzegovina); Tihomir Betti (University of Split, Croatia); Petar Marić (University of Mostar, Bosnia and Herzegovina); Ivan Marasović (University, Croatia)

EM-IoT 2: Fusing RFID - Combining RFID with Other Technologies

Room: Korčula

RFID Thermal Monitoring Sheet (R-TMS) for Skin Temperature Measurements during Superficial Microwave Hyperthermia Treatment 

Francesco Lestini, Nicoletta Panunzio and Gaetano Marrocco (University of Rome Tor Vergata, Italy); Cecilia Occhiuzzi (University of Roma Tor Vergata, Italy)

Mobile robot-integrated machine vision and RFID systems for improving fire safety in care environments 

Mirka Leino, Sari Merilampi, Joonas Kortelainen, Pauli Valo and Tommi Lehtinen (Satakunta University of Applied Sciences, Finland); Johanna Virkki (Tampere University, Finland)

Passive temperature sensor tag based on quasi-BIC 

Ildar Yusupov (ITMO University, Russia); Dmitry Filonov (Moscow Institute of Physics and Technology, Russia); Andrey Bogdanov (ITMO University, Russia); Pavel Ginzburg (Tel Aviv University, Israel); Mikhail V Rybin (ITMO University, Russia); Alexey P. Slobozhanyuk (ITMO University & Australian National University, Russia)

A versatile NFC-based RFID Sensor Platform 

Martin Lenzhofer and Juergen Kosel (Silicon Austria Labs GmbH, Austria)

A GNN-based indoor localization method using mobile RFID platform 

Yunxiang Fu (The University of Hong Kong, China); Xiong Xiong (Beijing University of Posts and Telecom, China); Zheng Liu (University of Cambridge, United Kingdom (Great Britain)); Xuhang Chen (Beihang University, China); Yi Liu (University of Cambridge, United Kingdom (Great Britain)); Zhe Fu (HNUK Consulting Ltd, United Kingdom (Great Britain))

EM2: Engineering Modelling - Optimisation (part 1)

Room: Šolta

Extraction of PV module electrical parameters based on the single diode and double diode model of a PV cell 

Petar Marić (University of Mostar, Bosnia and Herzegovina); Ivan Marasović (University, Croatia); Ivan Bevanda (Ilička 17, Bosnia and Herzegovina); Tihomir Betti (University of Split, Croatia)

Hydro Power Unit Speed Control Based on an MPC Algorithm 

Mateo Beus (FER, Croatia); Hrvoje Pandzic (Fer, Croatia); Renato Sirovina (Brodotehna Ltd., Croatia)

Dynamic mode decomposition as an analysis tool for time-dependent partial differential equations 

Miha Rot (Jožef Stefan Institute, Slovenia); Martin Horvat (University of Ljubljana, Slovenia); Gregor Kosec (Jožef Stefan Institute, Slovenia)

Asynchronously updated predictions of electric vehicle's connection time to a charging station 

Milan Straka and Martin Jančura (University of Zilina, Slovakia); Nazir Refa (ElaadNL, The Netherlands); Ľuboš Buzna (University of Zilina, Slovakia)

IoT 2: Security & Blockchain applied to IoT (part 2)

Room: Hvar

A Systematic Review of 2021 Microsoft Exchange Data Breach Exploiting Multiple Vulnerabilities 

Alexis M Pitney (Miami University of Oxford, USA); Spencer Penrod and Molly Foraker (Miami University, USA); Suman Bhunia (Miami University, Ohio, USA)

Analyzing Multi-Vector Ransomware Attack on Accellion File Transfer Appliance Server 

Karl Kiesel, Tom G Deep and Austin Flaherty (Miami University, USA); Suman Bhunia (Miami University, Ohio, USA)

Secure Internet of Thing using Blockchain Technology 

Jamal Elhachimi and Abdellatif Kobbane (ENSIAS, Mohammed V University in Rabat, Morocco)


A Case Study of Massive API Scrapping: Parler Data Breach After the Capitol Riot 

David Redding and Jian Ang (Miami University, USA); Suman Bhunia (Miami University, Ohio, USA)

Wednesday, July 6 14:30 - 16:00

BD1: Thermal Comfort in Buildings

Room: Brač

Projection of the current and future panorama of thermal comfort in Mexico: An approach from CDH to face the climate change 

Mario A. Jimenez (Autonomous University of Yucatan, Mexico); David Bienvenido-Huertas (University of Granada, Spain); Oscar May Tzuc (Autonomous University of Campeche, Mexico); Luis Ricalde Castellanos, Manuel Flota Bañuelos and Bassam Ali (Autonomous University of Yucatan, Mexico)

Comparison between different thermal comfort models based on the exergy analysis 

[Anton Kerčov](#) (University of Belgrade, Serbia); [Tamara Bajc](#) (University of Belgrade Faculty of Mechanical Engineering, Serbia); [Milan Gojak](#) and [Maja Todorović](#) (University of Belgrade, Serbia); [Nikolina Pivac](#) (FESB University of Split, Croatia); [Sandro Nizetic](#) (University of Split, FESB, Croatia)

Improving indoor conditions in an Italian historical Church: the case study of Donnaregina Vecchia 

[Margherita Mastellone](#) (Università degli Studi di Napoli Federico II, Italy); [Fabrizio Ascione](#) (Università degli studi di Napoli Federico II, Italy); [Filippo De Rossi](#) and [Teresa Iovane](#) (Università degli Studi di Napoli Federico II, Italy); [Gerardo Maria Mauro](#) (Università degli studi del Sannio, Italy); [Renata Picone](#) (Università degli Studi di Napoli Federico II, Italy)

Addressing Objective and Subjective Indicators of Comfort in Educational Environments 

[Oihane Gómez-Carmona](#) (University of Deusto, Spain); [Joan Navarro](#) (La Salle Campus Barcelona, Universitat Ramon Llull, Spain); [Diego Casado-Mansilla](#) (University of Deusto, Spain); [Diego López-de-Ipiña](#) (Deusto Institute of Technology - DeustoTech, University of Deusto, Spain); [Xavier Solé-Beteta](#) (La Salle - Universitat Ramon Llull, Spain); [Agustin Zaballos](#) (Enginyeria La Salle - Universitat Ramon Llull, Spain)

Age of air and air change effectiveness in operating rooms: comparison of air distribution configurations 

[Fabrizio Ascione](#) (Università degli studi di Napoli Federico II, Italy); [Rosa Francesca De Masi](#) (Università degli Studi del Sannio, Italy); [Francesco Tariello](#) (Università degli studi del Molise, Italy); [Claudio Tucci](#) (Università Degli Studi del Molise, Italy); [Giuseppe Peter Vanoli](#) (Università degli studi del Molise, Italy)

