



ORSDCE

## NEWSLETTER 2 OF EWG ORSDCE DECEMBER 2011

[ORSDCE - The OR in Sustainable Development and Civil Engineering Working Group of EURO  
http://www.orsdce.vgtu.lt/](http://www.orsdce.vgtu.lt/)

### ***Content of the issue:***

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## Words of chair

*Dear Members of EWG-ORSDCE, dear Friends,*

*This year we celebrate the twenty-five-year anniversary of scientific collaboration and cooperation. During twenty five years of cooperation nearly one hundred scientists participated in the activities of colloquia and were included in EWG-ORSDCE. The cooperation resulted with very good results: written 41 scientific books, including 7 scientific monographs; more than four hundred articles published in scientific journals; 13 professors defended a habilitation or passed habilitation procedure; 54 doctoral students defended doctoral dissertations in field of civil engineering; six scientific publications in 2006, 2010 and 2011 by ScienceWatch.com were selected as Top cited and Hot articles in mathematics, engineering and business fields; a few European patents were the registered; in 2011 in the category of young scientists the award of the Lithuanian Academy of Science was received. The institutions have signed the exchange agreements under which teachers and students exchanges more than twenty years.*

*This issue of newsletter presents the overview of EWG-ORSDCE meeting held on October 9-12 in Augustow, Poland together with XXXV International Conference "Civil Engineering Projects". We would like to express the acknowledgements to the organizers of event for warm welcome and perfectly organized event.*

*Newsletter presents also this year achievements and forthcoming events. In year 2012 EURO Working Group "OR in Sustainable Development and Civil Engineering (ORSDCE)" will organize and coordinate a Stream of invited sessions in the field "OR for Development and Developing Countries". We invited to submit the abstract to one of the sessions. The papers presented in these sessions are welcome for publishing in our editing scientific journals: JOURNAL OF CIVIL ENGINEERING AND MANAGEMENT, INTERNATIONAL JOURNAL OF STRATEGIC PROPERTY MANAGEMENT, TECHNOLOGICAL AND ECONOMIC DEVELOPMENT OF ECONOMY, JOURNAL OF BUSINESS ECONOMICS AND MANAGEMENT.*

*Congratulations on all your achievements and best wishes for future activities.*

*With my best wishes, Yours sincerely,  
Edmundas Kazimieras Zavadskas, Chair of EWG-ORSDCE*

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### The meeting of EWG-ORS DCE

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#### **Significant scientific achievements – the result of 25 year of collaboration**

Assoc. prof. dr. Tatjana Vilutienė

Dr. Jolanta Tamošaitienė

Scientific cooperation of three academic centers: the Leipzig University of Applied Sciences (Applied Sciences - Germany), Vilnius Gediminas Technical University (Vilnius Gediminas Technical University - Lithuania) and Poznan University of Technology (PUT - Poland) in form of colloquia this year celebrate the twenty-five-year anniversary. Colloquia are held every second year in different country and cover different areas. This year, the 13<sup>th</sup> German-Lithuanian-Polish Colloquium was held on October 9-12 in Augustow, Poland. It was coincided with the XXXV International Conference "Civil Engineering Projects". The event was organized by the Bialystok Technical University, Poznan University of Technology and Vilnius Gediminas Technical University.

Thirteen German-Lithuanian-Polish Colloquium, together with the XXXV conference, was held in two countries: Poland (Augustow) and Lithuania (Vilnius). During the colloquium the members of EWG-ORS DCE discussed the results of the cooperation in period of 2009-2011. The following main topics were discussed: a new multipurpose evaluation method was introduced, the peculiarities of application of various multiobjective methods for practical problems, different case studies were analyzed. In scope of colloquium the meeting in Vilnius (Lithuania) was organized, the participants and guests of conference visited Vilnius Gediminas Technical University, the historical places of Vilnius, discussed aspects of cooperation, joint research directions and the prospective results.

During twenty five years of cooperation nearly one hundred scientists participated in the activities of colloquia and were included in EWG-ORS DCE.

