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Advanced Research Center for Ambient Quality  
and Building Physics



Universitatea Tehnică  
de Construcții București

Technical University of Civil Engineering Bucharest



Romanian Association for Wind Engineering



EENVIRO 2020

21 - 23 October

Bucharest

# CONFERENCE PROGRAM



## Keynotes Speakers



**Prof. Richard de Dear**  
*University of Sidney, Australia*

Over the last 35 years, Professor **Richard de Dear** has focused his research career on defining what occupants want and need from their built environments and assessing the performance of buildings in terms of meeting those requirements. He is currently the most highly cited living researcher in the domain of thermal comfort, with over 250 peer-reviewed papers plus several monographs on the subject. Within that body of research, it is his adaptive model of thermal comfort that's had the greatest impact, not just on the research community but also on the design and operation of actual buildings. De Dear's adaptive model underpins the American Society of Heating and the Refrigerating and Air Conditioning Engineers' thermal comfort standard, ASHRAE 55-2004, 2010, 2013, which in turn, informs several national thermal comfort standards around the world.



**Prof. Tengfei (Tim) Zhang**  
*Tianjin University and Dalian University, China*

Professor **Tengfei (Tim) Zhang** is vice dean of School of Environmental Science and Engineering, Tianjin University, China. He obtained the bachelor's degree from Southeast University in 2000, master's degree from Tsinghua University of China in 2003, and Ph.D. degree from Purdue University in 2007. He has been conducting built environment research for over 17 years. Dr. Zhang is the PI of the research projects/subprojects of the national Key Basic Research and Development Program, national Natural Science Foundation of China (NSFC), Chinese Ministry of Education, Boeing Commercial Airplane, COMAC, etc. Dr. Zhang has published more than 140 papers and these papers have been cited more than 1800 times (based on the Google database). His H-Index is 20 (Google) and I10-Index is 37 (Google). He was recognized as one of the national distinguished young scholars of China in 2016.



**Prof. Cao Guangyu**  
*Norwegian University of Science and Technology, Norway*

Professor **Guangyu Cao** is from Norwegian University of Science and Technology. He received his PhD degree in 2009 in Helsinki University of Technology. From 2009 till 2014, he worked at VTT Technical Research Centre of Finland as senior scientist. Since October 2014, he has worked as professor at Department of Energy and Process Engineering, Norwegian University of Science and Technology. His research interests are ventilation in hospitals, indoor airflow distribution, thermal comfort, indoor air quality, built environment quality and protected zone ventilation. Since 2005, Dr. Cao has completed over 70 scientific publications regarding ventilation, airflow distribution and indoor air quality in international journals and international conferences. Currently, he is a Norwegian national representative in the European standard working group CEN TC156 WG18 Ventilation in hospitals.



**Dr. Leon Wang**  
*Associate Professor and member of the Centre for Zero Energy Building Studies, Quebec*

Dr. **Leon Wang** is currently an Associate Professor and member of the Centre for Zero Energy Building Studies (CZEBS) at Concordia. He joined Concordia in August 2010 and has been the Concordia University Research Chair in Building Airflow and Thermal Management. He earned the Ph.D. degree in Mechanical Engineering from the School of Mechanical Engineering at Purdue University, West Lafayette, Indiana, the USA in 2007. He then worked as a postdoctoral research associate at the Indoor Air Quality and Ventilation Group, Building and Fire Research Laboratory (BFRL) of the National Institute of Standards and Technology (NIST) as one of the developers of the CONTAM Multizone airflow and contaminant transport simulation model. Dr. Wang is a voting member and secretary of the Indoor Environmental Modeling of ASHRAE.



**Prof. Manuel Carlos Gameiro da Silva**

*Faculty of Science and Technology of the University of Coimbra, Portugal*

**Manuel Carlos Gameiro da Silva**, is full Professor at the Department of Mechanical Engineering, Faculty of Science and Technology of the University of Coimbra. Coordinator of the Energy for Sustainability Initiative of the University of Coimbra ([www.uc.pt/efs](http://www.uc.pt/efs)). Scholar and Coordinator of the Sustainable Cities Area of the MIT-Portugal Program. Coordinator of the Sustainable Energy Thematic Line of LAETA (Associated Laboratory of Energy, Transports and Aeronautics), a R&D laboratory with more than 250 senior investigators from the Universities of, Lisbon, Porto, Coimbra and Beira Interior.