E3: Photovoltaic Technologies and Systems

Room: Vis

PV-Powered Charging Station: Energy Management with V2G Operation and Energy Cost Analysis 

[Saleh Cheikh Mohamad](#), [Manuela Sechilariu](#) and [Fabrice Locment](#) (Université de Technologie de Compiègne, France)

Feasibility studies of photovoltaic system of power 60 kW with storage in Riyadh and Hofuf region of Saudi Arabia 

[Salah Ud-Din Khan](#) (King Saud University, Saudi Arabia)

A SRM for a PV Powered Water Pumping System Based on a Multilevel Converter and DC/DC Dual Output Converter 


[Daniel Foito](#) (ESTSetubal/IPS, Portugal); [Vitor Fernaldo Pires](#) (ESetubal/IPS, Portugal); [Armando Cordeiro](#) (ISEL-Instituto Superior de Engenharia de Lisboa, Portugal); [Tito Amaral](#) (EST Setubal, Portugal); [Miguel Chaves](#) (ISEL - IPL, Portugal); [Armando Pires](#) (ESTSetúbal, Instituto Politécnico de Setúbal, Portugal); [João F. Martins](#) (Faculdade de Ciências e Tecnologia, Portugal)

Comprehensive review of state-of-the-art photovoltaic cooling technologies 

[Somaye Sadegh Koohestani](#) (Tarbiat Modadres University, Iran); [Mat Santamouris](#) (University of New South Wales, Australia)

Combining Power Electronic Converters and Automation to Simulate Solar PV systems 

[Armando Cordeiro](#) (ISEL-Instituto Superior de Engenharia de Lisboa, Portugal); [Daniel Foito](#) (ESTSetubal/IPS, Portugal); [Miguel Chaves](#) (ISEL, DEEEA, Instituto Politécnico Lisboa, Portugal); [Tito Amaral](#) (EST Setubal, Portugal); [Vitor Fernaldo Pires](#) (ESetubal/IPS, Portugal); [João F. Martins](#) (Faculdade de Ciências e Tecnologia, Portugal); [Paulo Gambôa](#), [Filipe Barata](#), [Pedro Fonte](#) and [Hélio Lopes](#) (ISEL-Instituto Superior de Engenharia de Lisboa, Portugal)

CFD simulations with experimental validations for a solar thermal energy transfer performances in a water-based serpentine photovoltaic-thermal (PVT) collector 

[Sang Shin Park](#), [Yu-Jin Kim](#) and [Euy-Joon Lee](#) (Korea Institute of Energy Research, Korea (South))

EM-IoT 3: RFID: a key technology for Society and Industry

Room: Korčula

Phase-based Device-free Tracking exploiting a Cylindrical Human model and Kalman Smoothing 

[Anastasios Tzitzis](#) (Aristotle University of Thessaloniki, Greece); [Aggeliki Moneda](#) (Archaeological Museum of Thessaloniki, Greece); [Traianos Yioultsis](#) and [Antonis G Dimitriou](#) (Aristotle University of Thessaloniki, Greece)

A Flexible 3D-Printed UHF RFID Tag for Worker-Safety Applications 

[Francesco P. Chietera](#) and [Riccardo Colella](#) (University of Salento, Italy); [Marco Pirozzi](#), [Luciano Di Donato](#), [Laura Tomassini](#) and [Alessandra Ferraro](#) (INAIL, Italy); [Luca Catarinucci](#) (University of Salento, Italy)

UHF-RFID Smart System for Worker Safety: a hierarchical approach for localization 

[Gabriele Bandini](#), [Andrea Motroni](#), [Alice Buffi](#), [Mirko Marracci](#), [Paolo Nepa](#) and [Bernardo Tellini](#) (University of Pisa, Italy); [Luciano Di Donato](#), [Marco Pirozzi](#), [Laura Tomassini](#) and [Alessandra Ferraro](#) (INAIL, Italy)

Transmission and Receiving Power Profiles for RFID Tags Performances Evaluation 

[Hadi El hajj chehade](#) (University of Rennes 1 & IETR UMR CNRS 6164, France); [Bernard Uguen](#) (University of Rennes I, France); [Sylvain Collardey](#) (University of Rennes 1, France)

IoT 3: IoT Innovative Use Cases

Room: Hvar

A Reference Architecture Proposal for Secure Data Management in Mobile Health

Mario Angelelli and Christian Catalano (University of Salento, Italy); Derek Hill (Panoramic Digital Health, France); Hristo Koshutanski (ATOS, Spain); Claudio Pascarelli (University of Salento, Italy); Joseph Rafferty (Ulster University, United Kingdom (Great Britain))

Internet of Things and Shop-Floor Digital Twin: an Aerospace case study

Angelo Corallo (Italy); Francesco Otello Buccoliero, Anna Maria Crespino and Vito Del Vecchio (University of Salento, Italy); Alessandra Spennato (Università del Salento, Italy); Domenico Visone and Daniela Rita Napolitano (Avio Aero - a GE Aviation Business, Italy)

An Innovative Decision Support System for Smart Cities Government based on Sentiment Analysis and IoT technologies

Teodoro Montanaro and Iliaria Sergi (University of Salento, Italy); Matteo Basile, Marco Matera, Enza Giangreco and Marco Alessi (Engineering Ingegneria Informatica S.p.A., Italy); Luigi Patrono (University of Salento, Italy)

A Survey on the combined use of IoT and Edge AI to improve Driver Monitoring systems

Teodoro Montanaro, Iliaria Sergi, Angela-Tafadzwa Shumba, Mattia Luggeri, Antonio Solida and Luigi Patrono (University of Salento, Italy)

Health-IoT: Requirements for a Healthy Ecosystem

Wyatt Lindquist (Yext, USA); Abdelsalam Helal (University of Florida, USA); Ahmed Khaled (Northeastern Illinois University, USA)

Application of an IoT infrared sensor for thermal transmittance measurement in building renovation

Serena Serroni (Università Politecnica delle Marche, Italy); Marco Arnesano (Università eCampus, Italy); Milena Martarelli and Gian Marco Revel (Università Politecnica delle Marche, Italy)

Wednesday, July 6 16:30 - 18:00

BD2: Mitigation Strategies to Reduce Urban Overheating

Room: Brač

Patterns evolution of Urban Heat Island phenomenon in Chilean cities and proposal of mitigation strategies by climatic emplacement

Massimo Palme and Claudio Carrasco (Universidad Técnica Federico Santamaría, Chile); Jorge Valenzuela (Universidad de Valparaíso, Chile)

Investigating the impact of local climatic conditions on the energy consumption of the urban building stock; a case study of Seoul

Indira Adilkanova (Kyung Hee University, Korea (South)); Mat Santamouris (University of New South Wales, Australia); Geun Young Yun (Kyung Hee University, Korea (South))

A Bibliometric based Analysis to Identify Promising Domains of Decarbonization Technologies

