

CEES 2025

11 – 13 JUNE 2025
BARI - ITALY

3RD INTERNATIONAL CONFERENCE
CONSTRUCTION, ENERGY
ENVIRONMENT & SUSTAINABILITY

Important Information

CONFERENCE VENUE

The conference is taking place at the Polytechnic University of Bari, in the Aula Magna Attilio Alto and in Rooms 4, 6, 8, 10 and 12 (2nd floor of Corpo Z).

SECRETARIAT

The conference secretariat will be open on:
10th June, from 17:00 to 18:00.
11-13th June, from 8:30 to 18:00.

WELCOME RECEPTION, LUNCHES AND COFFEE-BREAKS

A welcome reception will take place on Wednesday, 11th June at 18:15, on the ground floor at the Polytechnic University of Bari (see map for details). Coffee-breaks and lunches will also be served here.

WALKING CITY TOUR

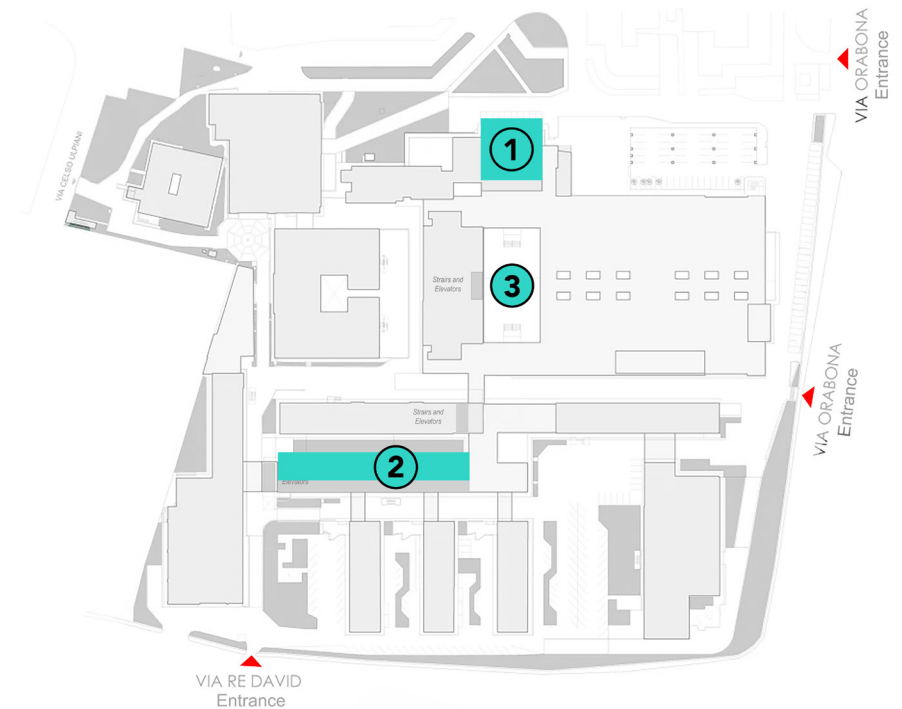
If you have registered for the Walking City Tour, please contact the Conference Secretariat for more info.

CONFERENCE DINNER

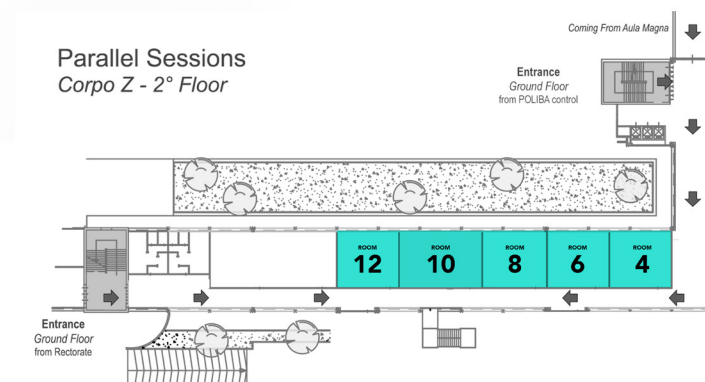
The conference dinner will take place on Thursday, 12th June, at the Villa delle Querce Resort, located in Palo del Colle. A transfer bus will depart from Bari Centrale at 19:30.

You will be required to show your conference dinner invitation upon entrance to the bus.

Polytechnic of Bari



- 1 - Aula Magna - Attilio Alto
- 2 - Parallel Sessions (2nd Floor)
- 3 - Lunch and Coffee Break Area



General Programme

GT1: Construction materials and technologies
 GT2: Building physics
 GT3: Energy
 GT4: Water and Sanitation
 GT5: Environment
 GT6: Construction and industry 4.0
 GT7: Community challenges and policies
 TS02: Digitization in the Architecture, Engineering, and Construction (AEC) Industry
 TS03: Passive Daytime Radiative Cooling – Cooling from outer space for free - from research to market
 TS06: Nexus between UHI Adaptation Measures and a Sustainable Built Environment
 TS09: Durability and Service Life Prediction of Construction Materials
 TS10: Nature-based Solutions for resilient urban environments
 TS11: Eco-innovative and efficient products for building envelope
 TS14: New trends in Bio-based Construction Products and BioConstruction
 TS16: Smart Building Design and Operation Towards Energy Efficiency and Comfort
 TS18: Inspection, evaluation and sustainable rehabilitation of buildings
 TS20: Sustainable Adaptation Solutions for Built Environments

Wednesday 11th June

08:30 - 09:15 REGISTRATION

09:15 - 10:00 **OPENING CEREMONY**
Room: Aula Magna Attilio Alto

10:10 - 10:50 **KEYNOTE LECTURE**
Room: Aula Magna Attilio Alto
Sustainable Universities: Governance, Energy, and Environmental Approaches
Patrícia Pereira da Silva (University of Coimbra)



10:50 - 11:20 Coffee-break

11:20 - 13:00	SESSION 1 GT1 ROOM 4	SESSION 2 GT3 ROOM 6	SESSION 3 GT5 ROOM 8	SESSION 4 GT2 ROOM 10	SESSION 5 TS10 ROOM 12
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13:00 - 14:30 Lunch

14:30 - 15:10 **KEYNOTE LECTURE**
Room: Aula Magna Attilio Alto
Climate Change and Urban Strategies to Mid-Century
Jeffrey D. Sachs (Columbia University)



15:10 - 16:00	SESSION 6 TS03 ROOM 4	SESSION 7 GT3 ROOM 6	SESSION 8 TS14 ROOM 8	SESSION 9 GT2 ROOM 10	SESSION 10 TS16 ROOM 12
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16:00 - 16:30 Coffee-break

16:20 - 18:20	SESSION 11 TS03 ROOM 4	SESSION 12 GT3 ROOM 6	SESSION 13 TS14 ROOM 8	SESSION 14 GT2 ROOM 10	SESSION 15 TS16 ROOM 12
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Thursday 12th June

9:00 - 10:20	SESSION 16 GT1 ROOM 4	SESSION 17 GT3 ROOM 6	SESSION 18 TS20 ROOM 8	SESSION 19 TS18 ROOM 10	
10:20 - 10:50	Coffee-break				
KEYNOTE LECTURE Room: Aula Magna Attilio Alto Reducing operational carbon in Buildings: Challenges for smarter design, refurbishment and operation Romeu Vicente (University of Aveiro) 					
10:50 - 11:30					
11:40 - 13:00	SESSION 20 TS02 ROOM 4	SESSION 21 GT3 ROOM 6	SESSION 22 TS20 ROOM 8	SESSION 23 GT6 ROOM 10	
13:00 - 14:00	Lunch				
14:00 - 14:20	INVITED SPEAKER Room: Aula Magna Attilio Alto Policies for Sustainable Housing in Puglia Doriana Doronzo (Regione Puglia) 				
14:30 - 15:50	SESSION 24 TS02 ROOM 4	SESSION 25 GT3 ROOM 6	SESSION 26 TS11 ROOM 8	SESSION 27 GT6 ROOM 10	
15:50 - 16:20	Coffee-break				
16:20 - 18:00	SESSION 28 GT1 ROOM 4	SESSION 29 GT3 ROOM 6	SESSION 30 TS11 ROOM 8	SESSION 31 GT2 ROOM 10	SESSION 32 GT1/ GT5 ROOM 12
19:30	Conference Dinner				

Friday 13th June

9:00 - 10:20	SESSION 33 GT1 ROOM 4	SESSION 34 TS09 ROOM 6	SESSION 35 GT4 ROOM 8	SESSION 36 GT6 ROOM 10	SESSION 37 GT3 ROOM 12
10:20 - 10:50	Coffee-break				
10:50 - 11:30	KEYNOTE SPEAKER Room: Aula Magna Attilio Alto Energy Storage Vectors for Building Decarbonization <i>Aminhossein Jahanbin (Polytechnic University of Bari)</i>				
					
11:40 - 13:00	SESSION 38 GT1 ROOM 4	SESSION 39 TS09 ROOM 6	SESSION 40 GT5 ROOM 8	SESSION 41 GT6 ROOM 10	
13:00 - 14:00	Lunch				
14:00 - 15:52	SESSION 42 GT1 ROOM 4	SESSION 43 GT7 ROOM 6	SESSION 44 GT5 ROOM 8	SESSION 45 TS06 ROOM 10	ONLINE GT1 ROOM 12
15:20 - 15:50	Coffee-break				
15:50 - 17:30	SESSION 46 GT1 ROOM 4	SESSION 47 GT7 ROOM 6	SESSION 48 GT5 ROOM 8	SESSION 49 TS06 ROOM 10	ONLINE GT3/GT4/GT5 ROOM 12
17:30	CLOSING CEREMONY Room: Aula Magna Attilio Alto				