The cooperation resulted with very good results: written 41 scientific books, including 7 scientific monographs; more than four hundred articles published in scientific journals; 13 professors defended a habilitation or passed habilitation procedure; 54 doctoral students defended doctoral dissertations in field of civil engineering; six scientific publications in 2006, 2010 and 2011 by ScienceWatch.com were selected as Top cited and Hot articles in mathematics, engineering and business fields; a few European patents were the registered; in 2011 in the category of young scientists the award of the Lithuanian Academy of Science was received. The institutions have signed the exchange agreements under which teachers and students exchanges more than twenty years.

Thirteen German-Lithuanian-Polish Colloquium, together with the XXXV International Conference "Civil Engineering Projects" have brought together more than 80 scientists working in field of Civil Engineering. The meeting program of conference and colloquium is presented below.

XXXV Konferencja Naukowo-Techniczna 

INŻYNIERIA  
PRZEDSIĘWZIĘĆ BUDOWLANYCH

oraz  
13th GERMAN – LITHUANIAN – POLISH  
COLLOQUIUM

Białystok - Augustów - Wilno, 09-12 października 2011



Jubileusz 60-lecia  
WYDZIAŁU  
BUDOWNICTWA  
I INŻYNIERII  
SRÓDOWISKOWA PB



Kanał Augustowski  
- zabytek budownictwa  
wodnego



Ostra Brama w Wilnie  
(Litwa)

**Program konferencji**

SPONSOR GENERALNY  
**PERI**

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SPONSORZY

PATRONAT MEDIALNY

### Conference programme

**09 October 2011, Sunday**

**12.00 ARRIVAL OF CONFERENCE PARTICIPANTS**

**14.30 – 15.15 CONFERENCE OPENING**

**15.30 – 17.00 PLENARY SESSION**

**JÓZEFA WIATER:** 60th Anniversary of The Faculty of Civil and Environmental Engineering in Białystok Technical University

**OLEG KAPLIŃSKI:** Problems of construction engineering projects in the light of the survey of Civil

Engineering Committee Section of the Polish Academy of Sciences

**ROMUALDAS GINEVIČIUS:** 13th GERMAN – LITHUANIAN – POLISH COLLOQUIUM: achievements and prospects of international cooperation

**HENRYK WNOROWSKI:** Financing of housing industry and genesis of the world financial crisis in 2008

**JAN MIKOŁUSZKO:** But you can! - export of a Polish building based on Unibep's experience abroad

**17.30 – 02.00 Welcome Party Sponsored by PERI POLSKA – Conference General Sponsor**

**10 October 2011, Monday**

**08.30 – 10.30 SESSION 1 PREPARATIONS FOR CONSTRUCTION PROJECTS (PART 1)**

**BIRUK SŁAWOMIR, JAŚKOWSKI PIOTR:** Assessing efficiency of latin supercube sampling method in construction projects' network simulation

**CZEMPLIK ANDRZEJ, IRZYK MICHAŁ:** Feasibility evaluation of construction methods specified in design documentation

**CHMIELEWSKI KRZYSZTOF:** (GAZEX Sp. z o.o., Warszawa) Principles of fixed gas detection systems

**DYTCAK MIROSLAW, GINDA GRZEGORZ, GOTOWAŁA BEATA, SZKLENNIK NINA:** Application potential of Dematel and its extensions

for analysis of decision problems in civil engineering  
**KOZAK ANDRZEJ:** Risk analysis in industrial facilities  
**KRZEMIŃSKI MICHAŁ, NOWAK PAWEŁ:** Johnson Algorithm cost modification for scheduling of construction projects

**KULEJEWSKI JANUSZ, IBADOV NABI, ZIELIŃSKI BOGDAN:** Application of fuzzy set theory to schedule construction works by the critical chain method

**ORŁOWSKI ZYGMUNT, SZKLENNIK NINA:** Scope of modernization of building – as a result of diagnostic analysis of facility

**OSTAŃSKA ANNA:** Assessing the possibilities of improving living conditions in prefabricated housing: the residents' point of view

**POGAN KRZYSZTOF:** (Mapei Polska Sp. z o. o., Warszawa) Renovation historical buildings by applying cement-free special mortars

