



EU CONEXUS

The 8th Conference of the Sustainable Solutions for Energy and Environment, EENVIRO 2022

16th – 20th of October

Bucharest

CONFERENCE PROGRAM



The 8th Conference of the Sustainable Solutions for Energy and Environment, EENVIRO 2022

16th - 20th of October

Bucharest, Romania

Organized by

CENTER FOR ENERGY, RESILIENCE AND URBAN SYNERGIES – CERUS

ADVANCED RESEARCH CENTER FOR AMBIENTAL QUALITY AND BUILDING PHYSICS – CAMBI

UTCB Doctoral School

EU-CONEXUS

and

TECHNICAL UNIVERSITY OF CIVIL ENGINEERING BUCHAREST - UTCB

WELCOME MESSAGE

Dear EENVIRO Friends,

It is with great delight that we welcome you to the 8th Conference of the Sustainable Solutions for Energy and Environment (EENVIRO 2022) held in Bucharest, Romania.

Under the main theme “Sustainable Solutions for Energy and Environment”, the conference will cover the diverse disciplines of Energy and Environment from the present to the future, including societal and economical challenges we face.

This year, the EENVIRO Conference will be organized together with the partner universities from the EU-CONEXUS Consortium and will include workshops and oral presentations addressing sustainable and smart urban development topics.

At EENVIRO 2022 Conference, academia and industry gather to share valuable ideas and develop new collaborations. EENVIRO 2022 Conference will provide all participants a strong environment for a meaningful academic, industrial, social and cultural experience.

With fascinating ancient traditions and ultramodern lifestyle, the city of Bucharest will surely be the centre of many unforgettable moments for you. Bucharest is the 6th European town in population terms and the largest city of Romania, a very alive cultural, industrial and financial centre, offering historical or modern conference venues, very cosy hotels, appealing restaurants, robust infrastructure and a lot of quite unique places like traditional museums, recreational green areas and genuine “shopping arcades”.

EU-CONEXUS, The European University for Smart Urban Coastal Sustainability, is a unique European transnational higher education and research institution that is able to cover the smart urban sustainable coastal development from a global point of view, by cross disciplinary based approaches, vocational training, innovative and professionalizing educational and research methods and service provision. EU-CONEXUS has 9 partners and associated partners, universities from different European countries. SmUCS is a unique thematic focus that concentrates all university missions on finding solutions to global societal challenges faced by urbanised and semi-urbanised coastal areas. With this focused expertise, EU-CONEXUS also contributes to the achievement of the United Nations Sustainable Development Goals (UN SDGs). By leveraging the expertise of its 6800 staff and on its specialization on SmUCS on a global scale following holistic and interdisciplinary approaches, EU-CONEXUS creates a concentrated scientific potential on SmUCS that allows the Alliance to become a world-class player.

We look forward to welcoming you to the EENVIRO 2022 Conference, on-site or online.

Sincerely yours,

EENVIRO Conference organising team

ORGANIZERS

Organizers

CENTER FOR ENERGY, RESILIENCE AND URBAN SYNERGIES – CERUS

ADVANCED RESEARCH CENTER FOR AMBIENTAL QUALITY AND BUILDING PHYSICS – CAMBI

TECHNICAL UNIVERSITY OF CIVIL ENGINEERING BUCHAREST DOCTORAL SCHOOL

EU-CONEXUS

TECHNICAL UNIVERSITY OF CIVIL ENGINEERING BUCHAREST - UTCB

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- Cezar Vladuț, Technical University of Civil Engineering Bucharest, Romania
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- Ana Badea, Technical University of Civil Engineering Bucharest, Romania
- Anca Margineanu, EU Conexus, Technical University of Civil Engineering Bucharest, Romania
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- Giorgos Belokas, University of West Attica, Greece
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- Rasa Krolė, Klaipėdos Universitetas, Lithuania
- Hasna Louahlia, Université de Caen Normandie, France

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- **Prof. Walter Bosschaerts, Vrije Universiteit of Brussels, Belgium**
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- **Assoc. Prof. Rasa Ziliene, Klaipeda University, Lithuania**
- **Prof. Corneliu Bălan, University Politehnica of Bucharest, Romania**
- **Prof. George Darie, University Politehnica of Bucharest, Romania**
- **Prof. Radu Văcăreanu, Technical University of Civil Engineering Bucharest, Romania**
- **Assoc. Prof. Giorgos Belokas, University of West Attica, Greece**

VENUE



TECHNICAL UNIVERSITY OF CIVIL ENGINEERING BUCHAREST – UTCB

Faculty of Civil, Industrial and Agricultural Constructions

Boulevard Lacul Tei 122-124, Bucharest 020396



INSTRUCTIONS TO PRESENTERS

Keynote lectures: 30 minutes (Presentation 25 minutes + Questions 5 minutes)

Invited lectures: 30 minutes (Presentation 25 minutes + Questions 5 minutes)

General presentations: 15 minutes (Presentation 12 minutes + Questions 3 minutes)

The conference is organized in hybrid mode.

The on-site presenting authors will upload their presentations at least before each session begins.

The presentations will run from the computers installed in the conference rooms; the presenting authors are advised to not use their personal computers for the presentations.

For more information use the conference website: www.eenviro.ro.



The conference program may undergo a series of changes, independent of our will, for various reasons.

Therefore, please use this program as a guide.

Below you will find a link for the latest version of the EENVIRO 2022 conference program:
<https://www.eenviro.ro/conference-program-2/>



Microsoft Teams is the online platform used exclusively for the Online Sessions.

Keynotes Speakers



Prof. Risto KOSONEN
Aalto University,
FINLAND

Risto Kosonen (D.Sc.), head of 25 persons HVAC research team. He is working on indoor climate, smart building services engineering, and energy efficiency of buildings and communities. Over 25 years experience in industry of development and innovations. President of Scanvac Nordic HVAC association, vice-president of Federation of Finnish HVAC associations and Chair of Indoor Climate Association in Finland. Committee membership of e.g. REHVA organizations. Author of over 320 international publications. Awards: Rydberg Gold Medal, REHVA Fellow and the best paper award of Building and Environment 2016.