Vice-President of Rehva and Chair of the Education Committee of Rehva ([www.rehva.eu](http://www.rehva.eu)). Vice-President of ADAI, a non-profitable research association connected to the Department of Mechanical Engineering of the University of Coimbra. papers, book chapters, conference papers and technical reports.



**Dr. Ashish Shukla**

*Coventry University, England*

Dr **Ashish Shukla** completed his PhD from the Indian Institute of Technology, Delhi (ITT Delhi), followed by award of prestigious FCS fellowship to work at the Swiss Federal Institute of Technology (ETH), Zurich, in the Department of Architecture. Currently he is Assistant Professor in Building Engineering Physics at Coventry University, UK. He is an accomplished building physicist and a sustainability professional with research interest in building engineering physics, energy management, energy generating building envelopes and energy storage. His vision is to design self-evolving climate responsive sustainable buildings, which can be achieved by integrated building design aiming to bring new low carbon innovation and improvement to on-site construction practice. He is also fellow member of UK Higher Education Academy.



**Dr. Laura Aelenei**

*National Laboratory of Energy and Geology (LNEG), Portugal*

Dr. **Laura Aelenei** is senior researcher and Scientific Coordinator of the Research Area Energy in Built Environment at National Laboratory of Energy and Geology (LNEG). She holds a PhD in Civil Engineering, sub-field Building Physics (heat transfer, fluid dynamics), from Technical University of Lisbon (IST-UTL). She has more than fifteen years of experience in energy efficiency and sustainable design strategies for buildings, including passive solutions and renewable energy systems integration. Her expertise relates to buildings energy performance, Net Zero Energy Buildings concept and methodology, buildings physics, buildings Energy Flexibility, Positive Energy Districts and climate-resilience of the built environment. With an active role in EU founded projects and networks as IEA, EERA, eseia, Laura is coordinator of strategic Module 2 Positive Energy Districts Laboratories (PED-Lab) in the framework of European Energy Research Alliance Joint Programme on Smart Cities (EERA JPSC) regarding implementation of the Set Plan Action 3.2 Positive Energy Districts.

## WEDNESDAY 21<sup>st</sup> of October 2020

### Location - Microsoft Teams

17 <sup>00</sup>	<b>EENVIRO – OPENING CEREMONY</b>
17 <sup>00</sup> - 17 <sup>10</sup>	<b>Mihnea SANDU</b> <i>Technical University of Civil Engineering Bucharest, Romania</i> <b>EENVIRO President</b>
17 <sup>10</sup> – 17 <sup>20</sup>	<b>Radu-Sorin VĂCĂREANU</b> <i>Rector of the Technical University of Civil Engineering Bucharest, Romania</i>
17 <sup>20</sup> – 17 <sup>30</sup>	<b>Florin BĂLTĂREȚU</b> <i>Research ViceRector of the Technical University of Civil Engineering Bucharest, Romania</i>
17 <sup>30</sup> - 19 <sup>00</sup>	<b>KEYNOTES SPEAKERS</b> <i>Chairperson: Ilinca NĂSTASE</i> <i>Technical University of Civil Engineering Bucharest, Romania</i>
17 <sup>30</sup> – 18 <sup>15</sup>	<b>Keynote Lecture - Manuel Carlos Gameiro da SILVA</b> <i>Faculty of Science and Technology of the University of Coimbra, Portugal</i> <b>The transmission modes of COVID-19</b>
18 <sup>15</sup> – 19 <sup>00</sup>	<b>Keynote Lecture - Leon WANG</b> <i>Associate Professor and member of the Centre for Zero Energy Building Studies (CZEBS) at Concordia, Canada, Quebec</i> <b>Global Environmental Multiscale and Urban Microclimate Modeling of Extreme Events and Their Impacts on Buildings</b>
19 <sup>00</sup>	<b>END OF FIRST DAY</b>