Bruno F. C. Almeida (IPV & ESTGV, Portugal); Paulo Tomé (Travessa Príncipe Perfeito Lote B 17 A, Portugal); Paulo Moisés Almeida Costa (ESTGV & ESTGV - IPV, Portugal); Nuno Bento (Instituto Universitário de Lisboa (ISCTE-IUL), DINAMIA'CET, Portugal)

Temperature sensitive surface to minimize the urban heat island effect

Gibsy M. Estrada-Calderon and Habid Becerra-Santacruz (Universidad Michoacana de San Nicolás de Hidalgo, Mexico)

The potential of Demand Response as a tool for decarbonization in the energy transition

Georgios Chantzis and Effrosyni Giama (Aristotle University of Thessaloniki, Greece); Sandro Nizetic (University of Split, FESB, Croatia); Agis M. Papadopoulos (Aristotle University of Thessaloniki, Greece)

E4: Energy Systems, Technologies and Modelling

Room: Vis

Very short-term solar irradiance forecasting using multilayered long short term memory (LSTM)

Ali Raza Kalair (Swinburne University of Technology, Melbourne, Australia); Alex Stojcevski, Gokul Sidarth Thirunavukkarasu and Mehdi Seyedmahmousian (Swinburne University of Technology, Australia); Ben Horan (Deakin University, Australia); Saad Mekhilef (Swinburne University of Technology, Australia); Elmira Jamei (Victoria University, Australia)

EcoDesign strategies for zero-emission hydrogen fuel vessels scenarios 

Giuditta Margherita Maria Ansaloni and Arianna Bionda (Politecnico di Milano, Italy); Monica Rossi (Politecnico di Milano & MIT, Italy)

Simulation model for power electronic conversion in stationary battery storage system 

Josip Bilandžić and Denis Pelin (Josip Juraj Strossmayer University of Osijek, Croatia); Andrej Brandis (FERIT Osijek, Croatia); Danijel Topić (J. J. Strossmayer University of Osijek, Croatia); Goran Knežević (FERIT Osijek, Croatia); Zvonimir Šimić (J. J. Strossmayer University of Osijek, Croatia)

Machine learning-based forecast of secondary distribution network losses calculated from the smart meters data 

Terezija Matijašević and Tomislav Antić (University of Zagreb, Croatia); Tomislav Capuder (Zagreb, Croatia)

On Security And Privacy In Smart Metering Systems 

David Bačnar (University of Rijeka & Faculty of Engineering); Lolita Leytner (University of Angers & Polytech Angers); Rene Prenc (University of Rijeka & Faculty of Engineering); Veljko Jardas (Jatro doo, Croatia); Jonatan Lerga (University of Rijeka & Faculty of Engineering)

Emission and efficiency estimation of hybrid powertrains with continuous Vehicle Specific Power analysis 

Ante Kozina, Tino Vidović, Gojmir Radica and Sandro Nizetic (University of Split, FESB, Croatia)

EM-IoT 4: RFID and Electromagnetic Devices Empowered by AI techniques

Room: Korčula

Evaluation of OBDII data contribution in Tiny Machine Learning based Driving Behaviour Monitoring 

Massimo Merenda (Austrian Institute of Technology, Austria); Vincenzo Mazzullo (University Mediterranea of Reggio Calabria, Italy); Marco Princi (Università Mediterranea di Reggio Calabria, Italy); Antonio Martino (Politecnico di Torino, Italy); Riccardo Carotenuto (University "Mediterranea" of Reggio Calabria, Italy); Demetrio Iero (University Mediterranea of Reggio Calabria, Italy)

Short-Term Time Series Forecasting based on Edge Machine Learning Techniques for IoT devices 

Martina Rasch (Austrian Institute of Technology, Austria); Antonio Martino (Politecnico di Torino, Italy); Mario Drobnic (AIT Austrian Institute of Technology GmbH, Austria); Massimo Merenda (Austrian Institute of Technology, Austria)

Wearables for ML applications in health monitoring: a review of technologies and approaches

Kristina Zovko (University of Split, FESB, Croatia); Ljiljana Šerić (University of Split - Faculty of El. Eng., Mech. Eng. and Naval Arch., Croatia); Petar Solic (University of Split & FESB, Croatia); Toni Perkovic (University of Split, FESB, Croatia); Hrvoje Belani (Ministry of Health & Universty of Split, Croatia)

Home care system for the elderly and pathological conditions 

Luigi Bibbo (University Mediterranea of Reggio Calabria, Italy); Riccardo Carotenuto (University "Mediterranea" of Reggio Calabria, Italy); Francesco Giuseppe Della Corte (Università degli Studi di Napoli Federico II, Italy); Massimo Merenda (Austrian Institute of Technology, Austria); Giacomo Messina (University Mediterranea of Reggio Calabria, Italy)

EM3: Engineering Modelling - Optimisation (part 2)


Room: Šolta

In-plane Displacements of Thin-walled Curved Beams 

Dražen Kustura, Frane Vlak, Tomislav Matić and Marko Vukasović (University of Split, Croatia)

Modelling of crack propagation in welded structure using a separated phase-field approach 

Boris Jalušić, Marin Vukovojac and Tomislav Lesičar (University of Zagreb, Croatia); Mato Perić (University of North, Croatia); Ivica Skozrit (University of Zagreb, Croatia); Zdenko Tonković (Faculty of Mechanical Engineering and Naval Architecture, Zagreb, Croatia)

Implicit-Explicit Error Indicator based on Approximation Order 

Mitja Jančič (Institute Jozef Stefan, Slovenia & International Postgraduate School Jozef Stefan, Slovenia); Filip Strniša and Gregor Kosec (Jožef Stefan Institute, Slovenia)

Basis Pursuit and Linear Programming Equivalence: A Performance Comparison in Sparse Signal Recovery 

Bamrung Tausiesakul (Srinakharinwirot University, Thailand)

Soft Homotopy via Moore-Penrose Inverse 

Bamrung Tau Siesakul (University of Vigo, Spain)

A hybrid RBF-FD and WLS mesh-free strong-form approximation method 

Mitja Jančič (Institute Jozef Stefan, Slovenia & International Postgraduate School Jozef Stefan, Slovenia); Gregor Kosec (Jožef Stefan Institute, Slovenia)

IoT 4: Innovative IoT Solutions

Room: Hvar

A Waste-produced Floor with Solar and Mechanical Energy Harvesters to Power Charging Stations or OLED Lighting Systems



Paolo Visconti, Vincenzo Mastronardi, Massimo De Vittorio and Roberto de Fazio (University of Salento, Italy)

A Literature Review on Outdoor Localization Systems based on the Bluetooth Technology

Ilaria Sergi, Teodoro Montanaro, Angela-Tafadzwa Shumba, Maria Gammariello, Elena Imperiale and Luigi Patrono (University of Salento, Italy)