**POŁOŃSKI MIECZYŚLAW:** Algorithm for optimal equalization employment diagram with graph network

**PRUSZYŃSKI KAMIL:** Buffers consumption monitoring concept of time in the schedule construction

**TOMANA ANDRZEJ:** Integration of designing and cost estimating on BIM platform

**WIRKUS MAREK, TRYKOSKO RYSZARD:** Construction projects properly preparing the main factor of achievements of it success

### 11.00 – 13.00 SESSION 2 PREPARATIONS FOR CONSTRUCTION PROJECTS (PART 2)

**BOKOR ORSOLYA, KOCSIS TAMÁS, SZENIK GABRIELLA:** New tools in project scheduling.

Challenges of the construction project planning

**DYTCZAK MIROŚLAW, PRZYBYŁO WACŁAW:**

Dematel-based multi-criteria evaluation of public transportation system alternatives for Cracow

**GAJZLER MARCIN:** The issue of choosing a location with the use of data mining techniques

**HSINO MAHMOUD, PASŁAWSKI JERZY:** Introduction of flexibility in the quality management system based on concreting example

**JAROS HENRYK:** Location of the main emitters of pollutants in the urban planning arrangement of the city of Białystok, Ostrołęka and Elk and their influence on surrounding areas

**KARBOWNIK PIOTR (CEMEX Polska Sp. z o.o., Rudniki):** CEMEX Special Products - New technologies, new opportunities

**SZENIK GABRIELLA, HAJDU MIKLÓS, BOKOR ORSOLYA:** New possibilities in visualization of project plans

**SZCZEPAŃSKI TOMASZ (MC-Bauchemie Sp. z o. o., Warszawa):** Modern technologies of repair and protection for the construction of the water management

### 16.30 – 18.30 SESSION 3 ENGINEERING OF BUILDING MATERIALS

**DWORZAŃCZYK - KRZYWIEC DOROTA:** The influence of recycled aggregate content upon selected concrete properties

**EZERSKIY VALERIY, LELUSZ MAŁGORZATA:** Kinetics of hydration process of cement composites with fly ash addition

**GOŁASZEWSKI JACEK, CYGAN GRZEGORZ:** Influence of the vma admixtures on early shrinkage of the cement mortars

**GOŁASZEWSKI JACEK, DREWNIOK MICHAŁ:** The effect of the calcareous fly ashes on the efficiency of air entraining additives

**GOŁASZEWSKI JACEK, KOSTRZANOWSKA ALEKSANDRA:** Rheological properties and a

content of air entrained in fresh concrete for self compacting high performance concrete

**GOŁASZEWSKI JACEK, PONIKIEWSKI TOMASZ:** The influence of high calcium fly ash and fibres on chosen characteristic of self-compacting concrete

**KORONA LUCYNA:** Innovative technology of lost framework

**KSIT BARBARA, JASICZAK JÓZEF, KOTLARZ RAFAŁ:** Calculating beam-ceilings according to Polish Standards and Eurocodes difference analysis on specific examples

**MAŁASZKIEWICZ DOROTA, JURGUĆ ANETA:** The influence of cement type and curing conditions on mortars adhesion to concrete base

**NICAŁ ALEKSANDER KAZIMIERZ, GRABOWSKI MARCIN:** Checking the accuracy of parameters of the pre-tensioned HC slabs production process with reference to chance variations

**PAWLUCZUK EDYTA:** Shaping of interfacial transition zone between aggregate and cement paste in recycled concrete

**SADOWSKA - BURACZEWSKA BARBARA:** New concretes of strengthening of compressive zone in flexural beams

**WOYCIECHOWSKI PIOTR, HARAT KONRAD:** Roller-compacted concrete as a pavement of roads of traffic load category KR1-KR2

**WRÓBLEWSKI BOGDAN, BOROWY ANDRZEJ:** New fire resistance classifications of suspended ceilings made of gypsum plasterboards

### 16.30 – 18.30 SESSION 4 DIAGNOSIS AND MODERNIZATION OF BUILDINGS

**KRENTOWSKI JANUSZ, SZELĄG ROMUALD, TRIBIŁO ROŚCISŁAW:** The concept, methodology and the realization of specialist remedial work of the municipal swimming pool in the emergency state