# THURSDAY 22<sup>nd</sup> of October 2020

## Location - Microsoft Teams

<b>09<sup>30</sup> - 11<sup>00</sup></b>	<b>KEYNOTES SPEAKERS</b> <i>Chairperson: Cristiana CROITORU, Florin BODE</i> <i>Technical University of Civil Engineering Bucharest, Romania</i> <i>Technical University of Cluj-Napoca, Romania</i>		
<b>09<sup>30</sup> - 10<sup>15</sup></b>	<b>Keynote Lecture - Richard de DEAR</b> <i>University of Sidney, Australia</i> <b>Nudging the adaptive thermal comfort model</b>		
<b>10<sup>15</sup> - 11<sup>00</sup></b>	<b>Keynote Lecture – Tengfei (Tim) ZHANG</b> <i>Tianjin University and Dalian University, China</i> <b>COVID-19 exposure risk in lavatories of aircraft or high-speed rail during the pandemic</b>		
<b>11<sup>00</sup> - 11<sup>45</sup></b>	<b>Keynote Lecture – Guangyu CAO</b> <i>Norwegian University of Science and Technology, Norway</i> <b>Protected occupied zone ventilation reducing personal exposure to airborne pollutant</b>		
<b>11<sup>45</sup> - 12<sup>00</sup></b>	<b>BREAK</b>		
<b>12<sup>00</sup> - 13<sup>00</sup></b>	<b>SESSION I - Indoor Air Quality</b> <i>Chairpersons: Ilinca NĂSTASE, Cătălin TEODOSIU</i>		
<b>12<sup>00</sup> - 12<sup>10</sup></b>	<b>9.</b> Matei Răzvan Georgescu, Amina Meslem, Ilinca Năstase, Mihnea Sandu, Florin Bode	University of Rennes, France Technical University of Civil Engineering Bucharest, Romania Technical University of Cluj-Napoca, Romania	Human CO <sub>2</sub> generation rates in small enclosures for different test cases
<b>12<sup>10</sup> - 12<sup>20</sup></b>	<b>20.</b> Amaury Jamin	Royal Military Academy, United Kingdom	Overview of the existing state of the art regarding the use of CFD and thermophysiological models for the vehicular thermal comfort assessment
<b>12<sup>20</sup> - 12<sup>30</sup></b>	<b>74.</b> Tiberiu Catalina, Cătălin Lungu	Technical University of Civil Engineering Bucharest, Romania	Influence of a decentralized ventilation system on the indoor air quality of a primary school classroom
<b>12<sup>30</sup> - 12<sup>40</sup></b>	<b>88.</b> Valeru Friedemann Kraus, Ioana Udrea	ASC-Romania Politehnica University of Bucharest, Romania	Advanced workplace management platform for monitoring and management of indoor climate parameters
<b>12<sup>40</sup> - 12<sup>50</sup></b>	<b>90.</b> Martin Ivanov, Sergey Mijorski	Technical University of Sofia, Bulgaria SoftSim Consult Ltd.	Analyses of wall surface condensation risk, based on CFD model with conventional room radiator