Keynote lecture on: **“Novel ventilation solutions: how to guarantee indoor climate in an energy efficient manner?”**

Keynote lecture for PhD student day: **“HVAC- technology for healthy buildings and sustainable society “**



Dr. Rasa ZILIENE
Klaipeda University,
LITHUANIA

Rasa Ziliene (D.Sc.), associate professor in economics, marketing specialist and projects manager. She is working in industrial symbiosis, maritime economy, and industrial clustering thematic fields, has solid experience in leading various international and national projects. She also leads in over loyalty, packaging, and communication scientific thematic fields of marketing, has solid experience in consulting in Intellectual property and commercialization, industrial digitalization as well as social entrepreneurship development fields. She is active EU-CONEXUS community member, working with youth in circular economy, social entrepreneurship, and sustainability topics. She is member of international association of Maritime economists, member of Lithuanian Association of Economists, External expert in Horizon Europe proposals evaluation.

Keynote lecture on: **“Low temperature district heating concept in the smart energy system: challenges and benefits”**



Dr. Michael BARDANIS
EDAFOS Engineering
Consultants S.A., GREECE

Dr Michael Bardanis is the Director of Laboratory of EDAFOS Engineering Consultants S.A., a geotechnical consultancy based in Athens, Greece. He holds a Diploma in Civil Engineering from the National Technical University of Athens, an MSc in Soil Mechanics from Imperial College, London, and a PhD degree in Unsaturated Soil Mechanics from the National Technical University of Athens. Michael has worked as a geotechnical engineer since 1998 on several demanding projects, including large landslide remediation projects, highways, dams and airports. Since 2009 he directs a large commercial soil and rock mechanics laboratory designed and organized by himself. Michael has authored and co-authored 70 papers in journals and conferences, mainly on unsaturated soil mechanics, landslides, and the mechanical behaviour of soils. He has been elected several times on the Executive Committee of the Hellenic Society of Soil Mechanics and Geotechnical Engineering (HSSMGE), serving as its Secretary General between 2015 and 2019, and as its President since 2019. He is the Chairman of the 8th International Conference on Unsaturated Soils to be held on Milos Island, Greece, in 2023.

Keynote lecture on: **“Investigation, identification and exploitation of underdrainage pore pressure profiles for the stabilization of large-size paleolandslides covering old river-beds”**



**Dr. Daiva
LABANAUSKAITE**
Klaipeda University,
LITHUANIA

Dr. Daiva Labanauskaite is a professor at the Department of Economics at the Klaipeda University. Her research interests are related to service economy, and especially the economic evaluation of the development of international tourism. During the recent years, D. Labanauskaite has actively worked with international sustainable tourism development projects, collaborated in the preparation of tourism development strategies. While participating in sustainable urban development project activities, she analysed and evaluated the economic sustainability of urban sustainable development. D. Labanauskaite gives lectures as a visiting professor to students at universities in Germany, Latvia, Finland and other EU countries.

Keynote lecture on: **“Tourism transformation into responsible form towards the sustainable development”**



Prof. Florin MICULESCU
University Politehnica of
Bucharest, ROMANIA

Florin Miculescu is Full Professor at the Materials Science and Engineering Faculty from University Politehnica of Bucharest, Romania. He has participated in five postdoctoral stages in Europe and USA and applied his expertise in various research projects related to materials science, engineering, and technology (being manager of 8 national and over 50 projects for private companies in the last 15 years). His research activities are also presented in over 130 papers indexed in Web of Science Clarivate Analytics (WOS cumulative impact factor as main author is >150), h-index is 24 (WoS) 26 (Scopus), 28 (Google Scholar), 13 books and book chapters, 1 edited book, 2 patents. He is an Editorial Board Member of 3 WOS indexed journals, Guest Editor of 3 WOS indexed journals and reviewer of over 20 WOS quoted journals in Materials Science topics. He is the President of the Materials Engineering and Science Committee from the National Council for the Attestation of Titles, Diplomas and Academic Certificates – CNATDCU. He received more than 30 awards for his contribution in science.

Keynote lecture on: **“New fabrication methods for bone regeneration products based on ceramic and composite biomaterials “**



Frank BASINSKI
BLUE HORIZON
TRAINING, ROMANIA

Frank Basinski is the founder of BLUE HORIZON TRAINING, a leadership consulting, training, and coaching organization based in Bucharest, Romania. Following his own executive leadership background in global tech companies, Frank now teaches and coaches business leaders from around the world on emotional intelligence, mental fitness, on developing leadership personality and character, as well as leading with corporate impact. Frank helps executive leadership teams to reconnect with purpose, focus and each other, to drive performance and execution to the next level.

Keynote lecture on: **“Why your EQ probably matters more than your IQ, unless you live alone on a remote island “**



Dr. Giorgos BELOKAS
University of West
Attica, GREECE

Dr Giorgos Belokas is an Assistant Professor of Geotechnical Engineering at the University of West Attica (Athens). He holds a Diploma in Civil Engineering from NTU Athens, an MSc in Soil Mechanics from Imperial College and a PhD from NTU Athens. He has 10 years of lecturing experience in geotechnical engineering courses and 20 years of professional experience in the analysis and design of geotechnical works. His research interest and published work include clay modelling, numerical and probabilistic analyses, slope stability – landslides and coupled phenomena. He is a board member of the Hellenic department of ISSMGE and an active member of the Greek national committees for Eurocode 7.

Keynote lecture on: **“Challenge based learning in geotechnical engineering – the contribution of case studies “**



Prof. Mihnea Alexandru MOISESCU
University Politehnica of
Bucharest, ROMANIA

Mihnea Alexandru MOISESCU, is a Professor, PhD coordinator at University Politehnica of Bucharest, Faculty of Automatic Control and Computers and currently serves as the Dean of the Faculty. He holds a Bachelor Degree in Automatics and Computer Science, a Bachelor Degree in Biophysics, a Master Degree of Science in Biophysics and a PhD in System Engineering. He is specialized in the areas of Discrete Event Dynamical Systems, Advanced Robotics, Enterprise Systems Architectures, Advanced Communication Systems, and Information Systems. He is author of more than 80 research papers in International Engineering Conferences and Congresses and 14 research papers in international journals indexed in Web of Science. His research experience includes participation and management of more than 18 national founded projects and 4 international projects.