**KRENTOWSKI JANUSZ, SZELĄG ROMUALD, TRIBIŁO ROŚCISŁAW:** Reinforcements design and revaluation of the antique shell-rib brick vaults

**LISOWSKA MAGDALENA (CPJS – Centrum Promocji Jakości Stali Sp. z o.o., Warszawa):** Reinforcing steel with high ductility with EPSTAL quality mark - properties and applications

**MALESZA MIKOŁAJ, MIEDZIAŁOWSKI CZESŁAW, MALESZA JAROSŁAW:** Buildings in the light wood-framed technology formation and construction

**PASTERNAK HARTMUT:** Sustainable Restoration of the Roof of a Large Indoor Pool

**SYCZEWSKI MIKOŁAJ:** Conversion of reinforced structure of the graphic factory building to modernized technological process

**SYCZEWSKI MIKOŁAJ:** Exploitation of technical problems in old multi-family buildings after modernization of its roofs

### 19.00 – 24.00 Engineers' Banquet



**10 October 2011, Monday**

**08.30 – 10.30 COLLOQUIUM – PART 1**

**IGNATAVIČIUS ČESLOVAS, VILUTIENĖ TATJANA, USTINOVIČIUS LEONAS, SIMANAČIENĖ RUTA, VITKAUSKAITĖ LINA:** Selection model of the rational modernization measures: case of art school modernization in Birštonas city

**KAPLIŃSKI OLEG, PELDSCHUS FRIEDEL:** Socio-economic systems: a school of Professor Romualdas Ginevičius

**RASLANAS SAULIUS, ALCHIMOVIEŅĖ JURGITA:** The evaluation of sustainable renovation of apartment houses in urban neighbourhoods

**RASLANAS SAULIUS, STASIUKYNAS ANDRIUS:** Principles, causes and trends in sustainable real estate development

**SIMANAČIENĖ RUTA, LIAUDANSKIENE RITA, USTINOVIČIUS LEONAS:** Structural, technological and safety solution coherence model applying multi-attribute decision making methods

**11.00 – 13.00 COLLOQUIUM - PART 2**

**KAKLAUSKAS ARTŪRAS, ZAVADSKAS EDMUNDAS K., SENIUT MARK:** An information retrieval method and an information retrieval system

**KRACKA MODESTAS, BRAUERS WILLEM K. M., ZAVADSKAS EDMUNDAS K.:** Renovated building elements effective selection by applying multiple-

criteria methods

**TAMOŠAITIENĖ JOLANTA, ZAVADSKAS EDMUNDAS K., TURSKIS ZENONAS:** Multi-criteria assessment

method for construction price assessment  
**USTINOVIČIUS LEONAS, RASIULIS ROMAS, IGNATAVIČIUS ČESLOVAS, VILUTIENĖ TATJANA:** Analysis of roof parking lot damp-course failures and technology improvement

**VILUTIENĖ TATJANA, ZAVADSKAS EDMUNDAS K.:** The first year achievements of ORSDCE - The OR in Sustainable Development and Civil Engineering Working Group of EURO and insights of future activities

**16.30 – 18.30 COLLOQUIUM - PART 3**

**DYTCZAK MIROSŁAW, GINDA GRZEGORZ:** Searching for Pareto solution in the case of numerous decision alternatives

**GINDA GRZEGORZ:** Multi-attribute identification of construction project scheduling structures (represented by network graphs)

**TAMOŠAITIENĖ JOLANTA, PELDSCHUS FRIEDEL:** Numerical studies of multi-criteria decisions

**THIEL TOMASZ:** Final result analysis using Electre III method in case of a large number of variants

**11 October 2011, Tuesday**

**6.00 – 21.00 Excursion to Vilnius**

**12 October 2011, Wednesday**

**08.30 – 10.00 SESSION 5 PROBLEMS IN REALIZATION OF CONSTRUCTION PROJECTS**

**BERDYCHOWSKA EWA, GAWRON KRZYSZTOF, HOŁA BOŻENA:** Management of hotels real estate in the town of Wrocław in context of preparations of hotels base for the European Football Championships EURO 2012