Detailed Scientific Programme

Wednesday 11th June

9:15 - 10:00	OPENING CEREMONY Room: Aula Magna Attilio Alto <i>Michele Emiliano</i> (President of Regione Puglia) <i>Francesco Cupertino</i> (Rector of Polytechnic University of Bari) <i>Patrícia Pereira da Silva</i> (Vice-Rector University of Coimbra) <i>Julieta António</i> (Co-Chair of CEES2025, Associate Professor University of Coimbra) <i>Umberto Berardi</i> (Co-Chair of CEES2025, Professor Polytechnic University of Bari)	
10:10 - 10:50	KEYNOTE LECTURE Room: Aula Magna Attilio Alto Sustainable Universities: Governance, Energy, and Environmental Approaches <i>Patrícia Pereira da Silva</i> (University of Coimbra) <i>Chaired by: Julieta António</i> (University of Coimbra) and <i>Umberto Berardi</i> (Polytechnic University of Bari)	
10:50 - 11:20	Coffee-break	
11:20 - 13:00	SESSION 1 Room 4	
	ID	GT1: CONSTRUCTION MATERIALS AND TECHNOLOGIES <i>Chaired by: Jorge de Brito</i> (IST, University of Lisbon)
11:20 - 11:40	18	BIOMIMETIC STRATEGIES AND FUNCTIONS FOR THE DESIGN OF AN ADAPTIVE ENVELOPE COMPONENT - Mariateresa Mandaglio, Lucia Guerrieri
11:40 - 12:00	43	ENHANCED THERMOCHROMIC ROOF COATINGS: ACCELERATED AGING EFFECTS ON OPTICAL AND WETTABILITY PROPERTIES - Ana Carolina Hidalgo Araujo, Rafael Salomão, Umberto Berardi, Kelen Almeida Dornelles
12:00 - 12:20	127	EVALUATION OF REINFORCEMENT COATINGS TO MITIGATE DAMAGE OF MASONRY PARTITION WALLS AFFECTED BY THE DEFLECTIONS OF CONCRETE SLABS - Rui Sousa, Hipólito Sousa, Luísa Sousa
12:20 - 12:40	188	THE WALL, THE PILLAR, AND THE COLUMN: THE THREE ELEMENTS OF ARCHITECTURAL FORM IN THE NEW SCENARIO OF THE DRY CONSTRUCTION FORM - Calogero Montalbano, Carla Chiarantoni
12:40 - 13:00	365	REHABILITATION OF PLASTERS FROM OLD BUILDINGS – CASE STUDY - Gina Matias, Nilce Pinho, Isabel Torres
11:20 - 12:40	SESSION 2 Room 6	
	ID	GT3: ENERGY <i>Chaired by: Ricardo Lima</i> (HES-SO-GE)
11:20 - 11:40	281	THE IMPORTANCE OF BATTERIES IN ACHIEVING ENERGY STORAGE SYSTEMS FOR HIGH POWER APPLICATIONS IN URBAN AREAS - José Gonçalves, Rúben Pedroso, David Esteves, Jorge Pinto, Ana Melato, Bruno Moreira, Miguel Matias
11:40 - 12:00	217	COMPARING RULE-BASED SUPPLY TEMPERATURE CONTROL STRATEGIES IN MULTI-SOURCE DISTRICT HEATING NETWORKS - Roberto Boghetti, Jérôme Kämpf
12:00 - 12:20	235	DEVELOPMENT AND VALIDATION OF A DYNAMIC MODEL FOR NANO-PCM-BASED THERMAL ENERGY STORAGES IN BUILDING SIMULATION APPLICATIONS - Pasquale Mollo, Umberto Berardi, Aminhossein Jahanbin

12:20 - 12:40	269	INTEGRATED PV-POWERED ENERGY STORAGE AND ELECTRIC VEHICLE SYSTEMS FOR SUSTAINABLE RESIDENTIAL BUILDINGS IN SOUTHERN ITALY - Valeria Selicati, Roberto Stasi, Aminhossein Jahanbin, Umberto Berardi
11:20 - 13:00	SESSION 3 Room 8	
ID	GT5: ENVIRONMENT <i>Chaired by: Victor Ferreira (University of Aveiro)</i>	
11:20 - 11:40	135	CIRCULAR MATERIALS CHARACTERISATION AT RESEARCH INFRASTRUCTURES THROUGH THE EUROPEAN PROJECT REMADE@ARI - Gary Admans, Phil Cook, Jussi-Petteri Suuronen
11:40 - 12:00	179	A BIOMIMETIC PEDAGOGY: TRAINING THE NEXT GENERATION OF ENVIRONMENTAL DESIGNERS - Mercedes Garcia-Holguera
12:00 - 12:20	77	INDUSTRIALISED CONSTRUCTION AND SUSTAINABILITY: AN ASSESSMENT UNDER THE LEVEL(S) FRAMEWORK - Guillermo Sotorrio Ortega, Sheila Otero Seseña, Alfonso Cobo Escamilla, José Antonio Tenorio Ríos
12:20 - 12:40	52	UNLOCKING THE POTENTIAL OF THE CONSTRUCTION AND DEMOLITION WASTE (CDW) MARKET: BARRIERS AND STRATEGIC SOLUTIONS FOR MACEIÓ, BRAZIL - Nehemias Anastácio, Rosane Bastistelle, Barbara Stolte
12:40 - 13:00	174	HIDDEN COSTS OF CIRCULAR ECONOMY IN OFFSITE HOUSING PROJECTS. - Lovelin Obi, Odoi Ansah Asare, Niraj Thuraijah
11:20 - 13:00	SESSION 4 Room 10	
	GT2: BUILDING PHYSICS <i>Chaired by: Francesco Asdrubali (University of Perugia)</i>	
11:20 - 11:40	33	EVALUATING COMBINED PASSIVE RETROFITS FOR A HIGH-RISE SOCIAL HOUSING UNDER A FUTURE CLIMATE CONDITION - Mohammad Abousaeidi, Gloria Pignatta, Negin Nazarian
11:40 - 12:00	152	TOPOLOGICAL OPTIMIZATION AND MATERIAL EXPLORATION FOR IMPROVING THE THERMAL PERFORMANCE OF 3D PRINTED PREFABRICATED WALL COMPONENTS - Valeria Villamil Cárdenas, Stefano Fantucci, Juan Diego Vargas
12:00 - 12:20	165	IMPACT OF STRUCTURAL ANCHORS AND METALLIC FRAME ON THE THERMAL PERFORMANCE OF OPAQUE VENTILATED FACADES THROUGH A CFD ANALYSIS - Giuseppe Aruta, Fabrizio Ascione, Nicola Bianco, Filippo de' Rossi, Teresa Iovane, Francesco Piccirillo
12:20 - 12:40	344	SUSTAINABLE GEOMETRIES: A COMPARATIVE ANALYSIS OF THERMAL PERFORMANCE IN UNINSULATED 3D-PRINTED CONCRETE WALL TOPOLOGIES - Renzo Feliciano, Natalia Barrera, Artyom Lukyanenko, Barbara Rangel, Jaime Cunha
12:40 - 13:00	243	A METHODOLOGY BASED ON EQUIVALENT MODELS FOR MULTILAYER WALLS FOR THE ENERGY RETROFIT OF EXISTING BUILDINGS - Francesco Asdrubali, Leone Maria Barbaro, Dante Maria Gandola, Stefano Fantucci, Valentina Serra, Roberto de Lieto Vollaro
11:20 - 13:00	SESSION 5 Room 12	
	TS10: NATURE-BASED SOLUTIONS FOR RESILIENT URBAN ENVIRONMENTS <i>Chaired by: Maria Manso (Lusófona University) and Cristina Monteiro (Universidade Católica Portuguesa)</i>	
11:20 - 11:40	144	GREEN WALLS CONTRIBUTION TO RAINWATER MANAGEMENT IN URBAN AREAS - Maria Manso, Cristina M. Monteiro
11:40 - 12:00	203	GREEN ROOFS AND GREEN WALLS TO ENHANCE BUILDINGS ENERGY EFFICIENCY - Maria Manso, Alena Harbiankova

12:00 - 12:20	303	GREEN WALLS AS CARBON-NEGATIVE SOLUTIONS TO PROMOTE ENVIRONMENTAL COMFORT IN EDUCATIONAL BUILDINGS - Maria Manso, Oskar Szczygieł
12:20 - 12:40	273	SIMULATION OF HYGROTHERMAL PERFORMANCE OF GREEN ROOFS: THE INFLUENCE OF SUBSTRATE THICKNESS FOR DIFFERENT CLIMATE CONDITIONS - Ana Briga Sá, Isabelle Silva, Cristina Matos
12:40 - 13:00	168	SIMULATING TREE COOLING EFFECTS ON BUILDING ENERGY PERFORMANCE: AN INTEGRATED MICROCLIMATE-DRIVEN APPROACH - Naga Venkata Sai Kumar Manapragada, Eilam Sklar, Jonathan Natanian
13:00 - 14:30	Lunch	
14:30 - 15:10	KEYNOTE LECTURE Room: Aula Magna Attilio Alto Climate Change and Urban Strategies to Mid-Century <i>Jeffrey D. Sachs (Columbia University)</i> <i>Chaired by: Maria João Rauch (SDSN Portugal) and Patrícia Pereira da Silva (University of Coimbra)</i>	
15:10 - 16:00	SESSION 6 Room 4	
ID	TS03: PASSIVE DAYTIME RADIATIVE COOLING – COOLING FROM OUTER SPACE FOR FREE - FROM RESEARCH TO MARKET <i>Chaired by: Lorenzo Pattelli (INRiM) and Christoph Sprengard (FIW München)</i>	
15:10 - 15:20	2	ASSESSING THE POTENTIAL OF DAYTIME RADIATIVE COOLING IN THE BUILDING SECTOR: MODELING OF COOL ROOFS AND ENHANCED HEAT PUMPS - Davide Forte, Matteo Fasano, Matteo Morciano, Eliodoro Chiavazzo, Pietro Asinari
15:20 - 15:40	20	EXPANSION OF THE MARKET FOR PASSIVE DAYTIME RADIATIVE COOLING AND FUTURE PERSPECTIVES - Masahiro Suemitsu, Ryosuke Osugi, Alexander Schmoltd
15:40 - 16:00	38	PASSIVE DAYTIME RADIATIVE COOLING FOR ENERGY SAVINGS: A MULTI-COUNTRY STUDY ACROSS EUROPEAN CLIMATES - Francesca Villano, Chrysanthi Efthymiou, Dimitra Papadaki, Silvia Ruggiero, Rosa Francesca De Masi, Margarita-Niki Assimakopoulos
15:10 - 16:00	SESSION 7 Room 6	
ID	GT3: ENERGY <i>Chaired by: Roberto Stasi (Polytechnic University of Bari)</i>	
15:10 - 15:20	194	ENGAGING SMALL COMMUNITIES IN THE CLEAN ENERGY TRANSITION: RESULTS FROM THE LIFE LOCAL GOGREEN PROJECT - Luigi Santopietro, Monica Salvia, Filomena Pietrapertosa, Benjamin Hueber, Michael Strobel, Uli Jakob, Cveta Dimitrova, Roman Kecek
15:20 - 15:40	261	IMPACT OF OFFSHORE WIND ENERGY PENETRATION ON THE RESILIENCE OF AN IMPORT-DEPENDENT POWER GRID - Geoffrey de Sena, Samuel Forsberg, Mikael Bergkvist, Malin Göteman
15:40 - 16:00	291	UNLOCKING THE POTENTIAL OF SOLAR RENEWABLE ENERGY COMMUNITIES IN AN URBAN DISTRICT: A CASE STUDY IN BARI, ITALY - Francesca Vecchi, Simona Semeraro, Roberto Stasi, Umberto Berardi, Francesco Guarino