Keynote lecture on: **“From Smart environments to smart everything “**

INVITED LECTURES



Ph.D. Eng. Gabriel Mihai SÎRBU
Renault Technologie
Romanie, ROMANIA

Gabriel Mihai Sirbu received the Ph.D. degree in electrical engineering from the University Politehnica of Bucharest. He held a postdoctoral position in CEIT-IK4 Center San Sebastian, Spain. He joined Renault Technologie Romanie in 2008 as a Team Leader for developing electrical and thermal simulation for electrical systems. He also held different management positions in simulation and customer requirements teams. He managed several teams dedicated to the most complex synthesis simulations of a car, as aerodynamics, thermal, crash, durability, and vehicle dynamics simulations. He was involved in many research projects as contributor or project manager, including projects funded by EU from H2020 program. Now he is project manager for internal projects of the company and for research projects in partnership on new energy sources and on improving the environment of passenger compartment.

Invited lecture on: **“Evolutions of European passenger cars following new regulations regarding vehicle emissions and decarbonization“**



Ph.D. Răzvan MAHU
 TENSOR, Channel
 Partner for ANSYS in
 Romania, ROMANIA

Răzvan Mahu is the Technical Manager of TENSOR, Channel Partner for ANSYS in Romania. He holds a PhD degree in Mechanical Engineering and a BSc degree in Aerospace Engineering. He is a highly experienced engineer with 18-year experience in the field of Computational Fluid Dynamics (CFD), and 9-year experience with Finite Element Analysis (FEA) and Multiphysics applications. He was involved in numerous engineering projects from various fields – Power Generation, Aerospace, Automotive, Marine, Oil & Gas, Environmental, and Materials Processing Industries; additionally, he has been engaged in several academic research projects, with notable results. Thus, he has acquired solid expertise in the innovative and efficient use of advanced CFD & FEA computational techniques for extremely complex engineering tasks.

Invited lecture on: **“Computational Fluid Dynamics methods for Aeroacoustics. HVAC case study “**



Ph.D. Arch. Sergiu C. PETREA
 Tecto Arhitectura,
 ROMANIA

Sergiu Cătălin Petrea is Managing Partner and Founder of the TECTO Arhitectura office, which was established in 2004.

He is also Member in the Managing Board of Romanian Association for Sustainable Local Development [ARDLD] and had academic activity in several universities from Romania.

He has attended Advanced Design Methods Master Program in 2005 and has a PHD Degree in architecture on Emergency Architecture in 2011.

He currently explores the perspectives of sustainable architectural design and energy efficient planning, being also concerned about themes related to poverty, experiment and urban regeneration strategies. His architectural practice includes buildings from all the fields of expertise and architectural contests. He constantly participates in international congresses and conferences, and it is also involved in research projects. Many of his architectural research themes are reflected in scientific papers and various thematic studies published in specialized media.

Invited lecture on: **“From Energy to Sustainability and back“**



Eng. Claudiu VELISAR,
 Romstal, ROMANIA

Claudiu Velisar is head of the “New Technology” department in Romstal. He has 7 years experience in energy efficient solutions for households and commercial buildings and is specialised in photovoltaic systems, B.M.S and heat pumps. Has a very practical knowledge, with more than 100 finished projects and with real time feedback from the clients in matters such as energy efficiency and consumption. He competed as a part of a team of volunteers against 19 countries in designing and building an energy efficient house in a project called Solar Decathlon which dealt with themes such as energy efficiency and sustainability in household construction.

Invited lecture on: **“Energy efficient solutions for buildings “**

EENVIRO 2022 – PROGRAM OVERVIEW

	16.10.2022	17.10.2022	18.10.2022	19.10.2022	20.10.2022
Time		Ph.D. Student Day			
	Sunday	Monday	Tuesday	Wednesday	Thursday
9:30 - 10:00		Registration	Registration	Registration	
10:00 - 10:30		Opening Ceremony (Lecture Hall I.2)	KeyNote Speaker Prof. Mihnea Alexandru Moisescu (Lecture Hall I.2)	KeyNote Speaker Frank Basinski (Lecture Hall I.2)	Laboratory visit - (Bd. Pache Protopopescu 66) Workshop Project PED NanoSun
10:30 - 11:00		KeyNote Speaker Prof. Risto Kosonen (Lecture Hall I.2)	KeyNote Speaker Prof. Florin Miculescu (Lecture Hall I.2)	KeyNote Speaker Prof. Rasa Ziliene (Lecture Hall I.2)	
11:00 - 11:30		Cofee Break	Cofee Break	Cofee Break	
11:30 - 12:00		KeyNote Speaker Ph.D. Michael Bardanis (Lecture Hall I.2)	Invited lecture Ph.D. Eng. Razvan Mahu (Lecture Hall I.2)	Parallel Session 9 (Lecture Hall I.2) Parallel Session 10 (online) (Room I.3)	
12:00 - 12:30		Session 1 (Lecture Hall I.2)	Parallel Session 4 (Lecture Hall I.2)	Workshop on Sustainable Industrial economics in coastal regions (Room I.4)	
12:30 - 13:00			Parallel Session 5 (Room I.3)		
13:00 - 13:30		Lunch	Lunch	Lunch	
13:30 - 14:00					
14:00 - 14:30		Invited lecture Ph.D. Eng. Gabriel Mihai Sirbu - Renault Technologie Roumanie (Lecture Hall I.2)	KeyNote Speaker Prof. Risto Kosonen (Lecture Hall I.2) / Workshop Challenge Based Learning (Room I.3)	KeyNote Speaker Ph.D. Arh. Sergiu Cătălin Petrea (Lecture Hall I.2)	
14:30 - 15:00		Session 2 (Lecture Hall I.2) Workshop Project PED INNOVENT (Room I.4)	Parallel Session 6 (Lecture Hall I.2) Workshop Challenge Based Learning (Room I.3)	Parallel Session 11 (Lecture Hall I.2) Parallel Session 12 (online) (Room I.3) Workshop nZEB Ready (Room I.4)	
15:00 - 15:30					
15:30 - 16:00		Cofee Break	Cofee Break	Cofee Break	
16:00 - 16:30		Session 3 (Lecture Hall I.2)	Invited lecture Eng. Claudiu Velisar, Romstal (Lecture Hall I.2) / Workshop Challenge Based Learning) (Room I.3)	KeyNote Speaker Prof. Daiva Labanauskaitė (Lecture Hall I.2)	
16:30 - 17:00			Parallel Session 7 (Lecture Hall I.2) Parallel Session 8 (online) (Room I.3) Workshop Project PED SAFE (Room I.4)	Parallel Session 13 (Lecture Hall I.2) Parallel Session 14 (online) (Room I.3)	
17:00 - 17:30	Registration and Ice- breaking reception				
17:30 - 18:00					
18:00 - 19:00					
19:00 - 20:00					
20:00 - 21:00		Gala Dinner / Awards ceremony			
21:00 - 22:00					
22:00 - 23:00					