12 <sup>50</sup> – 13 <sup>00</sup>	<b>Questions &amp; Answers Session</b>		
13 <sup>00</sup> – 14 <sup>00</sup>	<b>BREAK</b>		
14 <sup>00</sup> – 15 <sup>05</sup>	<b>SESSION II - Fluid Mechanics</b> <i>Chairperson: Corneliu BĂLAN, Razvan CALOTĂ</i>		
14 <sup>00</sup> - 14 <sup>10</sup>	2. Claudiu Pătrașcu, Francisca Neagu, Corneliu Bălan	Politehnica University of Bucharest, Romania	Impinging liquid jets on flat fluid interfaces
14 <sup>10</sup> – 14 <sup>20</sup>	3. Ioana Răsuceanu, Claudiu Pătrașcu, Istvan Magoș, Nicoleta Trandas, Corneliu Bălan	Politehnica University of Bucharest, Romania	Liquid-liquid capillary rise
14 <sup>20</sup> – 14 <sup>30</sup>	5. Diana Broboană, Cristina Sorana Ionescu, Corneliu Bălan	Politehnica University of Bucharest, Romania REOROM Laboratory	The fracture of yield stress fluid jet in a viscous liquid
14 <sup>30</sup> – 14 <sup>40</sup>	22. Nicoleta - Octavia Tănase, Diana Broboană, Corneliu Bălan	Politehnica University of Bucharest, Romania	Flow investigation around cylinders assembled in a confined straight channel geometry
14 <sup>40</sup> – 14 <sup>50</sup>	23. Nicoleta - Octavia Tănase, Ștefan – Mugur Simionescu, Mădălina Maria Păduroiu, Corneliu Bălan	Politehnica University of Bucharest, Romania	Determination of the separation points for the flow around blunt bodies: experimental and numerical studies
14 <sup>50</sup> – 15 <sup>00</sup>	100. Eugen Chiriac, Ana-Maria Bratu, Mărioara Avram, Corneliu Bălan	National Institute for R&D – IMT Bucharest, Romania Politehnica University of Bucharest, Romania	Alcohol jets investigations in a microchannel in a viscous outer medium
15 <sup>00</sup> – 15 <sup>05</sup>	<b>Questions &amp; Answers Session</b>		
15 <sup>05</sup> – 16 <sup>00</sup>	<b>SESSION III - Wind Energy</b> <i>Chairperson: Andrei GEORGESCU, Costin COȘOIU</i>		
15 <sup>05</sup> – 15 <sup>15</sup>	27. Elena-Alexandra Chiulan, Anton Anton	Technical University of Civil Engineering Bucharest, Romania	The (r)evolution of wind energy systems in Romania: state-of-the-art, new trends and challenges
15 <sup>15</sup> – 15 <sup>25</sup>	80. Angel Terziev, Iliya Iliev, Hristo Beloev, Yancho Panteleev	Technical University of Sofia, Bulgaria Ruse University, Bulgaria	Impact assessment of terrain specifics on wind energy production over semi-complex terrains
15 <sup>25</sup> – 15 <sup>35</sup>	47. Ioana Octavia Bucur, Ion Mălael, Dragoș Preda	Romanian Research and Development Institute for Gas Turbine - COMOTI, Romania S.C. ROLIX IMPEX SERIES S.R.L. Romania	Numerical investigation of a reduced scale Lenz wind turbine model for aerodynamic tunnel applications
15 <sup>35</sup> – 15 <sup>45</sup>	37. Bianca Iustina Florea, Oana Alexandra Iagăr, Alexandru Cezar Vlăduț, Costin Ioan Cosoiu, Andrei-Mugur Georgescu, Liviu Valer Hașegan, Mircea Degeratu	Technical University of Civil Engineering Bucharest, Romania	Wind tunnel modeling of a residential ensemble in a high rise building urban area
15 <sup>45</sup> – 15 <sup>55</sup>	38. Oana-Alexandra Iagăr, Bianca Iustina Florea, Alexandru Cezar Vlăduț, Costin Ioan Cosoiu, Ovidiu Popescu, Andrei-Mugur Georgescu	Technical University of Civil Engineering Bucharest, Romania	Response of the Boundary layer wind tunnel to small variations of the fan rotational speed
15 <sup>55</sup> – 16 <sup>00</sup>	<b>Questions &amp; Answers Session</b>		

