

Organizer



Partners



The 5th Conference of the
Young Researchers from TUCEB
Conference Program

Technical University of Civil Engineering of Bucharest

Scientific Committee:

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Mihail Ioan SAVANIU, UTCB, Bucharest, ROMANIA

Tiberiu CATALINA, UTCB, Bucharest, ROMANIA

Iulian IANCU, UTCB, Bucharest, ROMANIA

CONFERENCE PROGRAMME

Time	Wednesday, November 19
08:00 - 09:00	Registration
09:00 - 11:00	Opening Ceremony
	Keynote Lecture Prof. Anton ANTON UTCB, Romania
	Keynote Lecture Prof. Laszlo FULOP University of Pécs, Hungary
11:00 - 11:15	Coffee – break
11:15 - 13:00	Session I - Efficient Building Services
13:00 - 13:30	A word from our sponsors
13:30 - 14:00	Lunch
14:00 – 14:15	EFdeN TEAM & SOLAR DECATHLON 2014
14:15 – 15:15	Session II - Efficient Building Services
15:15 – 15:30	Coffee – break
15:30 -16:30	Session III – Hydraulic Engineering
16:30 -17:45	Session IV - Geotechnical Engineering and Foundations
17:45-18.15	Session V - Geodesy
	Closing Session and ceremony of awards



Opening Session

Wednesday, November 19, 09:00 – 11:00

Opening Ceremony
Keynote Lecture - Professor Anton ANTON UTCB, Romania
Keynote Lecture - Professor Laszlo FULOP University of Pécs, Hungary

Coffee break

**Session I – Efficient Building Services
Ms. Ilinca Nastase**

Wednesday, November 19, 11:15 – 13:00

Improving energy efficiency in rural schools by using renewable energy systems	Stefan GHITA (UTCB), <u>Tiberiu CATALINA (UTCB)</u>
Experiments and numerical simulations of negative buoyant vortex rings	Iulia Rodica DAMIAN (UPB), <u>Nicoleta Octavia TĂNASE (UPB)</u>
Thermal study of an innovative ventilated solar wall	<u>Cristiana CROITORU (UTCB),</u> Florin BODE (UTCN)
Experimental investigation of drop coalescence at the interface between immiscible liquids	Ioana Laura OMOCEA (UPB), <u>Claudiu PĂTRAȘCU (UPB),</u> Nicoleta Octavia TĂNASE (UPB)
Thermal comfort evaluation in a real office using a thermal manikin prototype	<u>George CHITARU (UTCB),</u> Ciprian CĂLIANU (UTCB), Angel DOGEANU (UTCB), Cristiana CROITORU (UTCB)
Vortex rings in a HELE-SHAW cell. Numerical simulations and experiments	Ștefan Mugar SIMIONESCU (UPB), <u>Constantin Răzvan ANTON (UPB),</u> Nicoleta Octavia TĂNASE (UPB)
Indoor air quality improvement in a classroom using an evaporative cooling ventilation system	Andrei ISTRATE (UTCB), <u>Tiberiu CATALINA (UTCB),</u> Horatiu DRAGNE (UTCB)

A word from our sponsors

Wednesday, November 19, 13:00 – 13:30

S.C. TENSOR S.R.L.
S.C. ESRI Romania S.R.L.

Lunch

Mr. Andrei DANET

Wednesday, November 19, 14:00-14:15

EFdeN TEAM & SOLAR DECATHLON 2014

Session II – Efficient Building Services
Mr. Andrei Ene

Wednesday, November 19, 14:15 – 15:15

Creating a virtual thermal manikin for thermal comfort evaluation	<u>Angel DOGEANU</u> (UTCB), <u>Matei GEORGESCU</u> (UTCB)
CFD study on ventilation in operating rooms using laminar airflow	<u>Catuna NATANAEL</u> (UTCN)
Numerical simulation study on the influence of the occupants on ventilation using laminar airflow in operating rooms	<u>Robert KODRA</u> (UTCN)
Numerical simulation of the air flow inside a vehicle	<u>Sergiu DOBOS</u> (UTCN)
Current state of the art on thermal comfort evaluation in vehicles	<u>Paul DANCA</u> (UTCB)

Coffee break

Session III – Hydraulic Engineering
Mr. Costin COȘOIU

Wednesday, November 19, 15:30 – 16:30

Age effects on steel pressure pipes in water distribution systems	<u>Ion POPA</u> (UTCB), <u>Ana Maria GHIȚUICĂ</u> (UTCB)
Multi-criteria cause- effect analysis in flood risk management	<u>Iuliana NICHERSU</u> (UTCB)
The migration of immiscible pollutants in the underground environment of the old petroleum products deposit from “Sângeorgiu de Pădure”	<u>Florica SILAGHI</u> (UTCB)
Estimating the operational water consumption in a municipal water treatment plant	<u>Sabina GHEORGHE</u> (UTCB)

Coffee break

Session IV – Geotechnical Engineering and Foundations
Mr. Árpád SZERZŐ

Wednesday, November 19, 16:30 – 17:45

Axially loaded micropiles in karst terrain	<u>Georgiana TOADER (RĂDAN)</u> (UTCB)
Dynamic stability analysis of unsaturated soil slopes	<u>Andreea CARASTOIAN</u> (UTCB)
Influence of the clay content on the durability characteristics of soil mixed with hydraulic binders	Alexandru POENARU (UTCB), <u>Oana CARAȘCA</u> (UTCB)
Case study on an instrumented piled raft foundation for a gas silo	<u>Árpád SZERZŐ</u> (UTCB)
Soft soils reinforced by rigid inclusions under dynamic loads. Parametric study of main influence factors	<u>Iulia Victoria TALPOȘ (NEAGOE)</u> (USH)