SUNDAY 16th of October 2022

Location – 4th Floor

17 ⁰⁰ - 20 ⁰⁰	EENVIRO – Registration and Ice-breaking reception
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MONDAY 17th of October 2022

Location – 1st Floor Lecture Hall I.2

09 ³⁰ - 10 ⁰⁰	Registration
10 ⁰⁰ - 10 ³⁰	EENVIRO – OPENING CEREMONY
10 ⁰⁰ - 10 ¹⁰	Prof. Radu-Sorin VĂCĂREANU <i>Rector of the Technical University of Civil Engineering Bucharest, Romania</i>
10 ¹⁰ - 10 ²⁰	Prof. Florin BĂLTĂREȚU <i>Research Prorector of the Technical University of Civil Engineering Bucharest, Romania</i>
10 ²⁰ - 10 ³⁰	Prof. Loretta BATALI <i>Director of Doctoral Studies Council of the Technical University of Civil Engineering Bucharest, Romania</i>
10 ³⁰ - 11 ⁰⁰	KEYNOTES SPEAKER Chairperson: Prof. Ilinca NĂSTASE, Prof. Loretta BATALI <i>Technical University of Civil Engineering Bucharest, Romania</i>
10 ³⁰ - 11 ⁰⁰	Keynote Lecture - Prof. Risto KOSONEN <i>Aalto University, Finland</i> HVAC- technology for healthy buildings and sustainable society
11 ⁰⁰ - 11 ³⁰	COFEE BREAK
11 ³⁰ - 12 ⁰⁰	KEYNOTES SPEAKER Chairperson: Ilinca NĂSTASE, Loretta BATALI <i>Technical University of Civil Engineering Bucharest, Romania</i>
11 ³⁰ - 12 ⁰⁰	Keynote Lecture - Dr. Michael BARDANIS <i>EDAFOS Engineering Consultants S.A., Greece</i> Investigation, identification and exploitation of underdrainage pore pressure profiles for the stabilisation of large-size paleolandslides covering old river-beds

12⁰⁰ - 13⁰⁰	SESSION 1 - Lecture Hall I.2 Chairperson: Prof. Horațiu POPA, PhD student Nicolae Cristian POPESCU <i>Technical University of Civil Engineering Bucharest, Romania</i>		
12⁰⁰ - 12¹⁵	Popescu Nicolae Cristian, Alina Barbulescu	Technical University of Civil Engineering Bucharest, Transylvania University of Civil Engineering Brașov	ID40: Flood simulation on Vedea River in Alexandria, Romania, using hydraulic modelling and GIS techniques
12¹⁵ - 12³⁰	Vasilica Vasile, Vlad Iordache	INCERC Bucharest Branch, Technical University of Civil Engineering Bucharest	ID53: The influence of ventilation on indoor air quality in buildings with variable pollutant emissions
12³⁰ - 12⁴⁵	Stan Elena-Mihaela, Horatiu Popa	Technical University of Civil Engineering Bucharest	ID54: Physical modelling of cylindrical shafts: a brief review
12⁴⁵ - 13⁰⁰	Marian-Catalin Simtinica, Mihai Husch, Sorin Caluianu	Technical University of Civil Engineering Bucharest	ID47: Occupant-Centred Lighting (OCL) to well-being: a review
13⁰⁰ - 14⁰⁰	LUNCH		
14⁰⁰ - 15³⁰	KEYNOTES LECTURE - Lecture Hall I.2 Chairperson: Assoc. Prof. Cătălin TEODOSIU <i>Technical University of Civil Engineering Bucharest</i>		
14⁰⁰ - 14³⁰	Keynote Lecture - Ph.D. Eng. Gabriel Mihai ȘÎRBU <i>Renault Technologie Romanie, Romania</i> Evolutions of European passenger cars following new regulations regarding vehicle emissions and decarbonization		
14³⁰ - 15³⁰	SESSION 2 - Lecture Hall I.2 Chairperson: Assoc. Prof. Cătălin TEODOSIU, <i>Technical University of Civil Engineering Bucharest</i> Prof. Gabriela ȚÂRLEA <i>Technical University of Civil Engineering Bucharest</i>		
14³⁰ - 14⁴⁵	Mihai-Liviu Stoian, Carmen Răcănel	Technical University of Civil Engineering Bucharest	ID51: Improved sustainability for railway track components transport
14⁴⁵ - 15⁰⁰	Giurgea Dragos Constantin, Grațîela Țârlea	Technical University of Civil Engineering Bucharest	ID9: Development of a system with photovoltaic panels
15⁰⁰ - 15¹⁵	Alexandra Ene, Catalin Ioan Teodosiu, Florin Bode	Technical University of Civil Engineering Bucharest	ID67: Numerical assessment of the condensation phenomenon on a vehicle's windshield
15¹⁵ - 15³⁰	Sebastian-Barbu Barbes, Ana-Cornelia Badea, Vlad Iordache	Technical University of Civil Engineering Bucharest	ID55: Volatile organic compounds losses simulation during storage of gasoline
14³⁰ - 15³⁰	Workshop within the Project PED INNOVENT – Room I.4 Chairperson: Assoc. Prof. Florin BODE <i>Technical University of Civil Engineering Bucharest, Romania</i> <i>Technical University of Cluj-Napoca, Romania</i>		