**DYTCZAK MIROSŁAW, GINDA GRZEGORZ, WOJTKIEWICZ TOMASZ:** Identification of factors which influence delays during realisation of complex construction projects

**GOŁASZEWSKI JACEK, STOLARCZYK DAWID:** Responsibilities of participants of the building-investment process on the example of Spain and Polish

**HARASYMIUK JOLANTA, KOWALCZYK ZDZISŁAW:** Environmental requirements in the preparation of construction works

**JAŚKOWSKI PIOTR, BIRUK SŁAWOMIR:** Evaluating surrogate measures of construction project schedule robustness

**KOCSIS TAMÁS, HAJDU MIKLÓS, BOKOR ORSOLYA:** Challenges of the Construction Industry of Transition Countries

**KOŹNIEWSKI EDWIN, ORŁOWSKI MARCIN:** Areas of optimum range of ready-mixed concrete plants

**KSIĄŻEK MARIOLA:** Use of the multicriteria methods for assessment of investment in decision-

making process

**KULEJEWSKI JANUSZ, ZAWISTOWSKI JACEK:** Time buffer size simulation stabilizing construction schedules

**MINASOWICZ ANDRZEJ, KOSTRZEWA BARTOSZ:** The time-cost analysis of the construction project, based on fuzzy sets

**OBOLEWICZ JERZY:** The opinion of state of safety and the protection of health in building enterprises

**RUTKOWSKI MICHAŁ, SKARZYŃSKI ANDRZEJ:** Issues of the realisation of shopping and entertainment centres on the example of the Galeria Malta in Poznan

**SOBOTKA ANNA, JASIAK PAWEŁ:** Consider the risks in the assessment of the time in offer for historic building revitalization

**SOBOTKA ANNA, WAŁACH DANIEL:** Supply chain management in construction projects delivery

**08.30 – 10.00 SESSION 6 REALIZATION OF CONSTRUCTION PROJECTS AND SAFETY AND HEALTH PROTECTION IN CONSTRUCTION**

**MORKA MACIEJ:** Factors affecting the condition of the job safety on the construction site

**OBOLEWICZ JERZY:** Use of EFQM model in management the safety and the protection of health in building

**DRZEWIECKA JOANNA, PASŁAWSKI JERZY:**

Interference analysis of construction processes

**JABŁOŃSKA - KRYSIEWICZ AGNIESZKA, KRYSIEWICZ MAREK:** Problems in designing and rebuilding of bridges and culverts

**MARCINKOWSKI ROMAN, KOPER ARTUR:** Planning group of machines to provide continuity concreting of monolith structures

**WIRKUS MAREK, WĘSIERSKI TADEUSZ, CHMIELARZ ANNA:** Waste of machinery at the construction site

### 10.30 – 12.00 SESSION 7 MANAGING THE INVESTMENT PROCESS

**KACZMAREK BOGUSŁAW:** Formulating a policy and strategy for ecological development of the enterprise - a sketch of the problem

**KOZIK RENATA, STARZYK ELŻBIETA:** Influence of global economic crisis on public construction orders in Poland

**LEŚNIAK AGNIESZKA, PLEBANKIEWICZ EDYTA:** Selection of management company in construction public sector investments

**MESZEK WIESŁAW, DZIADOSZ AGNIESZKA:** The influence of inefficiency of property market on the accuracy of description of property value using statistical models of multiple regression

**STRZELECKA ELŻBIETA:** Urban revitalization in the context of sustainable development

**WIRKUS MAREK, TRZCIŃSKI ROMAN:** Efficient management of claims in civil engineering



*The papers presented during the conference have been issued in CD together with the information about the sponsors' products.*



**The delegation from Vilnius Gediminas Technical University (Lithuania) in Augustów, Poland (October 9, 2011)**



Waiting for opening session (October 9, 2011)



The members of organizing and program committees and invited speakers of opening session (October 9, 2011)