<b>16<sup>00</sup> – 16<sup>15</sup></b>	<b>BREAK</b>		
<b>16<sup>15</sup> – 17<sup>15</sup></b>	<b>SESSION IV - Environment</b> <i>Chairperson: George DARIE, Rodica FRUNZULICĂ</i>		
<b>16<sup>15</sup> – 16<sup>25</sup></b>	<b>16.</b> Victorița Rădulescu	Politehnica University of Bucharest, Romania	Complex solution of interconnection the wind and solar power plants for rehabilitation an old small hydropower plant
<b>16<sup>25</sup> – 16<sup>35</sup></b>	<b>84.</b> Mădalina Barbu, George Darie	Politehnica University of Bucharest, Romania	A technical analysis and comparison of tubular and lattice wind turbine towers
<b>16<sup>35</sup> – 16<sup>45</sup></b>	<b>52.</b> Aida Delcea, Ioan Bițir-Istrate	Politehnica University of Bucharest, Romania	Renewable energy sources for industrial consumers - a past to present analysis of technical and financial efficiency
<b>16<sup>45</sup> – 16<sup>55</sup></b>	<b>57.</b> Adrian Ciocănea, Sanda Budea, Ștefan Simionescu, Octavian Lambescu	Politehnica University of Bucharest, Romania	Experimental research on increasing the static torque for a small Savonius rotor of helical type
<b>16<sup>55</sup> – 17<sup>05</sup></b>	<b>66.</b> Andrei Dragomirescu	Politehnica University of Bucharest, Romania	Design considerations for an Archimedean screw hydro turbine
<b>17<sup>05</sup> – 17<sup>15</sup></b>	<b>Questions &amp; Answers Session</b>		
<b>17<sup>15</sup> – 18<sup>00</sup></b>	<b>SESSION V – Other Topics in Built Environment</b> <i>Chairperson: Carmen GEORGESCU, Paul DANCĂ</i>		
<b>17<sup>15</sup> – 17<sup>25</sup></b>	<b>77.</b> Lucian George Primejdie, Andrei Valentin Achim, Diana Maria Bucur, Georgiana Duncă, Sanda-Carmen Georgescu	Politehnica University of Bucharest, Romania	Rural water distribution system with groundwater supply and water tower: Numerical modelling in EPANET 2.2
<b>17<sup>25</sup> – 17<sup>35</sup></b>	<b>78.</b> Alexandru Constantin Săvulete, Vlad Florin Pirăianu, Sanda-Carmen Georgescu, Andrei-Mugur Georgescu	Politehnica University of Bucharest, Romania Technical University of Civil Engineering Bucharest, Romania	Modelling of a drip irrigation system operation for greenhouses rose cultivation using PDD in EPANET 2.2
<b>17<sup>35</sup> – 17<sup>45</sup></b>	<b>35.</b> Adrian Lungu	"Dunărea de Jos" University of Galați, Romania	CFD Prediction of ship-bank interaction
<b>17<sup>45</sup> – 17<sup>55</sup></b>	<b>36.</b> Adrian Lungu	"Dunărea de Jos" University of Galați, Romania	Numerical assessment of twin-propeller performances
<b>17<sup>55</sup> – 18<sup>00</sup></b>	<b>Questions &amp; Answers Session</b>		
<b>18<sup>00</sup></b>	<b>END OF SECOND DAY</b>		



## FRIDAY 23<sup>rd</sup> of October 2020

### Location - Microsoft Teams

<b>09<sup>30</sup> - 10<sup>00</sup></b>	<b>EENVIRO - REGISTRATION</b>		
<b>10<sup>00</sup> - 11<sup>30</sup></b>	<b>KEYNOTES SPEAKERS</b> <i>Chairperson: Mihnea SANDU</i> <i>Technical University of Civil Engineering Bucharest, Romania</i>		
<b>10<sup>00</sup> - 10<sup>45</sup></b>	<b>Keynote Lecture – Laura AELENEI</b> <i>National Laboratory of Energy and Geology (LNEG), Portugal</i> <b>Positive Energy Districts for Urban Energy Transitions</b>		
<b>10<sup>45</sup> - 11<sup>30</sup></b>	<b>Keynote Lecture – Ashish SHUKLA</b> <i>Coventry University, England</i> <b>Sustainability – Choices or lifestyle</b>		
<b>11<sup>30</sup> - 11<sup>45</sup></b>	<b>BREAK</b>		
<b>11<sup>45</sup> - 13<sup>05</sup></b>	<b>SESSION VI - Environment</b> <i>Chairperson: Viorel UNGUREANU, Nicolae ANTONESCU</i>		
<b>11<sup>45</sup> - 11<sup>55</sup></b>	6. Nicolae Antonescu, Dan-Paul Stănescu	Technical University of Civil Engineering Bucharest, Romania	Experimental study regarding the implications of "Eco-Design" Directive over conception and performances of small boilers
<b>11<sup>55</sup> - 12<sup>05</sup></b>	7. Nicolae Antonescu, Dan-Paul Stănescu	Technical University of Civil Engineering Bucharest, Romania	Carbon dioxide footprint reduction by retrofitting regional heating boilers from gaseous to biogenic fuels
<b>12<sup>05</sup> - 12<sup>15</sup></b>	89. Dragoș Iulian Pavel, Puiu Cozma, Sorin Dimitriu, Alexandru Chisacof, Carmen-Anca Safta	Police Academy, Firefighter Faculty, Bucharest, Romania Politehnica University of Bucharest, Romania	Mixture between fire and mist jets characteristics for flame extinguish
<b>12<sup>15</sup> - 12<sup>25</sup></b>	70. Daniel Vasile Banyai, Dan Opruta, Ioan-Lucian Marcu, Cristian Gabriel Merca	Technical University of Cluj-Napoca, Romania	Thermal energy storage system applicable to vehicles
<b>12<sup>25</sup> - 12<sup>35</sup></b>	72. Viorel Ungureanu, Adrian Ciutină, Nicolae Muntean, Daniel Muntean, Raluca Legian, Dan Vitan	Politehnica University of Bucharest, Romania	Energetic efficiency of modern steel-intensive buildings using recycled-PET thermal wadding
<b>12<sup>35</sup> - 12<sup>45</sup></b>	51. Valentin Nicolae Cococi, Carmen-Anca Safta, Constantin Călinoiu	Politehnica University of Bucharest, Romania	Parameter tuning process for a closed-loop pneumatic actuator
<b>12<sup>45</sup> - 12<sup>55</sup></b>	56. Sanda Budea, Carmen Safta	Politehnica University of Bucharest, Romania	Review on modern photovoltaic panels – technologies and performances
<b>12<sup>55</sup> - 13<sup>05</sup></b>	<b>Questions &amp; Answers Session</b>		