An IoT smart system to ensure safety in industrial working environments through a 2.4 Ghz radio controllable interface

Luca Catarinucci, Francesco P. Chietera and Riccardo Colella (University of Salento, Italy); Luciano Di Donato (INAIL, Italy); Teodoro Montanaro, Luigi Patrono and Ilaria Sergi (University of Salento, Italy)

An Internet-of-Things-ready Embedded Device Based on Micromachined Micro-gap Sensors for Remote Air Quality Monitoring

Antonio V Radogna (National Research Council of Italy & University of Salento, Italy); Chiara De Pascali and Pietro Siciliano (CNR-IMM, Italy); Luca Francioso (CNR- Institute for Microelectronics and Microsystems, Italy)

Development and Testing of Piezoresistive and Inertial-Based Chest Bands for Breathing Monitoring

Roberto de Fazio and Paolo Visconti (University of Salento, Italy); Ramiro Velázquez (Universidad Panamericana, Mexico); Elisa Perrone and Maria Rosaria Greco (University of Salento, Italy)

Thursday, July 7

Thursday, July 7 9:00 - 10:30

EM-IoT 5: The challenges of the Young Researchers in RFID and Electromagnetics for IoT

Room: Korčula

BLE-based Power Efficient WSN for Industrial IoT Train Integrity Monitoring

Nick De Raeve (Ghent University, Belgium); Jo Verhaevert (Ghent University - imec, Belgium); Patrick Van Torre (Ghent University, Belgium); Frederick Ronse (Ovinto, Belgium); Hendrik Rogier (Ghent University, Belgium)

RFID-Sensorized Facemask for Wireless Monitoring of Newborn Breath Temperature during Mild Hypothermia Treatment

Nicoletta Panunzio and Valentina Olivieri (University of Rome Tor Vergata, Italy); Francesco Montecchia (University of Rome "Tor Vergata", Italy); Paola Papoff (University of Rome "La Sapienza", Italy); Gaetano Marrocco (University of Rome Tor Vergata, Italy)

Mobile-robots indoor tracking and navigation: perspectives for RFID technology

Andrea Motroni, Alice Buffi and Paolo Nepa (University of Pisa, Italy)

3D Printed Fractal UHF RFID Tag Antenna

Francesco P. Chietera, Riccardo Colella and Luca Catarinucci (University of Salento, Italy)

High Code Density and Humidity Sensor Chipless RFID Tag

Amjad Ali, Orla Williams, Edward Lester and Steve Greedy (University of Nottingham, United Kingdom (Great Britain))

Fall Detection and Warning System for Nursing Homes based on Bluetooth Low Energy

Nick De Raeve, Cédric Nzamuye and Nicolas Claus (Ghent University, Belgium); Jo Verhaevert (Ghent University - imec, Belgium); Patrick Van Torre and Hendrik Rogier (Ghent University, Belgium)

IoT 5: AI & IoT

Room: Hvar

A Quantum Computing Approach to Human Behavior Prediction

Alvaro Huerga (Deusto Institute of Technology - DeustoTech, Spain); Aitor Almeida (DeustoTech - Deusto Institute of Technology, Spain); Ana Belén Lago (Deusto Institute of Technology - DeustoTech, Spain); Unai Aguilera (Deusto Institute of Technology - DeustoTech, University of Deusto, Spain)

Embedded Machine Learning: Towards a Low-Cost Intelligent IoT edge 

Angela-Tafadzwa Shumba, Teodoro Montanaro and Ilaria Sergi (University of Salento, Italy); Luca Fachechi (IIT, Italy); Massimo De Vittorio and Luigi Patrono (University of Salento, Italy)

Automatize skin prick test with a low cost Machine vision system 

Pier Luigi Mazzeo (CNR, Italy); Simone Miglietta (Università del Salento, Italy); Paolo Spagnolo and Pierluigi Carcagni (Consiglio Nazionale delle Ricerche, Italy); Cosimo Distante (CNR, Italy)

A Deep Learning Approach for Vehicle Re-Identification 

Paolo Spagnolo (Consiglio Nazionale delle Ricerche, Italy); Pier Luigi Mazzeo (CNR, Italy); Francesco Otello Buccoliero (Unisalento, Italy); Pierluigi Carcagni (Consiglio Nazionale delle Ricerche, Italy); Cosimo Distante (CNR, Italy)

Offloading Video Encoding Energy Consumption to the Decoder 

Daniel Hofman (University of Zagreb & Faculty of Electrical Engineering and Computing, Croatia); Jakov Benjak (University of Zagreb, Croatia)

A Deep Learning Approach for Real-time Detection of Epileptic Seizures using EEG 

Kiyan Afsari (University of Wollongong in Dubai, United Arab Emirates); May El Barachi (University of Wollongong Dubai, United Arab Emirates); Stefano Fasciani (University of Oslo, Norway); Fatna Belqasmi (Zayed University, United Arab Emirates)

Thursday, July 7 14:20 - 15:50

BD3: Energy Storage in Buildings, Materials and Energy Systems

Room: Brač

Building envelope integrated phase change material under hot climate towards efficient energy and CO2 emission saving 

Qudama Al-Yasiri (Hungarian University of Agriculture and Life Sciences, Hungary & University of Misan, Iraq); Márta Szabó (Hungarian University of Agriculture and Life Sciences, Hungary)

Synergistic enhancement of heat transfer and energy storage performance of shell and tube heat exchanger with hybrid nanoparticles 

Yangyang Wu, Dong Li, Xuefeng Zhao and Lan Meng (Northeast Petroleum University, China); Muslum Arici (Kocaeli University, Turkey); Changyu Liu, Ruitong Yang and Hanbing Qi (Northeast Petroleum University, China)

Advanced PV/T Bifluid Solar Collector System: A Review 

Omayma M. Abdulmajeed (University of Technology, Iraq); Abdullateef A. Jadallah (Tikrit University, Iraq); Ghassan A. Bilal (University of Technology, Iraq); Muslum Arici (Kocaeli University, Turkey)

Life Cycle Assessment (LCA) of recycled aluminum Metal Matrix Composites (MMC) reinforced with stainless steel bidirectional continuous fibers 

Ignacio Eguía-Camero, Ruben Lostado-Lorza, Marina Corral-Bobadilla and Saúl Iñiguez Macedo (University of La Rioja, Spain); Fátima Somovilla-Gómez (Universidad de La Rioja, Spain)

Potential of Solar Powered Underground Waste Heat Utilisation in Total Site Heat Integration

Petar Varbanov, Hon Huin Chin and Jiří Klemeš (Brno University of Technology - VUT Brno, Czech Republic); Pawel Oclon and Sheng Zhang (Cracow University of Technology, Poland)