15:10 - 16:00	SESSION 8 Room 8	
ID	TS14: NEW TRENDS IN BIO-BASED CONSTRUCTION PRODUCTS AND BIOCONSTRUCTION <i>Chaired by: José Antonio Tenorio (IETcc, CSIC) and Marta Conde (University of Córdoba)</i>	
15:10 - 15:20	157	EXCEL TOOL FOR THE PARAMETRIC ASSIGNMENT OF EN 335 USE CLASSES - Juan Fernandez-Golfin, Jose A Tenorio, Marta Conde, Maria Conde
15:20 - 15:40	189	LIFE CYCLE INVENTORY DATA FOR WOOD-BASED CONSTRUCTION PRODUCTS: GENERIC INDUSTRIAL PROCESSES IN THE CONTEXT OF THE IBERIAN PENINSULA - Soledad Montilla, Teresa Garnica, Sheilla Otero Seseña, Marta Conde, José Antonio Tenorio
15:40 - 16:00	190	INVENTORY BACKGROUND DATA FOR LCA OF BIOMATERIALS FOR CONSTRUCTION. ENVIRONMENTAL IMPACTS AND ECOSYSTEM SERVICES ASSOCIATED TO FOREST HARVESTING IN THE CONTEXT OF THE IBERIAN PENINSULA - Marta Conde, Teresa Garnica, Soledad Montilla, José Anonio Tenorio, Belén Abad
15:10 - 16:00	SESSION 9 Room 10	
ID	GT2: BUILDING PHYSICS <i>Chaired by: Manuela Neri (University of Brescia)</i>	
15:10 - 15:20	207	DIELECTRIC UV FILTERS FOR PROTECTION OF FIRE-RESISTANT GLASS BASED ON INTUMESCENT LAYERS - Ricardo M. L. Silva, Hurraira Hashim, Deepto Roy, Carolina O. Fernandes, Kevin Oliveira, Xavier L. Pinheiro, M. Alexandra Esteves, Anabela Capelo, Mariana T. Donato, Fernando A. Costa Oliveira, Cristina Ferreira, Isabel N. Alves, Teresa C. Diamantino, M. Alexandra Barreiros, Jorge Rocha, Jennifer P. Teixeira, Pedro M. P. Salomé
15:20 - 15:40	314	PROTECTION OF STEEL STRUCTURES AGAINST FIRE AND CORROSION BY PAINT COATINGS: A COMPARATIVE STUDY - Teresa Cunha Diamantino, Cristina Ferreira, Rita Gonçalves, Isabel Nascimento Alves, Ana Soares Vieira, Mariana Donato, Vanessa Morgado, Helena M. Silva, Ana Cristino, Tiago Soares, M. Alexandra Barreiros
15:40 - 16:00	348	EVALUATION OF IMPROVED FIRE REACTION INSULATION CORK BOARDS (ICB) - Deives Paula, Nuno Simões, António Nascimento, José Manuel Andrade
15:10 - 16:00	SESSION 10 Room 12	
ID	TS16: SMART BUILDING DESIGN AND OPERATION TOWARDS ENERGY EFFICIENCY AND COMFORT <i>Chaired by: António Figueiredo (University of Aveiro) and Romeu Vicente (University of Aveiro)</i>	
15:10 - 15:20	76	ACOUSTIC PROPERTIES OF A BIOCOMPOSITE INSULATION MATERIAL OBTAINED FROM END-OF-LIFE WIND TURBINE BLADES - German Vela, António Figueiredo, Vitor Costa, Romeu Vicente
15:20 - 15:40	137	DYNAMIC SHADING DEVICE WITH PHASE CHANGE MATERIALS: OPTIMIZED PERFORMANCE FOR RESILIENT AND SUSTAINABLE BUILDING STOCK - Margarida Gonçalves, António Figueiredo, Ricardo M.S.F. Almeida, Romeu Vicente
15:40 - 16:00	140	SIMULATION-BASED ASSESSMENT OF THE THERMAL PERFORMANCE OF RADIANT FLOOR SYSTEMS - Filipe Rebelo, António Figueiredo, Ricardo M.S.F. Almeida, Romeu Vicente, Victor M. Ferreira
16:00 - 16:30	Coffee-break	

16:30 - 18:10	SESSION 11 Room 4	
ID	TS03: PASSIVE DAYTIME RADIATIVE COOLING – COOLING FROM OUTER SPACE FOR FREE - FROM RESEARCH TO MARKET <i>Chaired by: Lorenzo Pattelli (INRiM) and Christoph Sprengard (FIW München)</i>	
16:30 - 16:50	51	SAMPLE HOLDER INFLUENCE ON OUTDOORS THERMAL TESTS FOR DAYTIME RADIATIVE COOLING SAMPLES - Ares Llados Flores, Juliana Jaramillo-Fernández, Roser Capdevila, Lorenzo Pattelli, Jérémy Werlé
16:50 - 17:10	53	PAINTING ROOFS WHITE: AN AFFORDABLE STRATEGY TO IMPROVE INDOOR COMFORT IN AFRICAN BUILDINGS - Arturo Martínez, Gloria Perez, Fernando Martín-Consuegra, Borja Frutos, Carmen Alonso, Albert Adibekyan, Christian Monte, Anna Peter, Michael Kleinbub, Lorenzo Patelli
17:10 - 17:30	122	DEVELOPMENT OF A MEASURING APPARATUS AND MEASUREMENT OF THE COOLING PERFORMANCE OF PASSIVE DAYTIME RADIATIVE COOLING MATERIALS FOR BUILDINGS AND TECHNICAL APPLICATIONS - Michael Kamml, Christoph Sprengard, Chiara Cucchi
17:30 - 17:50	129	COMPARATIVE EVALUATION OF PASSIVE RADIATIVE COOLING (PRC) FLUID-COOLING PANELS - Lanzeroti Manon, Peter Zghaib
17:50 - 18:10	126	COOLING POTENTIAL ASSESSMENT OF PRC MATERIALS: FINDINGS FROM A FULL-SCALE PROTOTYPE STUDY - Eduardo González-Cruz, Gloria Perez, Borja Frutos, Carmen Alonso, Fernando Martin-Consuegra, Lorenzo Pattelli
16:30 - 17:50	SESSION 12 Room 6	
ID	GT3: ENERGY <i>Chaired by: Aminhossein Jahanbin (Polytechnic University of Bari)</i>	
16:30 - 16:50	251	A GIS AND BOTTOM-UP SIMULATION-BASED FRAMEWORK TO ASSESS THE ROLE OF ZERO-EMISSION BUILDING STANDARDS IN ACHIEVING LOW-CARBON GOALS: INSIGHTS FROM A CASE STUDY FOR CHINA - Sadik Yigit, Juan Mahecha Zambrano, Luca Baldini
16:50 - 17:10	277	EXPLORING THE THEORY VS. REALITY OF PASSIVE HOUSE PERFORMANCE: A COMPARATIVE STUDY OF OCCUPIED VS. UNOCCUPIED DWELLINGS IN THE REPUBLIC OF IRELAND - Bailie Wilson, Chiara Salaris, Trevor Hyde, Shane Colclough, Jayanta Mondol, Aggelos Zacharopoulos
17:10 - 17:30	326	CITY FORM AND OROGRAPHY IMPACT ON MOBILITY ENERGY CONSUMPTION AND PROPENSITY TO THE ADOPTION OF ACTIVE TRAVEL - João Coutinho-Rodrigues, Filipe Pais, João Monteiro, Nuno Sousa, Eduardo Natividade-Jesus
17:30 - 17:50	301	OPTIMIZING ENERGY EFFICIENCY IN HISTORICAL BUILDINGS USING MODEL PREDICTIVE CONTROL FOR BUILDING AUTOMATION AND CONTROL SYSTEMS - Roberto Stasi, Simona Semeraro, Francesco Ruggiero, Umberto Berardi
16:30 - 17:50	SESSION 13 Room 8	
ID	TS14: NEW TRENDS IN BIO-BASED CONSTRUCTION PRODUCTS AND BIOCONSTRUCTION <i>Chaired by: José Antonio Tenorio (IETcc, CSIC) and Marta Conde (University of Córdoba)</i>	
16:30 - 16:50	208	RETHINKING ECO-COMPATIBLE TOURIST ACCOMMODATIONS: A CASE STUDY IN THE DELTA DEL PO NATURAL PARK - Francesca Thiebat, Fiamma Morselli, Alice Masoero, Paolo Scoglio

16:50 - 17:10	284	ADVANCED BIO-BASED COMPOSITE PANELS FOR BUILDING FACADES - daniela campanhã, José Barbosa, José Gonçalves, Miguel Monteiro, Juliana Soares, Diana Gonçalves, Luani Costa
17:10 - 17:30	351	FAB-BIO: A REVIEW OF BIO-BASED MATERIALS APPLIED ON 3D-PRINTED LIVING WALLS - Josef Mari Ponce, Abdishukri Rashid Aden, Alejandra Paola Nuñez Montoya, Barbara Rangel Carvalho, Jaime Cunha
17:30 - 17:50	362	FEASIBILITY OF ECOFRIENDLY MORTARS WITH DIFFERENT TYPES OF HEMP FIBRES: A PRELIMINARY STUDY - Bruno Machini, Luis Silva, Catarina Serra, João Almeida, Nuno Simões
16:30 - 17:50	SESSION 14 Room 10 GT2: BUILDING PHYSICS <i>Chaired by: Alain Koenen (LNE)</i>	
16:30 - 16:50	325	THE ASSESSMENT OF DETAILS OF EXISTING BUILDING STRUCTURES WITH THE ADDITION OF A THERMALLY CONDUCTIVE ELEMENT - Martin Králík, Miloš Kalousek
16:50 - 17:10	366	ASSESSING THE PERFORMANCE OF INSULATION CORK BOARDS IN PASSIVE EVAPORATIVE COOLING SYSTEMS: A METHODOLOGICAL APPROACH - Mohammad Reza Salehi, Margarida Calmeiro, José Andrade, António Tadeu, Nuno Simões
17:10 - 17:30	289	NATURAL VENTILATION FOR ALL: BALANCING IAQ AND NOISE ANNOYANCE THROUGH ACOUSTIC METAMATERIALS - Stefania Liuzzi, Chiara Rubino, Alessandro Cannavale, Pietro Stefanizzi, Francesco Martellotta
17:30 - 17:50	219	ENERGY DEMAND FOR INDOOR THERMAL COMFORT IN A NORTHERN ARCHIVAL OFFICE - Giulia Boccacci, Francesca Frasca, Chiara Bertolin, Tonje Dahlin Saeter, Erlend Lund, Anna Maria Siani
16:30 - 17:50	SESSION 15 Room 12 TS16: SMART BUILDING DESIGN AND OPERATION TOWARDS ENERGY EFFICIENCY AND COMFORT <i>Chaired by: António Figueiredo (University of Aveiro) and Romeu Vicente (University of Aveiro)</i>	
16:30 - 16:50	280	PERFORMANCE ANALYSIS OF AN INNOVATIVE RADIANT FLOOR SYSTEM INCORPORATING TWO PHASE CHANGE MATERIALS: AN EXPERIMENTAL INVESTIGATION - Filipe Rebelo, Michael Brett, António Figueiredo, Romeu Vicente, Nuno Simões, Ricardo M.S.F. Almeida, Victor M. Ferreira
16:50 - 17:10	333	A MULTI-PARAMETER BIM-BASED FOR ARTIFICIAL LIGHT USE ASSESSMENT: A FOOD RETAIL CASE STUDY - Simone Forastiere, Carla Balocco, Cristina Piselli, Fabio Scurpi, Maider Llaguno-Munitxa
17:10 - 17:30	232	DYNAMIC VENTILATED FAÇADES FOR LIGHTWEIGHT BUILDINGS: A STRATEGY FOR MITIGATING OVERHEATING - Marcelo Langner, Romeu Vicente, António Figueiredo, Ricardo Almeida, Victor Ferreira
17:30 - 17:50	296	BUILDING RECORDS SYSTEM BRS: DA SMART BUILDING A COGNITIVE BUILDING. - Corrado Trombetta, Stefano Cascone