<b>13<sup>05</sup> – 14<sup>00</sup></b>	<b>BREAK</b>		
<b>14<sup>00</sup> – 15<sup>00</sup></b>	<b>POSTER SESSION VII – <i>Other Topics in Built Environment</i></b> <i>Chairperson: Cristiana CROITORU, Florin BODE</i>		
<b>14<sup>00</sup> – 14<sup>03</sup></b>	<b>10.</b> Cătălin Sima, Cătălin Teodosiu, Cristiana Croitoru, Florin Bode	Technical University of Civil Engineering Bucharest, Romania Technical University of Cluj-Napoca, Romania	Experimental study of heat transfer inside a real scale innovative air solar collector
<b>14<sup>03</sup> – 14<sup>06</sup></b>	<b>11.</b> Cătălin Teodosiu, Cătălin Sima, Cristiana Croitoru, Florin Bode	Technical University of Civil Engineering Bucharest, Romania Technical University of Cluj-Napoca, Romania	Analysis of velocity and temperature fields inside an air solar collector – A numerical approach
<b>14<sup>06</sup> – 14<sup>09</sup></b>	<b>105.</b> Paul Alexandru Danca, Corina Alice Babutanu, Florentina Bunea and Adrian Nedelcu	INCDIE ICPE-CA, Romania	Mixing Flow Characteristics in cylindrical tank
<b>14<sup>09</sup> – 14<sup>12</sup></b>	<b>21.</b> Dan Burlacu, Andrei-Mugur Georgescu, Ștefan-Nicolae Trache	Technical University of Civil Engineering Bucharest, Romania "Alexandru Ioan Cuza" Police Academy Bucharest, Romania	Small scale measurement of artificial smoke optical properties
<b>14<sup>12</sup> – 14<sup>15</sup></b>	<b>34.</b> Laurențiu Tăcutu, Nicolae Antonescu	Technical University of Civil Engineering Bucharest, Romania	An alternative solution for insulating a burning chamber with high temperature walls
<b>14<sup>15</sup> – 14<sup>18</sup></b>	<b>43.</b> Valeriu Sebastian Hudișteanu, Vasiliță Ciocan, Marina Verdeș, Cătălin George Popovici, Nelu-Cristian Cherecheș, Florin-Emilian Țurcanu, Marius Costel Bălan	"Gheorghe Asachi" Technical University of Iași, Romania	Analysis of an innovative water-cooling solution for photovoltaic-thermal systems
<b>14<sup>18</sup> – 14<sup>21</sup></b>	<b>83.</b> Mihail-Bogdan Carutasiu, Alin Ionescu, Constantin Ionescu, Horia Necula	Politehnica University of Bucharest, Romania	Forecasting solar radiation using a deep long short-term memory artificial neural network
<b>14<sup>21</sup> – 14<sup>24</sup></b>	<b>92.</b> Ion Cernica, Mircea Bologa, Igor Kozhevnikov, Oleg Motorin, Tudor Cucuic	Institute of Applied Physics, Chișinău, Moldova	Heat transfer at boiling of hexane in an electrohydrodynamic flow
<b>14<sup>24</sup> – 14<sup>27</sup></b>	<b>95.</b> Pablo Garrido-Pérez, Manuel Botejara-Antúnez, Gonzalo Sánchez-Barroso, Jaime González-Domínguez, Justo Garcia Sanz-Calcedo	University of Extremadura, Extremadura	Overview of resilience: a concept to assess healthcare infrastructure preparedness against disasters. Evaluation of existing models and applicability to HVAC system
<b>14<sup>27</sup> – 14<sup>30</sup></b>	<b>96.</b> Manuel Botejara-Antúnez, Pablo Garrido-Pérez, Jaime González-Domínguez, Gonzalo Sánchez-Barroso and Justo Garcia Sanz-Calcedo	University of Extremadura, Extremadura	Life Cycle Assessment (LCA) in the construction of healthcare buildings. Analysis of environmental impact
<b>14<sup>30</sup> – 14<sup>33</sup></b>	<b>101.</b> Marius Bălan, Marina Verdeș, Vasiliță Ciocan, Cătălin George Popovici, Sebastian Valeriu Hudișteanu, Emilian Florin Turcanu	"Gheorghe Asachi" Technical University of Iași, Romania	Study regarding the implementation of renewable energy in administrative buildings
<b>14<sup>33</sup> – 14<sup>36</sup></b>	<b>102.</b> Ancuța Maria Măgurean	Technical University of Cluj-Napoca, Romania	NZEB into the existing building fund as an affordable solution
<b>14<sup>36</sup> – 14<sup>39</sup></b>	<b>104.</b> Charles Berville, Abraham Tetang Fokone, Catalin-Ionut Sima, Cristiana Verona Croitoru	Technical University of Civil Engineering Bucharest, Romania	Mesh independency study for an unglazed transpired solar collector