IoT 6: Big Data & IoT

Room: Hvar

MLPacker: A unified software tool for packaging and deploying atomic and distributed analytic pipelines 

Raúl Miñón, Josu Díaz-de-Arcaya and Ana Isabel Torre-Bastida (TECNALIA, Basque Research and Technology Alliance (BRTA), Spain); Gorka Zarate (TECNALIA, Basque Research & Technology Alliance (BRTA), Spain); Aitor Moreno-Fernandez-de-Leceta (Instituto Ibermatica de Innovacion, Spain)

Influence Functions for Interpretable link prediction in Knowledge Graphs for Intelligent Environments 

Unai Zulaika (University of Deusto, Spain); Aitor Almeida (DeustoTech - Deusto Institute of Technology, Spain); Diego López-de-Ipiña (Deusto Institute of Technology - DeustoTech, University of Deusto, Spain)

An Ontology for Quality of Life Modeling in Head and Neck Cancer 

Aitor Almeida (DeustoTech - Deusto Institute of Technology, Spain); Aritz Bilbao (DEUSTO, Spain); Liss Hernández González, Laura Lopez-Perez, Estefanía Estévez-Priego and Giuseppe Fico (Universidad Politécnica de Madrid, Spain); Katherine Taylor and Susanne Singer (University of Mainz, Germany); Franco Mercalli (MultiMed Engineers srls, Italy); Despina Elizabeth Filippidou

(R&D ICT Products DOTSOFT, SA, Greece); [Elena Martinelli](#) (Università degli Studi di Milano, Italy); [Stefano Cavalieri](#) (Fondazione IRCCS - INT, Italy); [Lisa Licitra](#) (Fondazione IRCCS - INT & University of Milan, Italy)

Achieving Participatory Smart Cities by Making Social Networks Safer 

[Ruben Sanchez-Corcuera](#) (University of Deusto, Spain); [Arkaitz Zubiaga](#) (Queens Mary University of London, Spain); [Aitor Almeida](#) (DeustoTech - Deusto Institute of Technology, Spain)

Towards real time monitoring of an aeronautical machining process using scalable technologies 

[Endika Tapia](#), [Unai Lopez-Novoa](#), [Leonardo Sastoque Pinilla](#) and [Luis Norberto López de Lacalle](#) (University of the Basque Country, Spain)

Performance Evaluation of Java Serialization Frameworks on Geospatial Big Data 

[Filip Ricov](#) and [Kresimir Pripuzic](#) (University of Zagreb, Croatia)


Thursday, July 7 16:20 - 17:50

BD4: Energy Efficiency and Energy Savings in Buildings

Room: Brač

Parametric analysis of energy savings achievable by windows configurations in different climates 

[Antonio Gigante](#) (University of Sannio, Italy); [Rosa Francesca De Masi](#) (Università degli Studi del Sannio, Italy); [Valentino Festa](#) (University of Sannio, Italy); [Silvia Ruggiero](#) (Università degli Studi del Sannio, Italy); [Giuseppe Peter Vanoli](#) (Università degli studi del Molise, Italy)

Design of passive protection elements in buildings through the implementation of generative design 

[Guillermo A Sepulveda](#) (Universidad Autonoma del Estado de Baja California & UABC, Mexico); [Marcos Gonzalez Trevizo](#) (Universidad Autonoma del Estado de Baja California, Mexico); [Andres Garcia Gonzalez](#) (IBERO, CDMX, Mexico)

Lighting Systems of Buildings as Active Energy Users 

[Alperen Bastug](#), [Mehmet Köksal](#), [Furkan Onur](#) and [Ebubekir Tosun](#) (Yalova University, Turkey); [Selman Çağman](#) (Kocaeli ÜniversitesiUniversity, Turkey); [Umit Unver](#) (Yalova University, Turkey)

Ice Storage System Design For an Educational Building 

[Elif Yeniay](#), [İlayda Baştürk](#), [Ceren Onbaşı](#) and [İlayda Durmuş](#) (Yalova University, Turkey); [Selman Çağman](#) (Kocaeli ÜniversitesiUniversity, Turkey); [Umit Unver](#) (Yalova University, Turkey)

How much static storage capacity is needed to maximize the profitability of an energy community with electric vehicles? 


[Ruben Martinez](#) and [Alejandro Lopez Bueno](#) (Universidad de Malaga, Spain); [Sebastian Martin Rivas](#) (University of Malaga, Spain)

Effect of end-user awareness and individual heat metering in a social housing building in Mediterranean climate 

[Laura Canale](#) (University Mercatorum & University of Cassino and Southern Lazio, Italy); [Giorgio Ficco](#) and [Marco Dell'Isola](#) (University of Cassino and Southern Lazio, Italy); [Biagio Di Pietra](#), [Giovanni Puglisi](#) and [Ilaria Bertini](#) (ENEA, Italy)

BD5: NZEB Buildings and Life Cycle Approach

Room: Hvar

Energy refurbishment of a University Mediterranean building: evaluation of the incentive share to achieve a cost-effective nZEB standard 

[Teresa Iovane](#) (Università degli Studi di Napoli Federico II, Italy); [Fabrizio Ascione](#) and [Nicola Bianco](#) (Università degli studi di Napoli Federico II, Italy); [Margherita Mastellone](#) (Università degli Studi di Napoli Federico II, Italy); [Gerardo Maria Mauro](#) (Università degli studi del Sannio, Italy); [Francesco Tariello](#) (Università degli studi del Molise, Italy)

Innovative approaches in energy efficiency evaluation of glazed facades in nZEB buildings 


[Miro Bugarin](#), [Sandro Nizetic](#), [Mario Bugarin](#), [Boren Bralić](#) and [Magdalena Omazić](#) (University of Split, FESB, Croatia)

ZERO ENERGY BUILDINGS: At a Glance 

[Gamze Karanfil](#) (Karamanoglu M. University, Turkey); [Umit Unver](#) (Yalova University, Turkey)

Housing module with 3D printed walls: nZEB performance, energy autonomy and exported level 

[Fabrizio Ascione](#) (Università degli studi di Napoli Federico II, Italy); [Rosa Francesca De Masi](#) (Università degli Studi del Sannio, Italy); [Margherita Mastellone](#) (Università degli Studi di Napoli Federico II, Italy); [Francesco Tariello](#) and [Giuseppe Peter Vanoli](#) (Università degli studi del Molise, Italy)

Crystallization nuclei obtained from biowaste enables the production of concrete in accordance with the principles of circular economy 

[Anna Maroušková](#) (University of South Bohemia in České Budějovice, Czech Republic); [Josef Maroušek](#) (Institute of Technology and Business in České Budějovice & Czech Republic, Czech Republic)

Use of the EVAMED tool to assess the carbon footprint of a building with a life cycle approach in the Latin American context