Thursday 12th June

9:00 - 10:20	SESSION 16 Room 4 GT1: CONSTRUCTION MATERIALS AND TECHNOLOGIES <i>Chaired by: Marilena De Simone (University of Calabria)</i>	
9:00 - 9:20	80	IDENTIFYING OPTIMAL SCENARIOS FOR INTERNAL INSULATION IN REFURBISHMENT PROJECTS - Manuela Neri, Hossein Soltanian, Mariagrazia Pilotelli
9:20 - 9:40	82	IMPACT OF STATIC AND DYNAMIC SOLAR CONTROL WINDOW FILMS ON THERMAL AND VISUAL COMFORT UNDER EUROPEAN CLIMATES - Henriqueta Teixeira, M. Glória Gomes, A. Moret Rodrigues, Daniel Aelenei
9:40 - 10:00	253	EFFECTIVE THERMAL CONDUCTIVITY PREDICTION MODEL FOR VACUUM INSULATION PANELS - Dron Kaushik, Harjit Singh, Anirudh Nunna
10:00 - 10:20	292	REHAB: A WEB APPLICATION FOR ASSESSING THE CONSERVATION STATE OF FACADES IN HISTORIC BUILDINGS - Ana Caroline Cruvinel, Anabela Gonçalves Correia de Paiva, Raimundo Mendes da Silva
9:00 - 10:20	SESSION 17 Room 6 GT5: Environment <i>Chaired by: Cristina Matos (UTAD)</i>	
9:00 - 9:20	19	AN INCLUSIVE TOOL TO SUPPORT THE IMPLEMENTATION OF URBAN LIVING LABS IN POSITIVE ENERGY DISTRICTS. - Martina Dell'Unto, Bahanur Nasya, Louise-Nour Sassenou, Claudia E. Collar, Francesca Olivieri
9:20 - 9:40	8	ECO SHOWER-HEADS: CAN THEY REALLY SAVE ENERGY AND WATER? A PRELIMINARY STUDY OF THEIR EFFECTIVENESS AND REAL ENERGY AND WATER SAVING POTENTIAL. - Nikos Zarkadis, José Maria Larreategui Santana
9:40 - 10:00	46	6TH-GENERATION DISTRICT HEATING AND COOLING NETWORK: DESIGN, EXPERIMENTAL RESULTS AND FUTURE CHALLENGES - Ricardo Lima
10:00 - 10:20	47	POSITIVE ENERGY DISTRICTS IN SWITZERLAND: ANALYSIS FROM A TECHNICAL, SOCIAL AND BUSINESS POINT OF VIEW - Adriano Cassella, Ricardo Lima, Davide Morais, Martin Patel, Selin Yilmaz, Juliana Zapata, Michelle Scacco Paulet, Silvia Ulli-Beer
9:00 - 10:20	SESSION 18 Room 8 TS20: SUSTAINABLE ADAPTATION SOLUTIONS FOR BUILT ENVIRONMENTS <i>Chaired by: Paula Mendes (IST-ID, CERENA) and Chiara Bertolini (NTNU)</i>	
9:00 - 9:20	91	SUSTAINABLE ADAPTATION SOLUTIONS FOR THE PRESERVATION OF FILM MATERIALS - Thomas Jakob Willums, Francesca Frasca, Lisa Vergelli, Chiara Bertolin, Fabio Sgarbossa
9:20 - 9:40	134	EFFECTS OF BIOFILMS ON LIMESTONE SPECIMENS IN THE CONTEXT OF CULTURAL HERITAGE PRESERVATION - Davide Ripamonti, Alessia Marzanni, Chao Gao, Chiara Bertolin, Francesca Cappitelli, Federica Villa, Nicola Ludwig

9:40 - 10:00	154	DEVELOPMENT AND CHARACTERIZATION OF ARCHITECTURAL INTEGRATED SOLAR AIR HEATING FAÇADE COMPONENTS - Khaoula FRIJI, Valeria Villamil, Valentina Serra, Abdallah Bouabidi, Stefano Fantucci
10:00 - 10:20	164	HOW ADAPTATIONS IN COASTAL AREAS WITH NATURE-BASED SOLUTIONS (NBS) CAN MITIGATE THE IMPACTS OF SEA LEVEL RISE - A LITERATURE REVIEW - Fernanda Magalhães, Inês Flores-Colen, Ana Armada Bras, Miguel Amado
9:00 - 10:20	SESSION 19 Room 10	
TS18: INSPECTION, EVALUATION AND SUSTAINABLE REHABILITATION OF BUILDINGS <i>Chaired by: Andrea Kern (University Vale do Rio dos Sinos)</i>		
9:00 - 9:20	58	SUSTAINABLE REHABILITATION OF SCHOOL BUILDINGS: INTEGRATING EFFICIENCY, ACCESSIBILITY, AND ENVIRONMENTAL STEWARDSHIP - Ana Martha Oliveira, João Carlos Lanzinha, Ana Teresa Vaz Ferreira, Andrea Kern
9:20 - 9:40	102	SPECIFIC PROCEDURES FOR HISTORIC MORTAR AND SANDSTONE ANALYSES – CASE STUDIES OF KELSO ABBEY AND GLENFINNAN VIADUCT - Laszlo Csetenyi, Thomas Dyer
9:40 - 10:00	143	REHABILITATION OF UNOCCUPIED BUILDINGS FOR SOCIAL HOUSING: AN ANALYSIS BASED ON DESIGN PATTERNS - Eduardo Reuter Schneck, Andrea Parisi Kern, Vinicius de Moraes Netto
10:00 - 10:20	245	ANOMALIES IN MORTARS APPLIED IN BRAZILIAN CONSTRUCTIONS OF PORTUGUESE ORIGIN: A COMPARATIVE STUDY BASED ON CLIMATE - Isabel Torres, Ana Ferreira, Roberto Santana
10:20 - 10:50	Coffee-break	
11:00 - 11:40	KEYNOTE LECTURE Room: Aula Magna Attilio Alto Reducing operational carbon in Buildings: Challenges for smarter design, refurbishment and operation <i>Romeu Vicente (University of Aveiro)</i> <i>Chaired by: Francesco Asdrubali (University of Perugia, Italy) and Jorge de Brito (IST, University of Lisbon)</i>	
11:40 - 13:00	SESSION 20 Room 4	
TS02: DIGITIZATION IN THE ARCHITECTURE, ENGINEERING, AND CONSTRUCTION (AEC) INDUSTRY <i>Chaired by: Pedro Pereira (FEUP) and Nuno M. M. Ramos (FEUP)</i>		
11:40 - 12:00	136	INTEGRATING MODULAR CONSTRUCTION PRINCIPLES INTO ARCHITECTURAL DESIGN PROCESSES, A REVIEW ON INTERNATIONAL PROJECT DEVELOPMENT FRAMEWORKS AND GUIDELINES - Leonor Reis, Caroline Minetto, Bárbara Rangel
12:00 - 12:20	171	THERMAL CONCEPTION OF MODULAR FACADE SYSTEMS: PARAMETERIZATION AND OPTIMIZATION - Sofia Pessoa, Caroline Minetto, Leonor Reis, João Delgado, Bárbara Rangel, Ana Sofia Guimarães
12:20 - 12:40	185	SMART MANAGEMENT OF INDOOR ENVIRONMENTAL QUALITY FOR ENERGY EFFICIENCY IN RESIDENTIAL BUILDINGS: A SYSTEMATIC REVIEW OF METHODOLOGIES AND SYSTEMS - Rui Cunha, Mariana Nadais, Nuno M. M. Ramos, Pedro F. Pereira, João Poças Martins
12:40 - 13:00	101	ENHANCING INDOOR ENVIRONMENTAL QUALITY THROUGH REAL-TIME MONITORING: A CASE STUDY OF A 3D-PRINTED HOUSE - Mariana Nadais, Rui Cunha, Sofia Pessoa, João Delgado, Ana Sofia Guimarães, Bárbara Rangel, João Carvalho, Pedro Pereira