Session V – Geodesy
Ms. Andreea JOCEA

Wednesday, November 19, 17:45 - 18:15

Methods for measuring the distances using total stations and GPS. The determination of the geodesic's base length on the field	<u>Valentin MIHALCEA</u> (UTCB)
Georadar method aspects of the measurements regarding the edilitary networks	<u>Nicolae Răzvan DESPA</u> (UTCB)

Closing Session and ceremony of awards



STORY OF THE YOUNG RESEARCHERS CONFERENCE



In 2010 a group of researchers from the Technical University of Civil Engineering of Bucharest decided to organise a conference dedicated to the youngest of their colleagues. This conference was the first Romanian conference dedicated mainly to young researchers. Since then, the enthusiastic and professional approach helped organising three editions of this conference.

For every YRC conference the University board showed a proactive position providing a strong support to this initiative.



The YRC conference is targeting everybody who is involved in the Civil Engineering domain. A section named Conference Topics, which contains the main topics of the conference, is presented on the web site of this event (www.yrc.utcb.ro).



Young researchers conference –YRC 2010

Why is the YRC conference so special? This conference is organised by “young researchers for young researchers”, the maximum age of the Organising Committee members being of 35 years old. The same age limit is imposed to the participants (undergraduate students, master students, Ph.D students and Post-doc researchers).



Scientific and Organising Committees – YRC 2011

Every article and presentation is written and presented in English. After a careful selection the accepted articles are divided into two main categories. The articles from the first category are published in the Mathematical Modelling Journal (BDI indexed). The articles from the second category are published in the Conference Proceedings (an electronic ISSN rated publication). Thanks to the help of our sponsor TENSOR SRL, on every edition, the best articles and the best presentation have been awarded with nice prizes.

The best article award



YRC 2010 – Catalin BALAN (UPB)



YRC 2011- Vasile OPRISOREANU (UTCB)



YRC 2012 - Georgiana FRUNZA (UTCB)



YRC 2013 - Ionut DAMIAN (UTCB)

The best presentation award



YRC 2010 - Raluca IANOSCHI (UTCB)



YRC 2011 - Emanuel PUȘCALĂU (UTCB)



YRC 2012- Daniel Luis NUNES (UPT)



YRC 2013 – Andrei ENE (UTCB)

The participants from the previous editions represented the main Romanian technical universities (“Politehnica” University of Bucharest, The Technical University of Cluj, “Politehnica” University of Timișoara, “Gheorghe Asachi” University of Iași, University of Oradea, “Dunărea de Jos” University from Galați) and the major Romanian research institutes (National Institute for Research and Development in Microtechnologies - IMT Bucharest, Urban INCD-INCERC Bucharest and Urban INCD-INCERC Iași).

For every edition special guests, both national and international, have been invited to present a series of lectures in areas like research, innovation and development.



*D.Eng. Bogdan IONESCU
("Politehnica" University of Bucharest)*



*Dr. Ir. Geert de CUBBER – Belgium
(Royal Military Academy from Bruxelles)*



Professor Corneliu BĂLAN
 ("Politehnica" University of Bucharest)



Dr. Ir. Germano RAGOSTA – Italy
 (Fluxoptica SRL company)



D.Eng. Cătălin NAE – CEO of INCAS



Eng. Daniel IFRIM - COMOTI



Professor Alex MAHALOV
 (Arizona State University, USA)



Mr. Adrian PASCU
 (National Education Ministry)

For both 2011 and 2012 editions a special area was reserved for the PRISPA team, a team formed by the UTCB, UAUIM and UPB students and teachers. This was the first Romanian team which represented our country at the Solar Decathlon 2012 competition. The results obtained by this team in the competition are summarized below:

- 2nd place in the category “Energy Efficiency”
- 7th place in the category “Engineering and Construction”
- 2nd place in the category “Public’s Favourite”
- Mention award for the campaign “Communication and Raising Social Awareness” regarding the use of solar systems.
- In the final competition the PRISPA team was ranked on the 9th place. In this final phase (held in Madrid) 18 teams participated from a total of 45 teams worldwide.



PRISPA team in Madrid, SDE 2012



Presentation of the PRISPA Project



PRISPA Stand at YRC 2011



PRISPA team at YRC 2012

In 2013 edition of the YRC conference, the members of the Romanian team (EFdeN) which were participating to 2014 Solar Decathlon competition were our guests. This team, formed by the TUCEB, IMUAU and UPB students and teachers, was the only Romanian team that participated at all Solar Decathlon competitions held until today.



Presentation of the EFdeN Project

At the 2011 edition of YRC conference two workshops were organised. The main topic of these workshops was “Fluid mechanics”.



Dr. Ir. Germano Ragosta – Italy, from FLUXOPTICA SRL company

At the 2012 edition of YRC conference two workshops were organised. The main topic of these workshops was “Environmental quality”.



Workshops YRC 2012

On each edition the opportunity to visit the main TUCEB research facilities was offered to all the participants.



Research facilities from TUCEB

In order to have a better dissemination of the YOUNG RESEARCHERS CONFERENCE, every edition was broadcasted on-line on the conference web site.



On-line broadcasting - YRC 2011

During every edition a special section was created for our sponsors. In this section each company had the opportunity to make general presentation of their corporation and of the results obtained by them.



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Andrei Ene

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