15³⁰ – 16⁰⁰	COFEE BREAK		
16⁰⁰ - 17³⁰	SESSION 3 - Lecture Hall I.2 Chairperson: Prof. Ana BADEA <i>Technical University of Civil Engineering Bucharest</i>		
16⁰⁰ – 16¹⁵	Cristiana Croitoru, Octavian Pop, Charles Berville, Andrei-Laurențiu Popescu	Technical University of Civil Engineering Bucharest, Technical University of Cluj-Napoca, Romania, INCERC Bucharest Branch	ID61: Enhancing energy efficiency of transpired solar collectors using phase change materials- A review
16¹⁵ – 16³⁰	Ana Listarhov (Lixandru), Tiberiu Catalina	Technical University of Civil Engineering Bucharest	ID69: Experimental analysis of energy production of a hybrid thermal-photovoltaic solar panel enhanced with phase-change material
16³⁰ – 16⁴⁵	Abdoulaye Mamoudou, Tetang Fokone Abraham, Charles Berville , Alexis Kuitche	University of Ngaoundere, Cameroon, Technical University of Civil Engineering Bucharest	ID63: Contribution to the modelling of air flows in a conical inlet drying chamber
16⁴⁵ – 17⁰⁰	Alexandru Ilie , Popescu Catalin, Abdulamit Altan	Technical University of Civil Engineering Bucharest, Romanian Waters National Administration	ID6: Dam safety analysis using mathematical modelling and surveys. Case study on Buftea Dam
17⁰⁰ – 17¹⁵	Alexandra Frent , Ana Badea	Technical University of Civil Engineering Bucharest	ID: The environmental impact of PLR in the construction field
17¹⁵ – 17³⁰	Bianca Otilia Stoica , Popescu Catalin, Anton Korbl	Romanian Waters National Administration, Technical University of Civil Engineering Bucharest	ID14: The influence of the aggressiveness of the environment exploitation on the structures of industrial constructions Case analysis: Adoption of the intervention decision for the rehabilitation of the second chimney from Ișalnița Power Plant
17³⁰	END OF FIRST DAY		

TUESDAY 18th of October 2022

Location - Location – 1st Floor Lecture Hall I.2

09 ³⁰ - 10 ⁰⁰	Registration		
10 ⁰⁰ - 11 ⁰⁰	KEYNOTES SPEAKER - Lecture Hall I.2 Chairperson: Lecturer Razvan CALOTA, Lecturer Cristiana CROITORU <i>Technical University of Civil Engineering Bucharest</i>		
10 ⁰⁰ - 10 ³⁰	Keynote Lecture - Prof. Mihnea Alexandru MOISESCU <i>University Politehnica of Bucharest, Romania</i> From Smart environments to smart everything		
10 ³⁰ - 11 ⁰⁰	Keynote Lecture - Prof. Florin MICULESCU <i>University Politehnica of Bucharest, Romania</i> New fabrication methods for bone regeneration products based on ceramic and composite biomaterials		
11 ⁰⁰ - 11 ³⁰	COFFEE BREAK		
11 ³⁰ - 13 ⁰⁰	SESSION 4 - Fluid Mechanics – Lecture Hall I.2 Chairperson: Assoc. Prof. Costin COSOIU, Prof. Corneliu BALAN <i>Technical University of Civil Engineering Bucharest</i>		
11 ³⁰ - 12 ⁰⁰	Invited Lecture - Ph.D. Eng. Răzvan MAHU <i>TENSOR, Channel Partner for ANSYS in Romania, Romania</i> Computational Fluid Dynamics methods for Aeroacoustics. HVAC case study		
12 ⁰⁰ - 12 ¹⁵	Diana Broboana, István Magos, Corneliu Balan	REOROM Laboratory, University Politehnica of Bucharest, Romania	ID11: Evolution of the fluid interfaces in rotational motion
12 ¹⁵ - 12 ³⁰	Ioana Rasuceanu, Claudiu Patrascu, Corneliu Balan	REOROM Laboratory, University Politehnica of Bucharest, Romania	ID13: Oil displacement in capillary tubes using viscoelastic fluids
12 ³⁰ - 12 ⁴⁵	Cella – Miruna Ramsamy, Ciprian Mateescu, Doru-Daniel Cristea, Nicoleta – Octavia Tanase	REOROM Laboratory, University Politehnica of Bucharest, Romania	ID49: Experimental and numerical study of the airflow in bifurcations
12 ⁴⁵ - 13 ⁰⁰	Matei-Razvan Georgescu, Ilinca Nastase	CAMBI, Technical University of Civil Engineering Bucharest, Romania	ID73: Experimental evaluation of the variation of human breathing flow parameters for multiple test subjects
12 ⁰⁰ - 13 ⁰⁰	PARALLEL SESSION 5 – Room I.3 Chairperson: Ph.D. Eng. Daniel AELENEI <i>Universidade Nova de Lisboa, Portugal</i>		
12 ⁰⁰ - 12 ¹⁵	Eduard Luca, Bandoc Georgeta, Mircea Degeratu	University of Bucharest, Technical	ID16: Comparative analysis of significant wave height between

		University of Civil Engineering Bucharest, Romania	satellite altimetry data and SWAN model simulations in the Black Sea basin
12¹⁵ – 12³⁰	Béatrice Colin , Julia Vincent, Lilla Koziorowski, Aurore Frein, Isabelle Lanneluc, René Sabot, Philippe Refait, Sophie Sablé and Marc Jeannin	Université La Rochelle, France	ID71: Calcareous deposit formation under cathodic polarization and marine biocalcifying bacterial activity
12³⁰ – 12⁴⁵	Caroline Marais , Marc Jeannin, Pierre-Yves Mahieux, Sophie Sable	Université La Rochelle, France	ID70: Development of environmentally friendly materials based on recycled aggregates and seawater electrolysis for cliffs protection and dykes reinforcement
12⁴⁵ – 13⁰⁰	Daniel Aelenei , Laura Aelenei,	Universidade Nova de Lisboa, Portugal	ID64 Triggering Deep Renovation of Buildings in Portugal
13⁰⁰ – 14⁰⁰	LUNCH		
14⁰⁰ - 15³⁰	SESSION 6 – Airflows - Lecture Hall I.2 Chairperson: Associate Prof. Tiberiu CATALINA <i>Technical University of Civil Engineering Bucharest, Romania</i>		
14⁰⁰ - 15³⁰	Keynote Lecture - Prof. Risto KOSONEN <i>Aalto University, Finland</i> Novel ventilation solutions: how to guarantee indoor climate in an energy efficient manner?		
14³⁰ – 14⁴⁵	Titus Joldoș , Florin Bode, Dan Opruța	Technical University of Cluj-Napoca, Romania	ID59: Numerical and experimental studies to increase the HVAC fan performance for electrical vehicles – Part 1
14⁴⁵ – 15⁰⁰	Titus Joldoș , Florin Bode, Dan Opruța	Technical University of Cluj-Napoca, Romania	ID60: Numerical and experimental studies to increase the HVAC fan performance for electrical vehicles – Part 2
15⁰⁰ – 15¹⁵	Daniela Enciu , Ioan Ursu	INCAS – National Institute for Aerospace Research “Elie Carafoli”, Romania	ID76: Towards improving passengers safety and comfort based on turbulence tests in aerodynamic tunnel
15¹⁵ – 15³⁰	Tiberiu Catalina , Andrei Damian, Andreea Vartires, Marius Niță, Vicențiu Racovițeanu	Technical University of Civil Engineering Bucharest, Romania	ID68: Long-term analysis of indoor air quality and thermal comfort in a public school
14⁰⁰ - 15³⁰	Workshop Challenge Based Learning – Room I.3 Chairperson: Prof. Ioan BICA <i>Technical University of Civil Engineering Bucharest, Romania</i>		
15³⁰ – 16⁰⁰	COFEE BREAK		