11:40 - 13:00	SESSION 21 Room 6	
GT3: ENERGY		
Chaired by: Valentina Serra (Politecnico di Torino)		
11:40 - 12:00	197	IDENTIFYING BEHAVIOURAL DRIVERS INFLUENCING SMES' DECISIONS ON ENERGY EFFICIENT RETROFITTING OF COMMERCIAL BUILDINGS IN IRELAND USING MULTI – METHOD ANALYSIS - Charles Kagiri, Vincent Carragher, Danuka Jeewan Piyumal Dalpadadu Anagipura, Jamie Goggins
12:00 - 12:20	320	REEHABILITANT EL RAVAL: A HOLISTIC APPROACH TO ENERGY REHABILITATION IN MEDITERRANEAN OLD TOWNS - Alfredo Guardo Zabaleta, Magda Ruiz Ordoñez, Edgardo Müller
12:20 - 12:40	183	EFFECTIVE COOLING WITH A NOVEL DESIGN OF THERMALLY ACTIVATED BUILDING COMPONENTS FOR HIGH THERMAL COMFORT - Michael Marquardt, Jasper Jürgensen, Kristina Terheiden
12:40 - 13:00	342	ASSESSMENT OF PORTUGUESE WINDOW LABELLING - Nuno Simões, Joana Prata, Rita Garcia, Paulo Santos, Bruna Morais
11:40 - 13:00	SESSION 22 Room 8	
TS20: SUSTAINABLE ADAPTATION SOLUTIONS FOR BUILT ENVIRONMENTS		
Chaired by: Paula Mendes (IST-ID, CERENA) and Chiara Bertolini (NTNU)		
11:40 - 12:00	193	DECISION-MAKING TOOL TO ADDRESS PLANTS' NEEDS IN NATURE-BASED SOLUTIONS DESIGN - Jacopo Gasparotto, Mónica Alexandra Muñoz Veloza, Roberto Giordano, Elisa Costamagna
12:00 - 12:20	225	THE ROLE OF MEDITERRANEAN AGROSILVOPASTORAL ECOSYSTEMS IN AND AROUND CITIES IN MITIGATING CLIMATE EXTREMES - Maria Paula Mendes, Fabio Salbitano, Alain Francés, Maciek Lubczynski, Anastasio J. Villanueva, Anastasia Pantera, Ana Silva, Javier Samper
12:20 - 12:40	259	DESIGN MEASURES AGAINST URBAN HEAT IN VIEW OF EUROPEAN GREEN CAPITALS AND THE BIODIVERSITY STRATEGY FOR 2030 - Clara Pereira, Inês Flores-Colen, Maria Paula Mendes
12:40 - 13:00	202	SENSITIVE BUILDING ENVELOPE PROPERTIES THAT POSE DWELLING OVERHEATING RISK IN COOLER CLIMATES - Omprakash Ramalingam Rethnam, Ciara Ahern, Mark Mulville
11:40 - 13:00	SESSION 23 Room 10	
GT6: CONSTRUCTION AND INDUSTRY 4.0		
Chaired by: Fátima Farinha (University of Algarve)		
11:40 - 12:00	347	COMPARATIVE ANALYSIS OF ONSITE VS. OFFSITE 3D PRINTING IN CONSTRUCTION: BENEFITS, CHALLENGES, AND CASE STUDIES - Leyla Coronel, Anies Nivetha Gnanaraj, Reham Mohamed Thabet, Barbara Rangel Carvalho, Jaime Cunha
12:00 - 12:20	113	PINN-BASED INDOOR COMFORT PREDICTION FOR RESIDENTIAL BUILDINGS IN THE COOLING SEASON - Simona Semeraro, Francesca Vecchi, Roberto Stasi, Umberto Berardi
12:20 - 12:40	159	A FRAMEWORK FOR ACHIEVING SMART GRID-INTERACTIVE EFFICIENT BUILDINGS: DEFINING THE GRID-BUILDING INTERACTION LEVELS AND COMPARING WITH SMART READINESS INDICATOR - Italo Aldo Campodonico Avendano, Mohammadreza Aghaei, Silvia Erba, Kamilla Heimar Andersen, Amin Moazami

12:40 - 13:00	299	IMPLEMENTATION OF A MACHINE LEARNING-EMPOWERED HVAC LOAD SHIFTING STRATEGY TO BALANCE THE CHARGING LOAD OF ELECTRIC VEHICLES IN A WAREHOUSE - Farzad Dadras Javan, Arya Assadian, Jose Pineda Solis, Fabio Rinaldi, Sara Perotti, Behzad Najafi
13:00 - 14:00		Lunch
14:00 - 14:20		INVITED SPEAKER Room: Aula Magna Attilio Alto Policies for Sustainable Housing in Puglia <i>Doriana Doronzo (Regione Puglia)</i> <i>Chaired by: Nuno Simões (Itecons/ University of Coimbra) and Tiziana Susca (ENEA)</i>
11:30 - 15:50		SESSION 24 Room 4 TS02: DIGITIZATION IN THE ARCHITECTURE, ENGINEERING, AND CONSTRUCTION (AEC) INDUSTRY <i>Chaired by: Pedro Pereira (FEUP) and Nuno M. M. Ramos (FEUP)</i>
14:30 - 14:50	272	DIGITALIZATION FOR URBAN ENERGY PLANNING: FAÇADE SEGMENTATION AND MATERIAL DETECTION IN 3D POINT CLOUDS - Martina Giorio, Mattia Manni, Chiara Bertolin, Gabriele Lobaccaro
14:50 - 15:10	298	BALANCING ENERGY EFFICIENCY AND AESTHETICS: GENERATIVE DESIGN FOR SUSTAINABLE ARCHITECTURE - Susanne Wiese, Andrei Lobov, Chiara Bertolin
15:10 - 15:30	177	OPTIMIZING 3D-PRINTED CONCRETE PANELS' THERMAL PERFORMANCE WITH MATERIALS, METRICS, AND GENERATIVE DESIGN - Tassia Latorraca, Bárbara Rangel, Ana Sofia Guimarães
15:30 - 15:50	160	PARAMETRIC DESIGN AS AN OPTIMISER FOR MODULAR CONSTRUCTION A FOLLOWING DFMA PRINCIPLES - Caroline minetto, Leonor Reis, Bárbara Rangel
14:30 - 15:50		SESSION 25 Room 6 GT3: ENERGY <i>Chaired by: Kelen Dornelles (ENEA)</i>
14:30 - 14:50	209	THE POTENTIAL OF URBAN DIGITAL TWINS FOR RENEWABLE ENERGY COMMUNITIES - Sebastiano Anselmo, Maria Ferrara
14:50 - 15:10	264	EXPERIMENTAL TESTS FOR THE ASSESSMENT OF A BATTERY THERMAL MANAGEMENT SYSTEM (BTMS) - Ouronon M. Beugre, Tiago Jesus, Filipe Pedro, Michael Brett, António Tadeu, Vítor Lopes, Jorge Pinto, Marcos Fidalgo, Rodrigo Godinho, Filipe Cruz
15:10 - 15:30	267	IMPROVING ENERGY AND WATER PERFORMANCE OF SWIMMING POOLS: PROTOTYPE AND VALIDATION ECOPOOL +++ - Fátima Farinha, Miguel Oliveira, Gina Matias, Francisco Carmo, João Abrantes, João Vieira
15:30 - 15:50	167	INVESTIGATION ON PLATE-FINNEED TUBE EVAPORATOR PERFORMANCE WITH THE HYBRID METHOD BY VARYING GEOMETRICAL SPECIFICATIONS - Giuseppe Starace, Silvia Macchitella, Gianpiero Colangelo
14:30 - 15:50		SESSION 26 Room 8 TS11: ECO-INNOVATIVE AND EFFICIENT PRODUCTS FOR BUILDING ENVELOPE <i>Chaired by: Joana Maia (FEUP) and Maria Teresa Freire (Sival - Gessos Especiais)</i>
14:30 - 14:50	25	THE USE OF VATERITE IN CALCINED CLAY CEMENT BINDERS FOR SUSTAINABLE PRODUCTION - Mohammad Hossein Nofalah, Loucas Kyriakou, José María Fernández, Íñigo Navarro-Blasco, José Ignacio Álvarez

14:50 - 15:10	69	WOOD FIBRE CORE MATERIALS FOR VACUUM INSULATION PANELS (WOODVIP) - Sebastian Trembl, Michael Kamml, Max Engelhardt, Elisabeth Windeisen, Anna Sander-Titgemeyer
15:10 - 15:30	111	EXPANDING 3D CONCRETE PRINTING CUSTOMIZATION WITH BIOMIMETIC TEXTURES AND SUSTAINABLE MATERIALS - João Teixeira, Manuel Jesus, Bárbara Rangel, Lino Maia, Jorge L. Alves
15:30 - 15:50	162	APPLICATION OF SELF-CLEANING PRODUCTS ON 3D-PRINTED BUILDING ELEMENTS - AN EXPERIMENTAL STUDY - Manuel Jesus, Joana Lopes, João Teixeira, Ana S. Guimarães, Manuel Luna, Cláudia G. Silva, Joaquim L. Faria
14:30 - 15:50		SESSION 27 Room 10 TS11: ECO-INNOVATIVE AND EFFICIENT PRODUCTS FOR BUILDING ENVELOPE <i>Chaired by: Joana Maia (FEUP) and Maria Teresa Freire (Sival - Gessos Especiais)</i>
14:30 - 14:50	180	AUTOMATED FABRICATION OF CONCRETE BEAMS WITH WOUND FRP REINFORCEMENT - Ali Alraie, Setegn Abebe Kore, Francesco Ascione, Giuseppe Fallcara, Angelo Vito Graziano, Nicola Parisini, Saverio Spadea
14:50 - 15:10	308	A SYSTEMATIC REVIEW ON THE DURABILITY OF 3D-PRINTED CEMENTITIOUS MATERIALS: INSIGHTS & RESEARCH CHALLENGES - Rui Reis, Francisca Aroso, Filipe Brandão, Bruno Figueiredo, Paulo Cruz, Aires Camões, Carlos Jesus
15:10 - 15:30	311	ASSESSING ORTHOTROPIC MECHANICAL PERFORMANCE AND DIGITAL TWIN OF ROBOTIC 3D PRINTED CEMENTITIOUS MORTARS WITH FIBRES AND METAL REINFORCEMENTS - Francisca Aroso, Rui Reis, Filipe Brandão, Bruno Figueiredo, Paulo Cruz, Carlos Jesus, Aires Camões
15:30 - 15:50	313	UPCYCLING OF WASTE FIBRES: ENHANCING STRUCTURAL INTEGRITY IN 3DCP THROUGH FIBRE REINFORCEMENT - Filipe Brandão, Francisca Aroso, Rui Reis, Bruno Figueiredo, Paulo Cruz, Raul Figueiro, Pedro Dias
15:50 - 16:20		Coffee-break
16:20 - 18:00		SESSION 28 Room 4 GT1: CONSTRUCTION MATERIALS AND TECHNOLOGIES <i>Chaired by: Ana Briga-Sá (UTAD)</i>
16:20 - 16:40	41	ADVANCING CIRCULAR BIOECONOMY AND SUSTAINABLE CONSTRUCTION IN THE IBERIAN PENINSULA: ADDRESSING THE POTENTIAL OF TIMBER RESIDUES FOR 3D PRINTING - Juan Bugarin, Ayla Pedron, Aloysious Ssengooba, Barbara Rangel, Jaime Cunha
16:40 - 17:00	42	DEVELOPMENT OF READY-MIXED RECYCLED AGGREGATE CONCRETE COMPOSITIONS MADE WITH INDUSTRIAL COARSE RECYCLED AGGREGATES - Jorge de Brito, João Pacheco, Javier Valencia
17:00 - 17:20	48	TRADITIONAL MATERIALS AND TECHNIQUES IN MOZAMBIKAN CONSTRUCTION: A PATH TOWARDS SUSTAINABILITY - Michael Mendes dos Santos, Ana Teresa Vaz Ferreira, João C. G. Lanzinha
17:20 - 17:40	49	MECHANICAL AND MICROSTRUCTURAL ASSESSMENT OF CARBONATED ALKALI-ACTIVATED UNARY, BINARY, AND TRINARY MIXES - Jorge de Brito, Dany Kassim, Mustafa Ibrahim, Antonio Merino-Lechuga, Rui Silva
17:40 - 18:00	64	ALTERNATIVE CONCRETE AGGREGATES - REVIEW OF PHYSICAL AND MECHANICAL PROPERTIES - Sara Soares Dias, João Almeida, António Tadeu