[Víctor Alberto Arvizu-Piña](#) (Universidad Iberoamericana Ciudad de México, Mexico); [Andres Garcia Gonzalez](#) (IBERO, CDMX, Mexico); [José Armendariz López](#) (Universidad Autónoma de Baja California, Mexico); [Cristina Gazulla Santos](#) (Elisava Design and Engineering School of Barcelona, Mexico); [Mariana Carmona Guzmán](#) (Universidad Iberoamericana Ciudad de México, Mexico); [Juan Pablo Chargoy Amador](#) (Centro de Análisis de Ciclo de Vida y Diseño Sustentable (CADIS), Mexico)

EM-IoT 6: Sensors and EM Solutions for IoT

Room: Korčula

A low-noise figure and quasi-constant Q in DCS band tunable active filter 

[Davide Colaiuda](#), [Giuseppe Ferri](#), [Alfiero Leoni](#) and [Vincenzo Stornelli](#) (University of L'Aquila, Italy)

Phase-Based UHF RFID Approach for Speed Bag Monitoring 

[Pablo Lopez-Matencio](#) (Technical University of Cartagena, Spain); [Francisco J. González-Castaño](#) (Universidad de Vigo, Spain); [Javier Vales-Alonso](#) (Universidad Politécnica de Cartagena, Spain)

Dual-Band Dual-Polarized Multi-Slotted Antenna for Sub-6 GHz IoT Applications 

[Hafiz Usman Tahseen](#) (Jiangsu University, China); [Riccardo Colella](#) and [Francesco P. Chietera](#) (University of Salento, Italy); [Yang Lixia](#) (Jiangsu University, China); [Luca Catarinucci](#) (University of Salento, Italy)

Optimized design procedure of rectenna impedance matching networks for IoT devices 

[Massimo Merenda](#) (Austrian Institute of Technology, Austria); [Domenico Spanó](#) (Università Mediterranea di Reggio Calabria, Italy); [Karima Rabaani](#) (University of Tunis El Manar, Tunisia); [Francesco Giuseppe Della Corte](#) (Università degli Studi di Napoli Federico II, Italy)

A Sensor-Embedded Smart Carton for the Real-Time Monitoring of Perishable Foods' Lifetime 

[May El Barachi](#) (University of Wollongong Dubai, United Arab Emirates); [Sinan Salman](#) and [Sujith Samuel Mathew](#) (Zayed University, United Arab Emirates)

Fine-Grained Air Quality Monitoring with Low-Cost Sensors and IoT: Trends, Challenges, and Future Directions 


[Brian Krupp](#) (Baldwin Wallace University, USA)

Friday, July 8

Friday, July 8 9:00 - 10:30

BD6: Smart Technologies In Buildings


Room: Brač

Comparison of the theoretical mathematical model and the experimental approach in the development of an automatic control system in a smart family house 

[Krešimir Osman](#) and [Trpimir Alajbeg](#) (Zagreb University of Applied Sciences, Croatia); [Matija Štefić](#) (OBO Bettermann Group, Croatia); [Mato Perić](#) (University of North, Croatia)

Trusted DBL: A Blockchain-based Digital Twin for Sustainable and Interoperable Building Performance Evaluation 

[Harris Niavis](#) (Inlecom Innovation, Greece); [Marina Laskari](#) (Greece); [Ioanna Fergadiotou](#) (Inlecom Innovation, Greece)

Model Predictive Control based on genetic algorithm and neural networks to optimize heating operation of a real low-energy building 

[Giuseppe Aruta](#) (Università degli Studi di Napoli Federico II, Italy); [Fabrizio Ascione](#) and [Nicola Bianco](#) (Università degli studi di Napoli Federico II, Italy); [Rosa Francesca De Masi](#) (Università degli Studi del Sannio, Italy); [Gerardo Maria Mauro](#) (Università degli studi del Sannio, Italy); [Giuseppe Peter Vanoli](#) (Università degli studi del Molise, Italy)

Domestic Energy Consumption Forecasting using Machine Learning

[Mohan Kolhe](#) (University of Agder, Norway)

E5: Energy Efficiency and Renewable Energy Systems

Room: Vis

Public Lighting in Croatia: Consumption and Energy Efficiency 

Svebor Smodlaka and Vladimir Plestina (University of Split, Croatia)

Performance Modelling of Renewable Energy Systems Using kNN Algorithm for Smart Grid Applications 

Manuel Sathyajith Mathew and Mohan Kolhe (University of Agder, Norway)

Application Of Kohonen Self-Organizing Maps for Mapping Energy Sustainability - Focus On Serbia 

Željko Vlaović, Borivoj Lj Stepanov and Aleksandar Andjelkovic (University of Novi Sad, Serbia); Vladimir Rajs (Faculty of Technical Sciences, Serbia); Zoran Čepić (University of Novi Sad, Serbia); Mladen Tomić (University of Novi Sad, Faculty of Technical Sciences, Serbia)

Micro Energy Harvesting from the Soil of Indoor Living Plants 

Alfiero Leoni, Giuseppe Ferri, Davide Colaiuda and Vincenzo Stornelli (University of L'Aquila, Italy)

Electric Vehicles and Smart Grid Integration: Analysis of Battery Degradation Cost 

Ona Egbue (University of South Carolina Upstate, USA); Desineni Subbaram Naidu (273 MWAH & University of Minnesota Duluth, USA); Charles Uko (University of South Carolina, Columbia, USA)

E6: Energy Conversion and Energy Analysis

Room: Šolta

Numerical Modelling of Nitrogen Oxides Formation During Combustion of Pulverised Fuel 

Milan Vujanović (Faculty of Mechanical Engineering and Naval Architecture, University of Zagreb, Croatia); Tibor Bešenić (University of Zagreb, Croatia); Miloš Radojević and Nebojša Manić (University of Belgrade, Serbia)

Modified Kaolinite Supported n-Octadecane Based Composite Phase Change Materials 

Hatice Hande Mert and Mehmet Selçuk Mert (Yalova University, Turkey); Muslum Arici (Kocaeli University, Turkey)

Natural convective heat transfer interrelation between water and melted paraffin-wax in an intertwined enclosure 

Çağatay Yıldız, Mustafa Seçilmiş and Muslum Arici (Kocaeli University, Turkey); Michal Krajčík (Slovak University of Technology, Slovakia); Hasan Karabay (Engineering Faculty, Kocaeli University, Turkey)

H1: Smart Health

Room: Korčula

A software system for the assessment of the sleep-wake rhythm using Axivity AX3 

Michele Scalerà (Via Edoardo Orabona 4, Italy); Sergio Latrofa (University of Pisa, Italy); Nunzia Lomonte (University of Bari "Aldo Moro", Italy); Giovanni Tauro and Enrica Gentile (University of Bari, Italy)