		University of Ngaoundere, Cameroon	
14 <sup>39</sup> – 14 <sup>42</sup>	31. Carmen Elena Stoenoiu, Mugur Ciprian Bălan, Ciprian Cristea, Florica Mioara Șerban	Technical University of Cluj-Napoca, Romania	Evolution of renewable energy consumption in the EU
14 <sup>42</sup> – 14 <sup>45</sup>	32. Carmen Elena Stoenoiu, Iulian Birou, Ciprian Cristea, Florica Mioara Șerban	Technical University of Cluj-Napoca, Romania	Renewable energy in European countries, retrospective analysis
14 <sup>45</sup> – 14 <sup>48</sup>	73. Tiberiu Catalina, Ștefan Alexandru Ghiță, Cătălin Lungu	Technical University of Civil Engineering Bucharest, Romania EY Parthenon, Melbourne, Australia	Health assessment and indoor environmental quality in multiple Romanian rural schools
14 <sup>48</sup> – 14 <sup>51</sup>	98. Eleonora Darie, R. Peciș, M Culcea	Technical University of Civil Engineering Bucharest, Romania	Speed control of the direct current servomotor and the stepper motor with Arduino UNO Platform
14 <sup>51</sup> – 14 <sup>54</sup>	103. Diana Tutică, Mihai Rareș Sandu, Roxana Pătrașcu, Constantin Ionescu	Politehnica University of Bucharest, Romania	Identification of Key Performance Indicators related to the implementation of a hybrid energy supply system based on renewable energy sources
14 <sup>54</sup> – 15 <sup>00</sup>	<b>Questions &amp; Answers Session</b>		
14 <sup>00</sup> – 15 <sup>00</sup>	<b>POSTER SESSION VIII – Other Topics in Built Environment</b> <i>Chairperson: Ilinca NĂSTASE, Mihnea SANDU</i>		
14 <sup>00</sup> – 14 <sup>03</sup>	18. Ion Popa, Ionuț Daniel Ungureanu, Sorin Perju, Florian Marian Martan	Technical University of Civil Engineering Bucharest, Romania	Behaviour simulation of a main pipe depending on its execution material, in a non-steady flowing state (water hammer)
14 <sup>03</sup> – 14 <sup>06</sup>	46. Daniela Elena Gogoășe Nistoran, Ioana Opris, Cristina Sorana Ionescu, Ionela Enache	Politehnica University of Bucharest, Romania	Extreme heatwave scenarios with impact on thermal regime of Dâmbovița River in Bucharest, Romania
14 <sup>06</sup> – 14 <sup>09</sup>	81. Rositsa Velichkova, Radoslina Angelova, Iskra Simova	Technical University of Sofia, Bulgaria	Integrated system for wave energy harvesting
14 <sup>09</sup> – 14 <sup>12</sup>	108. Amjed M.S. Albaiyati	Technical University of Civil Engineering Bucharest, Romania	Improving the efficiency of energy recovery from wastewater by using a double heat exchanger to protect the environment
14 <sup>12</sup> – 14 <sup>15</sup>	93. Anca Hotupan, Adriana Hadarean	Technical University of Cluj-Napoca, Romania	Experimental study of water losses through a circular leakage hole in PVC pipes
14 <sup>15</sup> – 14 <sup>18</sup>	91. Sorina Constantinescu	Technical University of Civil Engineering Bucharest, Romania	Study on the behavior of a high reinforced concrete building with different kinds of partitioning masonry walls
14 <sup>18</sup> – 14 <sup>21</sup>	106. Adrian Nedelcu, Florentina Bunea, Paul Alexandru Danca, Rares Andrei Chihaiia, Marin Dorian and Gabriel Dan Ciocan	INC DIE ICPE-Ca, Romania Laval University, Québec, Canada	Experimental research on a hydrokinetic turbine model
14 <sup>21</sup> – 14 <sup>24</sup>	39. Alexandru Matei, Gabriel Racovițeanu	Technical University of Civil Engineering Bucharest, Romania	Review of the technologies for nitrates removal from water intended for human consumption
14 <sup>24</sup> – 14 <sup>27</sup>	40. Florin-Emilian Țurcanu, Marina Verdeș, Cătălin-George Popovici, Vasiliță Ciocan, Nelu-	“Gheorghe Asachi” Technical University of Iași, Romania	Dispersion of infectious aerosols through different mechanical system in a cardiac intensive care unit