16:20 - 18:00		SESSION 29 Room 6	
		GT3: ENERGY <i>Chaired by: Alfredo Guardo-Zabaleta (Polytechnic University of Catalonia)</i>	
16:20 - 16:40	13	QUANTIFICATION OF END-OF-LIFE WIND TURBINES WASTE IN THE ITALIAN CONTEXT. PERSPECTIVES AND CHALLENGES - Marilena De Simone, Daniele Campagna	
16:40 - 17:00	132	UNLOCKING DEEP RENOVATION POTENTIAL: A SYSTEMS THINKING-DRIVEN SOCIO-ECONOMIC AND CIRCULAR ECONOMY ANALYSIS OF HOUSING SECTOR IN BOLOGNA - Shantanu Raut, Róisín Cahill, Lia Marchi, Jacopo Gaspari	
17:00 - 17:20	100	NATURE-BASED SOLUTIONS TO IMPROVE WATER AND ENERGY EFFICIENCY AND SOCIAL EQUITY IN LOW-INCOME COMMUNITIES - Sara Bona, Armando Silva-Afonso, Ricardo Gomes, Paulo Silva, Fernanda Rodrigues	
17:20 - 17:40	133	SCALING REC: A CRITICAL ANALYSIS OF MECHANISMS TO ACCELERATE THE ENERGY TRANSITION. - Róisín Cahill, Shantanu Raut , Lia Marchi, Ernesto Antonini, Jacopo Gaspari	
17:40 - 18:00	192	POSITIVE ENERGY DISTRICTS (PEDS) AS CONTRIBUTORS TO ENHANCING SUSTAINABILITY PILLARS IN SOCIAL HOUSING NEIGHBOURHOODS - Fernanda Rodrigues, Mehrnaz Zargarzadeh, José Carlos da Mota, Paulo Silva	
16:20 - 18:00		SESSION 30 Room 8	
		TS11: ECO-INNOVATIVE AND EFFICIENT PRODUCTS FOR BUILDING ENVELOPE <i>Chaired by: Joana Maia (FEUP) and Maria Teresa Freire (Sival - Gessos Especiais)</i>	
16:20 - 16:40	196	IMPACT OF QUV ACCELERATED AGEING CYCLES ON THE DURABILITY OF DARK-COLOURED FINISHING COATINGS INCORPORATING REFLECTIVE NANOMATERIALS - Joana Maia, Joana Portilho Cunha, Rita C. Veloso, Andrea Souza, Joaquim Teles Nunes, Bruno Soeira, Nuno M. M. Ramos	
16:40 - 17:00	200	IN-SITU TESTING OF NANO-ENHANCED DARK COLOURED COATINGS OF ETICS - Joana Maia, Bruno Santos, Rita C. Veloso, Andrea R. Souza, João Ventura, Nuno M. M. Ramos	
17:00 - 17:20	218	IMPROVING NATURAL VENTILATION THROUGH 3D CONCRETE PRINTING - Elis Ribeiro, Bárbara Rangel, Filipe Brandão, Bruno Figueiredo, Lino Maia, Vanessa Tavares	
17:20 - 17:40	231	INFLUENCE OF THE RECYCLING PROCESS ON THE QUALITY OF GYPSUM BINDERS - Maria João Esteves, Teresa Freire, Ângela Sousa, Joana Maia, Nuno M. M. Ramos	
17:40 - 18:00	339	COMPARATIVE ASSESSMENT OF THE HYGROTHERMAL PERFORMANCE OF DIFFERENT ETICS INCORPORATING BIOBASED INSULATION MATERIALS - Márcio Gonçalves, Nuno Simões, Catarina Serra	
16:20 - 18:00		SESSION 31 Room 10	
		GT2: BUILDING PHYSICS <i>Chaired by: Stefano Fantucci (Polytechnic University of Turin)</i>	
16:20 - 16:40	28	IMPACT OF WHITE PIGMENTS' APPLICATION MODE ON THE PRODUCTION OF COOL CEMENT-BASED MATERIALS - Wellington Souza Silva, Kelen Almeida Dornelles	
16:40 - 17:00	138	DETERMINATION OF THERMAL PERFORMANCE OF BUILDING WALLS INSULATED WITH BIOBASED MATERIAL BY ACTIVE METHOD (PRELIMINARY RESULTS) - Alain Koenen, Damien Marquis, Kamel Zibouche	

17:00 - 17:20	151	COMPARISON OF THE EFFECTS OF NATURAL AND ACCELERATED AGING ON THE SOLAR REFLECTANCE OF PAINTS - Lorena Couto, Kelen Dornelles, Anna Laura Pisello
17:20 - 17:40	173	DYNAMIC HYGROTHERMAL ASSESSMENT OF A STONE WALL FOR THE INSTALLATION OF A NOVEL BIO-BASED MULTI-PURPOSE INSULATION MATERIAL - Carolina Santini, Fabio Sciurpi, Cristina Carletti, Cristina Piselli
17:40 - 18:00	255	ANALYSIS OF THE PERFORMANCE OF REFLECTIVE UNDERLAYS INSTALLED IN ROOF COMPONENTS AFTER ONE YEAR OF USE - Stefano Fantucci, Valeria Villamil Cárdenas, Valentina Serra, Domen Ivanšek, Giorgio Baldinelli, Francesco Asdrubali
16:20 - 17:40	SESSION 32 Room 12	
GT1: CONSTRUCTION MATERIALS AND TECHNOLOGIES / GT5: ENVIRONMENT		
Chaired by: Anabela Paiva (UTAD)		
16:20 - 16:40	356	DIAGNOSIS AND QUANTIFICATION OF STAINING IN REINFORCED CONCRETE STRUCTURES USING UNMANNED AERIAL VEHICLE (UAV) - Ana Gabrielle M. de Oliveira, Mayara Amario, Assed N. Haddad, Marco Antonio R. de Almeida, Carina M. Stolz
16:40 - 17:00	83	URBAN OASES IN THE CITY: A HUMAN-CENTRIC ASSESSMENT OF MULTI-DIMENSIONAL COMFORT IN DIFFERENT PARK TYPES - Bianca Milani de Quadros, Ilaria Pigliautile, Anna Laura Pisello, Roberta Jacoby Cureau, Eduardo Krüger, Martin Ordenes Mizgier
17:00 - 17:20	73	POTENTIAL OF BAUXITE REFINING RESIDUE (BR) AS CEM II REPLACEMENT TO PRODUCE LOW CARBON CEMENT - Zehao Lei, Sara Pavia
17:20 - 17:40	283	REUSING HAZELNUT SHELLS AS BIOBASED AGGREGATE FOR RAMMED EARTH: A CIRCULAR ALTERNATIVE FOR LOW-CARBON WALLS - Beatrice Galperti, Carlotta Ganna, Alessia Valsecchi, Pedro Correa de Melo, Marco Caruso, Matteo Colombo, Francesco Pittau

Friday 13th June

9:00 - 10:20		SESSION 33 Room 4	
GT1: CONSTRUCTION MATERIALS AND TECHNOLOGIES			
Chaired by: Isabel Torres (Itecons / University of Coimbra)			
9:00 - 9:20	29	CATHEDRAL OF ZAPOTLÁN EL GRANDE: INTEGRATION OF SUSTAINABLE PROCESSES IN ITS CONSERVATION AND RESTORATION - Fabiola Colmenero Fonseca, Elsa Ivette Aldana Ornelas, Daniel Ruíz López, Juan Francisco Palomino Bernal, Javier Cárcel Carrasco	
9:20 - 9:40	62	THERMAL AND MATERIAL ANALYSIS OF HISTORICAL AND MODERN MASONRY BRICKS IN HUNGARY - Fanni Petresevics, Balázs Nagy	
9:40 - 10:00	146	3D SURVEY FOR STRUCTURAL ANALYSIS OF ANCIENT WOOD FURNITURE - Sara Gonizzi Barsanti, Alessandro Greco, Rosa De Finis	
10:00 - 10:20	307	POTENTIAL OF A NEW WATER-BASED PRODUCT FOR STONE PROTECTION AGAINST GRAFFITI - Madalena Rucha, Bruno Sena da Fonseca, Ana Paula Ferreira Pinto, Susana Piçarra	