16⁰⁰ - 17³⁰	PARALLEL SESSION 7 – Energy Efficiency 01 – Lecture Hall I.2 Chairperson: Associate Prof. Mihnea SANDU <i>Technical University of Civil Engineering Bucharest, Romania</i>		
16⁰⁰ – 16³⁰	Invited Lecture - Eng. Claudiu VELISAR <i>Romstal, Romania</i> Energy efficient solutions for buildings		
16³⁰ – 16⁴⁵	Laura Aelenei, Cristiana Croitoru , K Korczak , Horia Petran , H O'Rourke-Potocki , D Tzanev, Mihnea Sandu , D Mandic , H Gonçalves , P Duarte , P Trindade, D Loureiro	National Laboratory of Energy and Geology (LNEG), Portugal	ID65: Enhancing Market Readiness for nZEB Implementation
16⁴⁵ – 17⁰⁰	Ioana Udrea , Viorel Ionut Gheorghe, Angel Madalin Dogeanu	POLITEHNICA University of Bucharest, Technical University of Civil Engineering Bucharest, Romania	ID66: Sensory system and mini-greenhouse for testing steady state energy balance model
17⁰⁰ – 17¹⁵	Grecu Andreea	Technical University of Civil Engineering Bucharest, Romania	ID7: Building Materials and the Future of Alternative Solutions
17¹⁵ – 17³⁰	Grecu Andreea	Technical University of Civil Engineering Bucharest, Romania	ID8: A Net-Zero World, Climate Technology and Business Models
16⁰⁰ - 16³⁰	Workshop Challenge Based Learning – Room I.3 Chairperson: Prof. Ioan BICA <i>Technical University of Civil Engineering Bucharest, Romania</i>		
16³⁰ - 17³⁰	PARALLEL SESSION 8 (online) – Room I.3 Chairperson: Ph.D. Eng. Paul DANCA <i>National Institute for R&D in Electrical Engineering ICPE-CA Bucharest</i>		
16³⁰ – 16⁴⁵	Yuchen Ju , Joakim Lindholm, Moritz Verbeck, Juha Jokisalo, Risto Kosonen, Philipp Janßenc, Yantong Li, Hans Schäfers, Natasa Nord	Aalto University, Finland	ID62: Demand response in the German district heating system
16⁴⁵ – 17⁰⁰	Daniel P. Hiris, Mugur C. Balan	Technical University of Cluj-Napoca, Romania	ID78: Influence of the climatic data on the results of the analytical and TRNSYS simulation of solar district heating systems
17⁰⁰ – 17¹⁵	Inayah Mappatoba , Fuji Lestari Arsyad, Mildawati Mildawati, Abdillah, Ahmad Taufik	University of Muhammadiyah Makassar, Indonesia	ID74: Environmental Sustainable Development In Makassar City: A Case Study On Household Waste Management
17¹⁵ – 17³⁰	Abdillah Abdillah , Dahribal Ashar Asmiati, Zahra Ahmadi, Safaranita Nur Effendi	University of Muhammadiyah Makassar, Indonesia, University of Tehran, Iran	ID10: Sustainable Governance: A Study on the Ideality of the Regional Governance Model of South Sulawesi, Indonesia
17³⁰ – 17⁴⁵	Saber Wasman Hamad , Mahmoud Dogara Abdulrahman	Salahaddin University- Erbil, Kurdistan Region, Iraq	ID45: Allelopathic Properties of Laurus nobilis on Seed Germination and Growth of Some Crop and Weed Species

16 ³⁰ - 17 ³⁰	Workshop within the Project PED SAFE – Room I.4 Chairperson: Prof. Ilinca NASTASE <i>Technical University of Civil Engineering Bucharest, Romania</i>		
14 ⁰⁰ – 16 ³⁰	Extended Program for the WorkShop Challenge Based Learning in Engineering <i>Room I.3</i>		
Workshop - Challenge Based Learning in Engineering <i>Participants of this workshop will learn about the Challenge-based Learning (CBL) framework, its purpose in the academic world in contrast with other learning methods, and practical tips on how to embed challenge based learning in the engineering academic environment. In addition, we will have a look at how the human neurobiology is supporting the efficiency of challenge-based learning. An addition two examples of challenge based projects at doctoral and master levels will be presented.</i>			
Moderator: Prof. Ioan Bica, Technical University of Civil Engineering of Bucharest, Romania			
14 ⁰⁰ – 14 ³⁰	Lecturer Cornelia Grofu	BLUE HORIZON TRAINING	<i>Introductory lecture - Challenge Based Learning, a framework for the academic world</i>
14 ³⁰ – 14 ⁵⁵	Assoc. Prof. Giorgos Belokas	University of West Attica, Greece	<i>Invited Lecture - Challenge based learning in geotechnical engineering – the contribution of case studies</i>
14 ⁵⁵ – 15 ²⁰	Lecturer Adrian Andronic	Technical University of Civil Engineering of Bucharest	<i>Entrepreneurial skills acquisition in Challenge-based learning framework</i>
15 ²⁰ – 15 ⁴⁰	Phd. Student Charles Berville	Technical University of Civil Engineering of Bucharest, CAMBI research center	<i>Think buildings as ecosystems - A case study of a building integrated solar system for urban regeneration</i>
15 ⁴⁰ – 16 ⁰⁰	Msc. Student Cârâc Adrian	Technical University of Civil Engineering of Bucharest	<i>CBL - Advantages and disadvantages</i>
16 ⁰⁰ – 16 ³⁰	Open discussions		
17 ⁴⁵	END OF SECOND DAY		
19 ⁰⁰ – 23 ⁰⁰	Gala Dinner Nomad Skybar Address: 30 Smardan Street, Floor 2, Bucharest The participation is conditioned. Please confirm with the organizers		