	Cristian Cherecheș, Valeriu-Sebastian Hudișteanu	“Grigore T. Popa” University of Medicine and Pharmacy, Romania	
14 <sup>27</sup> – 14 <sup>30</sup>	48. Adrian Andrei Stănescu, Octavian Lalu, Oana Luca, Florian Gaman	Technical University of Civil Engineering Bucharest, Romania 2BRE Global Ltd, Bucknalls Lane, Garston, Watford, Herts	Performance of autoclaved aerated concrete (AAC) exposed to standard fire
14 <sup>30</sup> – 14 <sup>33</sup>	50. Gheorghe Radu, Gabriel Racovițeanu	Technical University of Civil Engineering Bucharest, Romania	Removing ammonium from water intended for human consumption. A review of existing technologies
14 <sup>33</sup> – 14 <sup>36</sup>	97. Corina Boncescu, Lăcrămioara Diana Robescu, Dana Andreyă Bondrea, Magdalena Elena Măcinic	Politehnica University of Bucharest, Romania	Study of energy consumption in a wastewater treatment plant using logistic regression
14 <sup>36</sup> – 14 <sup>39</sup>	14. Andrei Forton, Adrian Ciutină, Paul Marc	University Politehnica Timisoara, Romania University of Lyon, ENTPE, France	Environmental impact of bituminous mixtures produced with reclaimed asphalt pavement and rejuvenator
14 <sup>39</sup> – 14 <sup>42</sup>	29. Ioana Teodorescu, Ruxandra Erbașu, Jorge Branco, Daniela Tapuși	Technical University of Civil Engineering Bucharest University of Minho	Study on the changes in the moisture content of wood
14 <sup>42</sup> – 14 <sup>45</sup>	71. Adrian Ciutină, Monica Mirea, Alexandra Boldurean, Viorel Ungureanu, Raul Morovan, Raluca Legian	University Politehnica Timișoara, Romania	Behavior of wedge foundations under axial compression
14 <sup>45</sup> – 14 <sup>48</sup>	85. Florin Nicolescu, Dan Niculae Robescu	University Maritimă, Constanța, Romania Politehnica University of Bucharest, Romania	Fault analysis for wastewater treatment plant equipment using thermography
14 <sup>48</sup> – 14 <sup>51</sup>	87. Marian Dordescu, Florin Nicolescu	University Maritimă, Constanța, Romania	Modeling the active sludge treatment process in recirculation basins using the Simulink environment
14 <sup>51</sup> – 15 <sup>00</sup>	<b>Questions &amp; Answers Session</b>		
15 <sup>00</sup>	<b>EENVIRO CLOSING CEREMONY</b>		