9:00 - 10:20		SESSION 34 Room 6	
TS09: DURABILITY AND SERVICE LIFE PREDICTION OF CONSTRUCTION MATERIALS <i>Chaired by: Sebastian Tremi (FIW München) and Daniel Zirkelbach (Fraunhofer IBP)</i>			
9:00 - 9:20	120	DURABILITY OF THERMAL INSULATION MATERIALS BASED ON RENEWABLE RESOURCES – DETERMINATION OF HYGROTHERMAL LOADS AS THE BASIS TO DERIVE USEFUL ARTIFICIAL TEST SCENARIOS - Daniel Zirkelbach, Eri Tanaka, Beate Stöckl, Sebastian Tremi, Chiara Cucchi, Michael Kamml	
9:20 - 9:40	130	NUMERICAL INVESTIGATION OF THE MOISTURE DISTRIBUTION EFFECT ON THE WOOD FRACTURE BEHAVIOUR - Mohammad Zaeimi, Chiara Bertolin, Sara Gonizzi Barsanti, Rosa De Finis	
9:40 - 10:00	198	STUDY OF THE MECHANISMS RESPONSIBLE FOR THE SETTLEMENT OF BULK CELLULOSIC THERMAL INSULATION MATERIAL - Hervé Illy, Romain Gautier, Imane Oubrahim, Sébastien Ritoux, Christelle Ollivier	
10:00 - 10:20	297	IMPACT OF USING INDUSTRIAL WOOD RESIDUES ON THE LONG-TERM PERFORMANCE OF STRUCTURAL FLOOR ELEMENTS - Sara Khanalizadehtaromi, Karin Sandberg	
9:00 - 10:20		SESSION 35 Room 8	
GT4: WATER AND SANITATION <i>Chaired by: Ana Poças (LNEC)</i>			
9:00 - 9:20	34	RAINWATER HARVESTING VERSUS USE OF GREYWATER IN BUILDINGS: A COMPARATIVE ANALYSIS - Carla Pimentel-Rodrigues, Armando Silva-Afonso	
9:20 - 9:40	40	CASTELO RODRIGO CISTERNs: A MODEL FOR URBAN WATER COMMUNITIES CONTRIBUTING TO SUSTAINABILITY - Sara Bona, Armando Silva-Afonso, Carla Pimentel-Rodrigues , Ricardo Gomes, Fernanda Rodrigues	
9:40 - 10:00	210	EVALUATION AND IMPROVEMENT OF STORMWATER NETWORKS USING THE THREE STEPS APPROACH - Antonio Geraldes, Cristina Santos, Francisco Piqueiro, Cristina Matos	
10:00 - 10:20	182	HYDRAULIC MODELLING IN RESIDENTIAL BUILDINGS USING EPANET SOFTWARE - Ana Pocas, Dália Loureiro	
9:00 - 10:00		SESSION 36 Room 10	
GT6: CONSTRUCTION AND INDUSTRY 4.0 <i>Chaired by: Stefano Fantucci (Polytechnic University of Turin)</i>			
9:00 - 9:20	4	STRUCTURAL ANALYSIS OF A DEMOUNTABLE DRY-CONNECTION FOR AN INNOVATIVE PRECAST WALL STRUCTURE SYSTEM - Ricardo Martins, Ricardo Carmo, Hugo Costa, André Furtado , Romain Sousa, Eduardo Júlio	
9:20 - 9:40	116	DFAM FRAMEWORK FOR PREFABRICATED 3DP BUILDING COMPONENTS WITH MIXED CELLULAR INFILLS - Juan Diego Vargas, Valeria Villamil , Stefano Fantucci	
9:40 - 10:00	287	COMBINING ARCHITECTURAL ADAPTABILITY AND SPACE EFFICIENCY IN THE DESIGN OF PREFABRICATED TIMBER WET UNITS - Rita Alves, Filipe Sousa, André Fontes, Dinis Leitão, Jorge Manuel Branco	

9:00 - 10:20		SESSION 37 Room 12
GT3: ENERGY Chaired by: Francesco Guarino (University of Palermo)		
9:00 - 9:20	199	ENHANCING URBAN SUSTAINABILITY: MODELING POSITIVE ENERGY DISTRICTS IN A MIXED-USE BARI DISTRICT - Alberto Brunetti, Francesco Guarino, Maurizio Cellura, Lorenzo Ilardi, Sonia Longo, Umberto Berardi, Roberto Stasi
9:20 - 9:40	353	SMART CITIES AND RENEWABLE ENERGY: SUSTAINABLE URBAN DEVELOPMENT IN QATAR - Ahmed K. Nassar
9:40 - 10:00	364	ANALYSING THE IMPACT OF DIESEL TRAIN IDLING ON ENERGY AND AIR QUALITY IN AN SEMI-ENCLOSED TRAIN STATION: EVALUATING FUEL CONSUMPTION AND NO ₂ CONCENTRATIONS AT DUBLIN'S CONNOLLY STATION USING RANDOM FOREST MODEL - Shanmuga Priyan Rajendran
10:00 - 10:20	271	A SOLAR-BIOMASS HYBRID ENERGY SYSTEM TOWARDS ZERO-ENERGY BUILDINGS: A TAILORED OPTIMIZATION FOR LIMITED-SPACE HOUSES IN COLD AND MEDITERRANEAN CLIMATES - Alireza Norouzasias, Ehsan Gholamian karkon, Gabriele Lobaccaro, Mohamed Hamdy
10:20 - 10:50		Coffee-break
10:50 - 11:30		KEYNOTE LECTURE Room: Aula Magna Attilio Alto Energy Storage Vectors for Building Decarbonization Aminhossein Jahanbin (Polytechnic University of Bari) Chaired by: Marilena De Simone (University of Calabria) and Victor Ferreira (University of Aveiro)
11:40 - 13:00		SESSION 38 Room 4
GT1: CONSTRUCTION MATERIALS AND TECHNOLOGIES Chaired by: Fernanda Rodrigues (University of Aveiro)		
11:40 - 12:00	70	MECHANICAL PROPERTIES OF GYPSUM INCORPORATING STONE POWDER WASTE - Normando Barbosa, Antonio Braga Filho, Aerson Moreira, Jose Gomes Neto
12:00 - 12:20	145	INCORPORATION OF VITRIFIED ASHES IN LIGHTWEIGHT FOAMED CONCRETE FOR 3D PRINTING: THERMAL AND MECHANICAL ASSESSMENT - Valeria Villamil Cárdenas, Juan Diego Vargas, Silvia Parmigiani, Luciana Restuccia, Stefano Fantucci, Enrico Fabrizio
12:20 - 12:40	155	INVESTIGATING THE REACTIVE POTENTIAL OF STEEL INDUSTRY'S CO-PRODUCT IN CONSTRUCTION MATERIALS THROUGH WASTE-TO-VALUE APPROACHES - Bruno Machini, Julieta António, João Almeida
12:40 - 13:00	215	RE-IMAGINING THE PRODUCTION OF 3D PRINTED CERAMICS THROUGH THE INCORPORATION OF WASTE MATERIALS - Sofia Melero-Tur, Adriano Jiménez-Guerrero, José Pérez-Fenoy, María del Mar Barbero-Barrera

11:40 - 13:00	SESSION 39 Room 6	
TS09: DURABILITY AND SERVICE LIFE PREDICTION OF CONSTRUCTION MATERIALS <i>Chaired by: Sebastian Tremel (FIW München) and Daniel Zirkelbach (Fraunhofer IBP)</i>		
11:40 - 12:00	105	LABORATORY BASED SIMULATION OF BOUNDARY CONDITIONS FOR PERIMETER INSULATION TO DETERMINE THE EVOLUTION OF MOISTURE INDUCED EFFECTS ON THERMAL CONDUCTIVITY - Sebastian Tremel, Christoph Werner, Michael Kamml, Jürgen von Auenmüller, Eduard Kaiser
12:00 - 12:20	112	REUSABILITY AND DURABILITY OF THERMAL INSULATION MATERIALS: PERFORMANCE AND DEGRADATION ASSESSMENT OF NATURALLY AGED POLYURETHANE AND POLYISOCYANURATE FOAM INSULATION - Gentiel Acar, Nathan Van Den Bossche, Marijke Steeman
12:20 - 12:40	115	APPLICATION OF THE FACTORIAL METHOD TO PREDICT THE SERVICE LIFE OF AN UNFINISHED REINFORCED CONCRETE BUILDING - Thamires N. S. Monteiro, Thais Rodrigues Fortes, Mayara Amario, Mohammad K. Najjar, Carina Mariane Stolz
12:40 - 13:00	124	DEVELOPMENT AND CHARACTERIZATION OF NEW MORTARS WITH HIGH CHEMICAL RESISTANCE TO SULPHURIC ACID ATTACK - Bruna Santos, Bruno Machini, Gina Matias, Isabel Torres, António Tadeu, João Almeida
11:40 - 13:00	SESSION 40 Room 8	
GT5: ENVIRONMENT <i>Chaired by: Margarida Calmeiro (Itecons / University of Coimbra)</i>		
11:40 - 12:00	66	RISK ASSESSMENT FOR WATER REUSE IN IRRIGATING GREEN AREAS ON A UNIVERSITY CAMPUS - Isabel Brás, Lenise Santos, José Ferreira, Elisabete Silva
12:00 - 12:20	229	WATER AND ENERGY CONSUMPTIONS IN THE WINE PRODUCTION INDUSTRY: A CASE STUDY IN PORTUGAL. - Cristina Matos, Rita Teixeira, José Baptista, António Valente, Ana Briga-Sá
12:20 - 12:40	268	USING SEAWATER TO REDUCE THE ENVIROMENTAL IMPACT OF SWIMMING POOLS - Fátima Farinha, Miguel Oliveira, Gina Matias, João Abrantes, Francisco Carmo, Jorge Isidoro, Rui Lança, Romeu Gerardo, João Vieira
12:40 - 13:00	278	MACHINE LEARNING-BASED SIMULATION OF MONTHLY WATER QUALITY IN THE SANTA LUCÍA CHICO RIVER BASIN - Pedro Pertusso, Martina Pou, Federico Vilaseca, Alberto Castro, Angela Gorgoglione
11:40 - 13:00	SESSION 41 Room 10	
GT6: CONSTRUCTION AND INDUSTRY 4.0 <i>Chaired by: Gloria Perez (IETcc, CSIC)</i>		
11:40 - 12:00	22	RISK ASSESSMENT FOR WATER REUSE IN IRRIGATING GREEN AREAS ON A UNIVERSITY CAMPUS - Isabel Brás, Lenise Santos, José Ferreira, Elisabete Silva
12:00 - 12:20	265	SCALING 3D PRINTING FOR LARGE-SCALE PRODUCTION BY OPTIMISING WORKFLOW - Iulia Cojocari, Mirna Mota Martins, Barbara Rangel Carvalho, Jaime Cunha
12:20 - 12:40	305	AN ALTERNATIVE APPROACH FOR MANAGING CONSTRUCTION ENGINEERING PROJECTS USING MULTILEVEL HYPERGRAPHS - José Ribas, Orlando Belo
12:40 - 13:00	220	MICROFABRICATION AND DRY CONSTRUCTION IN NEXT-GENERATION BUILDING PROCESSES: AN APPLIED RESEARCH CASE - Carla Chiarantoni, Calogero Montalbano
13:00 - 14:00	Lunch	