An Innovation Pathway for Well-Being, Aging and Health: A Croatian Case Study 

Hrvoje Belani (Ministry of Health & University of Split, Croatia); Petar Solic (University of Split & FESB, Croatia); Marko Mimica (E. C. H. R. LLC, Croatia)

Generation of Artificial CT Images using Patch-based Conditional Generative Adversarial Networks 

Marija Habijan (FERIT Osijek & FEA, Croatia); Irena Galić (Faculty of Electrical Engineering, Computer Science and Inf. Technology Osijek, Croatia)

Mobile applications and improving the quality of life in people with obesity 

Filip Mustac (University Hospital Centre Zagreb, Croatia)

On the integration of nature-based solutions with digital innovation for health and wellbeing in cities 

Elisavet Tsekeri (Technical University of Crete, Greece); Aikaterini Lilli (Chemical and Environmental Engineering School, Technical University of Crete, Greece); Minas Katsiokalis (Technical University of Crete, Greece); Konstantinos Gobakis (Chemical and Environmental Engineering School, Technical University of Crete, Greece); Aikaterini Mania (School of Electrical and Computer Engineering, Technical University of Crete, Greece); Dionysia Kolokotsa (Chemical and Environmental Engineering School, Technical University of Crete, Greece)

IoT 7: IoT and Smart Cities

Room: Hvar

Circular Makerspaces as entrepreneurship platforms for smart and sustainable cities 

[Nikolay Andreev Premyanov](#) (Q-PLAN International, Greece); [Julie Metta](#) (KU Leuven, Belgium); [Margarita Angelidou](#) (Q-PLAN International, Greece); [Nikolaos Tsoniotis](#) (Ideas Forward, Greece); [Christos Politis](#) and [Elli Roma-Athanasidou](#) (Q-PLAN International, Greece); [Apostolos C. Tsolakis](#) (Q-PLAN International)

Future scenarios as a tool for citizen engagement in Smart Cities 

[Rui Jose](#) (University of Minho, Portugal)

Profitable Investment in PV and BES Integrated with EV Charging Stations in Croatia - Myth or Reality? 

[Mirna Gržanić](#) and [Alen Hrga](#) (University of Zagreb, Croatia); [Tomislav Capuder](#) (Zagreb, Croatia)

Speech Sentiment Analysis for Citizen's Engagement in Smart Cities' Events 

[Manar Alkhatib](#) (The British University in Dubai, United Arab Emirates); [Christine Janel Sora](#) (British University in Dubai, United Arab Emirates)

Towards Enhanced Recognized Maritime Picture 

[Hrvoje Karna](#) (University of Split, Croatia); [Nikša Mikuličić](#) (Ministry of Defence, Croatia); [Maja Škiljo](#) (University of Split, Croatia)

Combining Named Entity Recognition and Emotion Analysis of Tweets for Early Warning of Violent Actions 

[May El Barachi](#) (University of Wollongong Dubai, United Arab Emirates); [Sujith Samuel Mathew](#) (Zayed University, United Arab Emirates); [Manar Alkhatib](#) (The British University in Dubai, United Arab Emirates)

Friday, July 8 11:00 - 12:30

BD7: Energy Modelling and Forecast in Buildings

Room: Brač

An efficient hybrid regression model for energy and water consumption in a municipal kindergarten 

[Doncho Donchev](#), [Dessislava Georgieva Petrova-Antonova](#) and [Petar Hristov](#) (Sofia University "St. Kliment Ohridski", Bulgaria)

Influence of forecast control of heat supply on energy savings 

[Tomasz Cholewa](#), [Alicja Siuta-Olcha](#), [Andrzej Smolarz](#) and [Piotr Muryjas](#) (Lublin University of Technology, Poland); [Piotr Wolszczak](#) (University of Lublin, Poland); [Łukasz Guz](#) (Lublin University of Technology, Poland)

Dynamic analysis of solar heat stimulated residential absorption cooling system with sensible thermal wall storage for space heating

[Ali Raza Kalair](#) (Swinburne University of Technology, Melbourne, Australia); [Mehdi Seyedmahmousian](#), [Saad Mekhilef](#) and [Alex Stojcevski](#) (Swinburne University of Technology, Australia)

Reduction of Natural Gas Consumption by Establishing Operation Strategies of Heating Systems in Mosques 

[Ahmet Yuksel](#) (Yalova University, Turkey); [Muslum Arici](#) (Kocaeli University, Turkey); [Michal Krajčík](#) (Slovak University of Technology, Slovakia); [Mihriban Civan](#) and [Hasan Karabay](#) (Kocaeli University, Turkey)

Examination of Internal Condensation in Composite Walls for Different Wall Types 

[Cüneyt Hatipoğlu](#), [Ebubekir Tosun](#), [Şaban Türkmen](#), [Halil Atalay](#) and [Umit Unver](#) (Yalova University, Turkey)

Employment of digital twins for the implementation of energy audits 


[Paulius Spudys](#) (Kaunas University of Technology, Lithuania); [Nicholas Afxentiou](#) and [Panagiota Konatzii](#) (Frederick University, Cyprus); [Andrius Jurelionis](#) (Kaunas University of Technology, Lithuania); [Paris Fokaides](#) (Frederick University, Cyprus)

IoT 8: IoT and Smart Mobility

Room: Hvar

Promoting User Acceptance in Autonomous Driving 

[Waldemar Titov](#) (Institute of Ubiquitous Mobility Systems & Hochschule Karlsruhe, Germany); [Thomas Schlegel](#) (Institute of Ubiquitous Mobility Systems Karlsruhe University of Applied Science, Germany)

Multi-Factor Obstacle Verification (MFOV): A cybersecurity and engineering approach to autonomous vehicles governance in smart cities 


[Clifton M Stone](#) (Marymount University, USA); [Ibrahim Waziri Jr.](#) (Marymount University & Microsoft, USA)

A new paradigm for smart cycling applications in urban mobility 

[Rui Jose](#) and [Inês Fortes](#) (University of Minho, Portugal); [Ricardo Cabral](#) (Bosch Car Multimedia, Portugal)

Role Management and Presence as a Mission Critical Service in Railway Communications 

[Evelina Pencheva](#) (Todor Kableshkov University of Transport, Bulgaria); [Ivaylo Atanasov](#) and [Vencislav Trifonov](#) (Technical University of Sofia, Bulgaria)

Design and implementation of an open-source urban mobility web service based on environmental-quality and bicycle mobility data 

[Ander Eguiluz](#) (Universidad de Deusto, Spain); [Unai Hernández-Jayo](#) and [Diego Casado-Mansilla](#) (University of Deusto, Spain); [Diego López-de-Ipiña](#) (Deusto Institute of Technology - DeustoTech, University of Deusto, Spain); [Andoni Eguíluz](#) (University of Deusto, Spain)

Transition to Electric Vehicles in a Company's fleet: Design and Policy on a Case Study 