WEDNESDAY 19th of October 2022

Location – 1st Floor Lecture Hall I.2

09 ³⁰ - 10 ⁰⁰	Registration		
10 ⁰⁰ - 11 ⁰⁰	KEYNOTES SPEAKER - Lecture Hall I.2 Chairperson: Prof. Ana BADEA <i>Technical University of Civil Engineering Bucharest, Romania</i>		
10 ⁰⁰ - 10 ³⁰	Keynote Lecture - Frank BASINSKI <i>BLUE HORIZON TRAINING, Romania</i> Why your EQ probably matters more than your IQ, unless you live alone on a remote island		
10 ³⁰ - 11 ⁰⁰	Keynote Lecture - Dr. Rasa ZILIENE <i>Klaipeda University, Lithuania</i> Low temperature district heating concept in the smart energy system: challenges and benefits		
11 ⁰⁰ - 11 ³⁰	COFEE BREAK		
11 ³⁰ - 13 ⁰⁰	PARALLEL SESSION 9 – Energy Efficiency 02 - Lecture Hall I.2 Chairperson: Associate Prof. Ligia MOGA <i>Technical University of Cluj-Napoca, Romania</i> Lecturer Răzvan CALOTĂ <i>Technical University of Civil Engineering Bucharest, Romania</i>		
11 ³⁰ - 11 ⁴⁵	Ionut Emil Iancu, Ligia Moga	Technical University of Cluj-Napoca, Romania	ID44: Thermal bridge assessment at industrial buildings
11 ⁴⁵ - 12 ⁰⁰	Răzvan Calotă , Alina Girip , Anica Ilie and Mihai Savaniu	Technical University of Civil Engineering Bucharest, Romania	ID72: Study on the heat transfer with regard to an off grid vending machine having a low impact on the environment
12 ⁰⁰ - 12 ¹⁵	Alina Girip , Anica Ilie and Răzvan Calotă	Technical University of Civil Engineering Bucharest, Romania	ID29: Comparative study regarding retrofitting with a low GWP refrigerant in an ice rink with energy recovery implementation
12 ¹⁵ - 12 ³⁰	Angel Terziev , Iliya Iliev, Penka Zlateva, Martin Ivanov	Technical University of Sofia, Bulgaria	ID77: Methodology for energy savings estimation, resulting from the development of a procedure for air pressure check in vehicle tires
12 ³⁰ - 12 ⁴⁵	Traicho Trayanov, Angel Terziev and Martin Ivanov	Technical University of Sofia, Bulgaria	ID: Analysis of the factorial and consequential variables in the energy efficiency study of a heat pump unit with a radiant evaporator
12 ⁴⁵ - 13 ⁰⁰	Angel Terziev , G. Pichurov	Technical University of Sofia, Bulgaria	ID: Numerical study on the effect of tree belts on the wind profile over agricultural lands

11³⁰ - 13⁰⁰	PARALLEL SESSION 10 (online) – Room I.3 Chairperson: Lecturer Angel DOGEANU <i>Technical University of Civil Engineering Bucharest, Romania</i> Assist. Prof. Matei GEORGESCU <i>Technical University of Civil Engineering Bucharest, Romania</i>		
11³⁰ – 11⁴⁵	Mahmoud Dogara Abdulrahman	Tishk International University, Erbil, Kurdistan Region, Iraq	ID5: Plants biodiversity utilisation in Bardarash, Kurdistan, Iraq
11⁴⁵ – 12⁰⁰	Mahmoud Dogara Abdulrahman , Harmand A. Hama, Saber Wasman Hamad	Tishk International University, Erbil, Kurdistan Region, Iraq	ID17: Natural therapies utilisation in Ranya, Kurdistan, Iraq
12⁰⁰ – 12¹⁵	A M Shafiu , H Bala, H A Manaf, U Abdullahi and R M Shafiu	National Board for Arabic & Islamic Studies, Nigeria; Tishk International University Erbil, Kurdistan Region- Iraq, Universiti Utara Malaysia	ID58: Contemporary leadership styles and the application of electronic human resource management in public organizations of developing countries
12¹⁵ – 12³⁰	Hussaini Bala	Tishk International University, Erbil, Kurdistan Region, Iraq	ID23: Assessing the influence of Carbon Emissions on Economic Growth in Iraq
12³⁰ – 12⁴⁵	Hussaini Bala , Riffat Shaheen, Ghousia Khatoon, Samira Ben Belgacem, Ja'afar Yusuf, Raziqa Muhammad Shafiu	Tishk International University, Erbil, Kurdistan Region, Iraq	ID25: Corporate board physiognomies and environmental accounting disclosure of oil and firms in Nigeria
12⁴⁵ – 13⁰⁰	Raziqa Muhammad Shafiu , Mohd Afandi Salleh, Hussaini Bala, Awwal Muhammad Shafiu, Umar Abdullahi	Universiti Sultan Zainal Abidin, Malaysia	ID26: Analysis on imf loan conditions with more detrimental impact on the economy: a case study of Nigeria
11³⁰ - 13⁰⁰	Workshop on Sustainable Industrial economics in coastal regions – Room I.4 Chairperson: Prof. Rasa ZILIENE <i>Klaipeda University, Lithuania</i>		
13⁰⁰ – 14⁰⁰	LUNCH		