14:00 - 15:20	SESSION 42 Room 4	
GT1: CONSTRUCTION MATERIALS AND TECHNOLOGIES		
Chaired by: Carina M Stolz (UFRJ)		
14:00 - 14:20	23	CHEMOMETRIC OPTIMIZATION OF CEMENTED PASTE BACKFILL SOLUTIONS - Guilherme Ascensão, Emanuele Farinini, Helena Paiva, Victor Ferreira, Riccardo Leardi
14:20 - 14:40	75	CAPILLARY ABSORPTION CAPABILITY AND IMPREGNATION OF CALCIUM SILICATE BOARD WITH PHASE CHANGE MATERIALS - Rossella Cottone, Miroslav Cekon, Stefano Fantucci, Christ Glorieux
14:40 - 15:00	222	SUSTAINABLE USE OF POSIDONIA OCEANICA FIBERS FOR LIGHTWEIGHT AND ECO-FRIENDLY MORTARS - Flavia Dimunno, Marianna Carrieri, Andrea Petrella, Francesco Todaro, Michele Notarnicola
15:00 - 15:20	35	EVALUATION OF CEMENT MORTARS INCORPORATING CALCINED RED MUD: CHARACTERISATION AND STRENGTH DEVELOPMENT - Gurbir Kaur, José María Fernández Álvarez, Iñigo Navarro Blasco, Sara Pavia , José Ignacio Álvarez
14:00 - 15:20	SESSION 43 Room 6	
GT7: COMMUNITY CHALLENGES AND POLICIES		
Chaired by: Francesco Ruggiero (Polytechnic University of Bari)		
14:00 - 14:20	141	A DATA-DRIVEN APPROACH TO TRAUMA-INFORMED DESIGN: ENHANCING ACCESSIBILITY AND EMOTIONAL RESILIENCE IN URBAN PUBLIC SPACES - Valli Ramanathan
14:20 - 14:40	178	RETHINKING LOCAL SUSTAINABLE DEVELOPMENT STRATEGIES THROUGH THE LENS OF A COMMUNITY-LED APPROACH - Sławomir Kalinowski, Alena Harbiankova, Aleg Sivagrakau, Oskar Szczygieł
14:40 - 15:00	286	PORTUGAL’S NEW BUILDING RENOVATION PLAN: ADVANCING ELPRE FOR SUFFICIENT BUILDING REHABILITATION - Gabriela Barbosa, Joana Mourão
15:00 - 15:20	5	PED MANIFESTO - Bahanur Nasya, Yilmaz Vurucu
14:00 - 15:20	SESSION 44 Room 8	
GT5: ENVIRONMENT		
Chaired by: Isabel Brás (Polytechnic Institute of Viseu)		
14:00 - 14:20	12	COMPARATIVE ENVIRONMENTAL IMPACTS OF CONDENSING UNIT PRODUCTION: A LIFE CYCLE ASSESSMENT APPROACH OF POLAND AND PORTUGAL’S ENERGY MIX - Sofia Pinto, Bruno Silva, Catarina Faria, Bruna Machado, Bruno Coelho, Sérgio Rodrigues, Eleonora Caneve, Nuno Agostinho, Gonçalo Loureiro, Antonio Silva
14:20 - 14:40	214	A METHODOLOGY PROPOSING AI-BIM INTEGRATION FOR ENHANCED ENVIRONMENTAL IMPACT ASSESSMENT IN BUILDING LIFE CYCLE ANALYSIS - Sadaf Gachkar, Darya Gachkar, Antonio García Martínez , Cecilio Angulo Bahón
14:40 - 15:00	221	EVALUATING THE ENVIRONMENTAL EFFICIENCY OF ON-SITE AND OFF-SITE 3D CONSTRUCTION PRINTING: A ROADMAP TOWARDS SUSTAINABLE BUILDING PRACTICES - Jaime Cunha, Bárbara Rangel
15:00 - 15:20	60	THE IMPACT OF FUTURE CLIMATE SCENARIOS ON ENERGY PERFORMANCE OF GREEN FACADES AND ROOF PHOTOVOLTAICS OF VARIOUS URBAN MORPHOLOGIES IN THE MEDITERRANEAN CLIMATE - Iva Bufi, Sokol Dervishi, Ina Dervishi

14:00 - 15:20		SESSION 45 Room 10	
TS06: NEXUS BETWEEN UHI ADAPTATION MEASURES AND A SUSTAINABLE BUILT ENVIRONMENT <i>Chaired by: Tiziana Susca (ENEA) and Fabio Zanghirella (ENEA)</i>			
14:00 - 14:20	147	QUANTITATIVE STUDY ON THE COOLING EFFECT OF GREEN ROOFS IN BOLZANO CITY - Stefania Pace, Vincenzo Del Fatto, Roberto Loperfido, Katia Zanoner, Stefano Fattor, David Colmano	
14:20 - 14:40	163	ENVIRONMENTAL JUSTICE AND NATURE-BASED SOLUTIONS: THERMAL AND ECOLOGICAL BENEFITS OF HIGH-BIODIVERSITY AND BIOSOLAR ROOFS IN THE BOLZANO INDUSTRIAL ZONE - Rocco Pace, Yi Chen, Marzieh Zarei, Gianluca Grazieschi, Riccardo Pinotti, Isabella Siclari, Claudio Zandonella Callegher, Sonia Gantioler	
14:40 - 15:00	186	SOCIAL HOUSING REGENERATION: QUALIFYING AND MAKING SUSTAINABLE BUILDINGS AND PUBLIC SPACES. - Monica Misceo, Francesco Rotondo, Antonio Di Micco , Salvatore Tamburrino, Gaia Pascucci, Michele Parrotta	
15:00 - 15:20	226	PARAMETERS MODIFYING URBAN ECOSYSTEM THERMAL ENVIRONMENT AT THE BUILDING SCALE AND THEIR OPTIMIZATION - Patryk Antoszewski, Dariusz Świerk	
14:00 - 15:20		ONLINE PRESENTATIONS Room 12	
GT1: CONSTRUCTION MATERIALS AND TECHNOLOGIES / GT5: ENVIRONMENT <i>Chaired by: Julieta António (Itecons / University of Coimbra)</i>			
14:00 - 14:20	74	INTERDISCIPLINARY INVESTIGATION APPROACH TO ANALYSE HISTORICAL WATER INFRASTRUCTURES AND URBAN TRANSFORMATIONS: THE CASE STUDY OF THE GRABIGLIONI IN THE SASSI OF MATERA, ITALY - Daniele Altamura, Enrico Lamacchia, Ruggero Ermini, Nicola Masini, Antonella Guida	
14:20 - 14:40	84	BLOCKCHAIN IN CIVIL ENGINEERING SUSTAINABILITY: TRANSFORMING MATERIALS, PROCESSES AND CERTIFICATIONS - Flavia Fernández, Ana Abreu	
14:40 - 15:00	106	EVALUATION OF ADDITIVELY MANUFACTURED ACOUSTIC ABSORBING METAMATERIALS - Yamile Lara , Pablo Gianoli , Elizabeth González, Ana Abreu	
15:00 - 15:20	148	VALORIZATION OF SYNTHETIC RESIN WASTE - Carolina Ramírez García, Elizabeth González, Florencia Curi, Pablo Gianoli, Hector Campello	
15:20 - 15:50		Coffee-break	
15:50 - 17:30		SESSION 46 Room 4	
GT1: CONSTRUCTION MATERIALS AND TECHNOLOGIES <i>Chaired by: Gina Matias (Itecons)</i>			
15:50 - 16:10	260	NUMERICAL SIMULATION AND PERFORMANCE EVALUATION OF A REPLACEABLE STEEL DEVICE (RSD) IN ENHANCING THE SEISMIC BEHAVIOR OF SELF-CENTERING RC SHEAR WALLS - Fahimeh Shahpouri, Abbas Ali Tasnimi, António Tadeu	
16:10 - 16:30	275	AN INNOVATIVE AND SUSTAINABLE LIGHTWEIGHT CONCRETE FOR ENERGY EFFICIENT BUILDINGS - Tiziana Cardinale, Corradino Sposato, Maria Bruna Alba, Piero De Fazio	
16:30 - 16:50	315	POZZOLANIC REACTIVITY OF FLAT GLASS WASTE FROM THE PORTUGUESE INDUSTRY USING THE MODIFIED CHAPELLE METHOD - Katia Soares, Isabel Torres, Ana Velosa	
16:50 - 17:10	335	FROM USE TO REUSE. ANALYZING OF PARADIGMS SHIFTS IN THE ORANGE GROVE HOUSE INTERVENTION. - Clara Vale	

17:10 - 17:30	295	MOISTURE EXPANSION OF FIRED AND UNFIRED CLAY PRODUCTS - Udo Joachim Meyer
15:50 - 17:30	SESSION 47 Room 6	
GT7: COMMUNITY CHALLENGES AND POLICIES <i>Chaired by: Umberto Berardi (Polytechnic University of Bari)</i>		
15:50 - 16:10	31	ANTHROMES: GEOGRAPHICAL KNOWLEDGE FOR SUSTAINABLE RESOURCE MANAGEMENT - Roberta Ranieri
16:10 - 16:30	71	SUSTAINABLE URBAN COMMUNITIES: A DIGITAL MODEL FOR DESIGNING SAFE AND ACCESSIBLE SPACES - Renata Valente, Louise Anna Mozingo, Roberto Bosco, Savino Giacobbe, Mihaela Bianca Maienza
16:30 - 16:50	98	INNOVATIVE AND SUSTAINABLE HOUSING STRATEGIES FOR ADDRESSING AFFORDABILITY AND EQUITY CHALLENGES IN TORONTO - Md Fahad Islam
16:50 - 17:10	119	TOWARD CAPACITY BUILDING: SUSTAINABILITY LITERACY OF BUILT ENVIRONMENT STUDENTS IN UK HIGHER EDUCATION INSTITUTIONS - Maria Unuigbo
17:10 - 17:30	354	MARKET READINESS IN TIMBER CONSTRUCTION: THE ROLE OF EUROPEAN TECHNICAL ASSESSMENTS - Rui Jerónimo, Nuno Simões, Andreia Gil, Inês Simões, Miguel Portocarrero
15:50 - 17:10	SESSION 48 Room 8	
GT5: ENVIRONMENT <i>Chaired by: Gloria Pignatta (UNSW)</i>		
15:50 - 16:10	7	RIVERCITY - FLOODING AS A POTENTIAL TO REWORK THE URBAN PLANNING - Bahanur Nasya, Maryam Sarsam, Yilmaz Vurucu
16:10 - 16:30	17	TEST AND METHODS FOR THE PERFORMANCE CONTROL OF LIVING FACADES UNDER CLIMATE CHANGE - Martino Milardi, Mariateresa Mandaglio
16:30 - 16:50	81	ENVIRONMENTAL AND ENERGY PERFORMANCE OF RETROFITING AND CONSERVATION OF VERNACULAR BUILDINGS - Margarida Calmeiro, Rita Garcia, Márcio Gonçalves, Joana Prata, Nuno Simões, António Tadeu
16:50 - 17:10	312	CHANGES OF VULNERABILITY TO EXTREME WEATHER EVENTS DUE TO REVITALIZATION PROCESS IN POLAND AND CHINA - Adam Choryński, Yingxin Wang

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