[Tommaso Bragatto](#), [Marco Antonio Bucarelli](#) and [Federico Carere](#) (Sapienza University of Rome, Italy); [Francesca Santori](#) (ASM Terni, Italy)

P1: Professional Paper (Energy - part 1)


Room: Vis

Study of the thermal and energy performance of a multilayer glazing system with an on-site chamber experiment 

[June Hae Lee](#) (Postdoctoral Researcher, Korea (South)); [Jae-Sik Kang](#) (Korea Institute of Civil Engineering and Building Technology(KICT), Korea (South))

Regional Virtual Energy Flows in China and Implications for Carbon Neutrality 

[Xue-Chao Wang](#) (Beijing Normal University, China); [Jiří Klemeš](#) (Brno University of Technology, Czech Republic)

Integration criteria of offshore wind farms in the landscape: Viewpoints of local inhabitants 

[Pandora Gkeka Serpetsidaki](#) (Technical University of Crete (TUC) & School of Chemical & Environmental Engineering, Greece); [Theocharis Tsoutsos](#) (Technical University of Crete, Greece)

Offshore Wind Farm Site Selection Based on Interval Type-2 Fuzzy Sets Based Decision Making Framework 

[Muhammet Deveci](#) (University of Nottingham, United Kingdom (Great Britain) & National Defence University, United Kingdom (Great Britain)); [Ender Ozcan](#) (University of Nottingham, United Kingdom (Great Britain))

SS1: Smart City Applications

Room: Korčula

Automated and non-invasive UAVs video-analysis system for the monitoring and the group size estimation of dolphins 

[Giovanni Dimauro](#) (Universita' di Bari & Dipartimento di Informatica, Italy); [Lorenzo Simone](#) (University of Pisa, Italy); [Roberto Carlucci](#) (University of Bari, Italy); [Carmelo Fanizza](#) (Jonian Dolphin Conservation, Italy); [Nunzia Lomonte](#) (University of Bari "Aldo Moro", Italy); [Rosalia Maglietta](#) (Institute of Intelligent Systems for Automation - National Research Council, Italy)

Predicting TV Viewership with Regression Models

[Ljiljana Šerić](#) (University of Split - Faculty of El. Eng., Mech. Eng. and Naval Arch., Croatia); [Dino Miletic](#) (FESB, University of Split, Croatia); [Antonia Ivanda](#) (University of Split - Faculty of El. Eng., Mech. Eng. and Naval Arch. Croatia, Croatia); [Maja Braović](#) (University of Split - FESB, Croatia)

Performance analysis of SQL Prepared Statements in CRUD operations 

[Vladimir Plestina](#) (University of Split, Croatia); [Tomislav Seser](#) and [Frane Marjanica](#) (University College Aspira, Croatia)

Cell nuclei segmentation using distance map regression and inverted Huber loss

[Matko Saric](#), [Mladen Russo](#), [Maja Stella](#) and [Marjan Sikora](#) (University of Split, Croatia)

Integration of 5G Standalone and Non-Standalone Network Architectures for V2X Networks 

[Suresh Chavhan](#) (Vellore Institute of Technology, India); [Dhinesh Kumar R](#) (VIT, Vellore, India); [Joel J. P. C. Rodrigues](#) (Senac Fac of Ceará, Brazil & Instituto de Telecomunicações, Portugal)

Digital Forensic Approaches to Recover Artifacts by Exploiting Vulnerabilities of Dark Web in Cyberspace 

[Kanti Singh Sangher](#) (Center for Development of Advanced Computing, India); [Archana Singh](#) (Amity University, India); [Hari Mohan Pandey](#) (Edge Hill University, United Kingdom (Great Britain)); [Malay Ranjan Ranjan Tripathy](#) (Amity University, India & Amity University Uttar Pradesh, unknown)

SS1: Sustainable and Secure environments

Room: Šolta

Extended Behaviour Prediction Framework in Complex System Development 

[Krešimir Osman](#) (Zagreb University of Applied Sciences, Croatia); [Mato Perić](#) (University of North, Croatia)

Proposal of security architecture in 5G mobile network with DDoS attack detection 

[Jovan Gojić](#) (University of East Sarajevo, Bosnia and Herzegovina); [Danijel Radaković](#) (University of Novi Sad, Serbia)

A Blockchain Based Approach for Demand Response Management in Internet of Vehicles 

[Evgenia Kapassa](#) (University of Nicosia); [Marios Touloupou](#) and [Klitos Christodoulou](#) (University of Nicosia, Cyprus)

A Collaborative Environment to Boost Co-Production of Sustainable Public Services 

[Diego López-de-Ipiña](#) (Deusto Institute of Technology - DeustoTech, University of Deusto, Spain); [Julen Badiola](#) and [Daniel Silva](#) (DeustoTech, University of Deusto, Spain); [Diego Casado-Mansilla](#) (University of Deusto, Spain); [Elena Not](#) (Fondazione Bruno Kessler, Italy); [Chiara Leonardi](#) (Fondazione Bruno Kessler, Spain); [Ana Ortiz-de-Guinea](#) (HEC Montreal, Canada); [Igone Porto](#) (Deusto Business School, University of Deusto, Spain)

Virtual Radar: A Novel and Advanced Tool for Monitoring Virtualized Networks 

[Fatna Belqasmi](#) (Zayed University, United Arab Emirates); [May El Barachi](#) (University of Wollongong Dubai, United Arab Emirates); [Hani Nemati](#) (Polytechnique Montreal, Canada)

Friday, July 8 13:00 - 14:30

P2: Professional Paper (Energy - part 2)

Room: Vis

Energy Performance Evaluation Before and After Green Remodeling Improvement of Existing Public Buildings 

[Kyeong-seok Choi](#) (Korea Institute of Civil Engineering and Building Technology(KICT), Korea (South)); [Hansol Lee](#) (University of Science and Technology, Korea (South))

The Macro-Hub Concept for Automated Distribution and Sustainable Last-Mile Delivery 

[Marco Bonini](#), [Dominik Eiberger](#), [Michael Fitz](#), [Mert Mete](#), [Tuan Nguyen](#), [Augusto Urru](#) and [Wolfgang Echelmeyer](#) (Reutlingen University, Germany)

Utilization of Waste in Porotherm Bricks: Air-Conditioning Cost Savings, CO2 Emission Alleviation Prospective under Hot-dry and Warm-Temperate Climes  

[Saboor Shaik](#) and [Abin Roy](#) (Vellore Institute of Technology, India); [Muslum Arici](#) (Kocaeli University, Turkey); [Karloos J. Kontoleon](#) (Aristotle University of Thessaloniki, Greece); [Asif Afzal](#) (PA College of Engineering Mangaluru, India); [Dong Li](#) (Northeast Petroleum University, China)