14⁰⁰ - 15³⁰	PARALLEL SESSION 11 – Water and climate - Lecture Hall I.2 Chairperson: Asist. Prof. Alexandru ALDEA <i>Technical University of Civil Engineering Bucharest, Romania</i>		
14⁰⁰ - 14³⁰	Keynote Lecture - Ph.D. Arch. Sergiu C. PETREA <i>Tecto Arhitectura, Romania</i> From Energy to Sustainability and back		
14³⁰ – 14⁴⁵	Măcinic Magdalena-Elena, Robescu Lăcrămioara Diana, Boncescu Corina, Robescu Dan	University POLITEHNICA of Bucharest	ID31: Oxygen requirement analysis in the wastewater treatment plant using machine learning
14⁴⁵ – 15⁰⁰	Alexandru Aldea, Sorin Perju	Technical University of Civil Engineering Bucharest, Romania	ID33: Water loss and energy consumption evolution in overpressured systems during pressure management
15⁰⁰ – 15¹⁵	Paul Alexandru Danca, Gabriela Cîrciumaru, Rares Andrei Chihăia, Stefan-Mugur Simionescu	National Institute for R&D in Electrical Engineering ICPE-CA Bucharest, Romania	ID34: Fish guidance system for a river water intake - experimental and numerical study
15¹⁵ – 15³⁰	Maria-Alexandra Radu, Georgeta Bandoc	University of Bucharest, Romania	ID32: Climate variability in the extra-Carpathian area of Romania in the context of climate change
14³⁰ - 15³⁰	PARALLEL SESSION 12 (online) – Room I.3 Chairperson: Assoc. Prof. Angel TERZIEV <i>Technical University of Sofia, Bulgaria</i>		
14³⁰ – 14⁴⁵	Nicolas Paulus, Vincent Lemort	University of Liège, Belgium	ID50: Establishing the energy content of natural gas residential consumption: example with Belgian field-test applications
14⁴⁵ – 15⁰⁰	Nicolas Paulus, Vincent Lemort	University of Liège, Belgium	ID57: Simplified test bench for experimental investigations of space heating appliances
15⁰⁰ – 15¹⁵	Rima Karsokiene and A Giedraitis	University of Klaipeda, Lithuania	Tourism supply chain post covid- 19 change management: the case of tour operators
15¹⁵ – 15³⁰	Samanta Štraupaitė	University of Klaipeda, Lithuania	Developing the Ecological Citizenship of Older Adolescents
14³⁰ - 15³⁰	Workshop nZEB Ready – Room I.4 Chairperson: Ph.D. Eng. Horia PETRAN <i>URBAN INCERC, Romania</i>		
15³⁰ – 16⁰⁰	COFEE BREAK		

16⁰⁰ – 17³⁰	SESSION 13 - Lecture Hall I.2 Chairperson: Prof. Andrei GEORGESCU <i>Technical University of Civil Engineering Bucharest, Romania</i>		
16⁰⁰ – 16³⁰	Keynote Lecture – Ph.D. Daiva LABANAUSKAITE <i>Klaipeda University, Lithuania</i> Tourism transformation into responsible form towards the sustainable development		
16³⁰ – 16⁴⁵	Sanda Budea, Stefan-Mugur Simionescu	University Politehnica of Bucharest, Romania	ID27: Solar Hybrid System for Electricity and Air Heating - Experimental Research
16⁴⁵ – 17⁰⁰	Magdalena Culcea , E Darie , S Gheorghe , Robert Pecsi and M I Savaniu	Technical University of Civil Engineering Bucharest, Romania	ID42: The influence of a DC-AC inverter used in a stand-alone vending machine equipped with photovoltaic panels
17⁰⁰ – 17¹⁵	Pecsi Robert, Magdalena Culcea , Sanda Elena, Elena Sanda	Technical University of Civil Engineering Bucharest, Romania	ID46: Virtual instrumentation control for evaluation and compensation of the three-phased grid's unbalanced operations
17¹⁵ – 17³⁰	Iris Titineanu , Georgeta Bandoc, Mircea Degeratu	University of Bucharest, Technical University of Civil Engineering Bucharest, Romania	ID28: A Study on the Characteristics of the Atmospheric Boundary Layer Using SODAR Measurements
16³⁰ – 17⁰⁰	PARALLEL SESSION 14 (online) – Room I.3 Chairperson: Assoc. Prof. Martin IVANOV <i>Technical University of Sofia, Bulgaria</i>		
16³⁰ – 16⁴⁵	Marina Zasimova, Nikolay Ivanov , Ekaterina Stepasheva	Peter the Great St. Petersburg Polytechnic University, Russia	ID21: Effect of thermal manikin shape on thermal comfort parameters prediction uncertainties: a numerical study
16⁴⁵ – 17⁰⁰	Marina Zasimova , Nikolay Ivanov, Anna Podmarkova, Aleksandra Marinova	Peter the Great St. Petersburg Polytechnic University, Russia	ID22: Evaluation of CFD-predicted thermal comfort uncertainties based on a seated thermal manikin test case
17⁰⁰ – 17¹⁵	Irina Bratu, Angeliki Stamelaki	University Politehnica Bucharest, Romania; Atlas Copco Hellas, Greece	Reduction of energy consumption by replacing surface aerators with fine bubble aeration in Slobozia Wastewater Treatment Plant, Romania
17¹⁵ – 17³⁰	Panagiotis Trivellas, S Mavrommati, Anna Anastasopoulou , C Grapas, E Kallikantzarou	Agricultural University of Athens, Greece	Agro living Labs: Creating innovative, sustainable, resilient and social inclusive food systems
17³⁰	EENVIRO CLOSING CEREMONY		

THURSDAY 20 of October 2022

Location – Blvd. Pache Protopopescu 66, *Faculty of Building Services*

10 ⁰⁰ - 11 ⁰⁰	<i>CAMBI Research Centre Visit - Faculty of Building Services</i>
10 ⁰⁰ - 11 ⁰⁰	Workshop within the Project NanoSun – Room 1.4 <i>Chairperson: Ph.D. Eng. Cristiana CROITORU</i> <i>Technical University of Civil Engineering Bucharest, Romania</i> <i>(B-dul Pache Protopopescu 66, Faculty of Building Services)</i>



Research in Romanian Alliance of Technical Universities

At the same time with the EENVIRO Conference, an exhibition – event is held, entitled "Research in ARUT Universities" and dedicated to research within technical universities in Romania.

Within this exhibition – event, representative results from the research activity are disseminated and good practice exchanges take place through representatives of the research structures from the five member universities of the Romanian Alliance of Technical Universities – ARUT.

The exhibition runs from

Monday 17.10.2022, 11:00 to Wednesday, 19.10.2022, 15.00.

Location: Ground Floor - Faculty of Civil, Industrial and Agricultural Buildings,
Technical University of Civil Engineering Bucharest, Romania

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