During the conference organized by the Bialystok University of Technology the jubilee of Professor Romualdas Ginevičius was celebrated. During the plenary session Professor Romualdas Ginevičius was awarded for his scientific achievements. His speech highlighted the achievements and prospects of international cooperation of “scientific triangle”. Professor Romualdas Ginevičius is celebrating his 65th birthday this year. Professor is the chair of the Department of Economy and Management of Enterprises at the Faculty of Business Management and Rector (from 2002) of Vilnius Gediminas Technical University. He is also a Doctor honoris causa of Belorussian State Technological University, Tbilisi David Agmashenebeli Technical University, Karaganda State Industrial University, Kiev National Aviation University and an academician of International Academy of Information. The investigations performed by R. Ginevičius may be subdivided into four main groups: Systems theory, Organizational theory, Enterprise development strategies, Market concentration\*. The achievements of the school of socio-economic systems led by Professor Ginevičius are significant and are of international rank. Professor Romualdas Ginevičius is editor in chief of three journals. Professor Romualdas Ginevičius is also one of the organizers and active participants of the Colloquiums in the German–Lithuanian–Polish Scientific Triangle.



**Congratulations to prof. Romualdas Ginevičius on the occasion of the anniversary (October 9, 2011)**

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\* The extract from article: O.Kaplinksi, F.Peldschus. *Socio-economic systems: A school of professor Romualdas Ginevičius. Civil and Environmental Engineering / Budownictwo i Inżynieria Środowiska 2 (2011) 517-520*



**The best session moderator prof. dr. Oleg Kaplinski (October 10, 2011)**



**Listening to an interesting presentation (October 10, 2011)**

(assoc. prof. dr. Wieslaw Meszek; Ph.D. C.E. Tomasz Thiel; doctoral student Jurgita Alchimovienė; prof. Dr. habil. Saulius Raslanas, dr. Jolanta Tamošaitienė)





**Presentation made by prof. habil. Leonas Ustinovičius (Head of Lab. In Faculty of Civil Engineering, VGTU) (October 10, 2011)**

*The presentations of Leonas Ustinovičius and Jolanta Tamošaitienė induced the hot discussions on presented problems. An active participation of all members in the discussions led to interesting proposals for improvement of current works, possible new ways of development and brought new ideas for further researches enriching the meeting.*



**Presentation made by dr. Jolanta Tamošaitienė (vice-dean of Faculty of Civil Engineering, VGTU) (October 10, 2011)**



**Discussions did not cease even during the coffee breaks (October 10, 2011)**  
(prof. dr. Oleg Kaplinski; prof. dr. habil. Leonas Ustinovičius; assoc. prof. dr. Jerzy Paslawski)

*Social events were also the highlights of this meeting, with a special Engineers' Banquet offering excellent meals, live music, cheerful atmosphere, exciting boat trip and a good mood.*



**The conference participants during the boat trip (October 10, 2011)**





**Cheerful atmosphere at a Engineers' Banquet (October 10, 2011)**

*During the second day of colloquium participants visited historical places of Vilnius and Vilnius Gediminas Technical University and discussed the plans for further scientific collaboration. It was decided, that the next meeting of EWG-ORS DCE members will be organized within the International Colloquium „Innovative solutions in construction technology and management“ in May15, 2013. The Chairman of Programme Committee: Prof. E. K. Zavadskas (e-mail: [colloquium13@vgtu.lt](mailto:colloquium13@vgtu.lt)).*



**The meeting in Vilnius (Lithuania) in scope of colloquium (October 11, 2011)**

(Ph.D. C.E. Tomasz Thiel; assoc. prof. dr. Wieslaw Meszek; Edita Jučiūtė; prof. habil. dr. Edmundas Kazimieras Zavadskas; prof. Doctor Honouris Causa of VGTU Oleg Kaplinski; assoc. prof. dr. Jerzy Paslawski; dr. Jolanta Tamošaitienė; dr. inż. Marcin Gajzler; assoc. prof. dr. Tatjana Vilutienė; prof. dr. Zenonas Turskis)



**Regards for further cooperation from  
Jolanta Tamošaitienė and Oleg Kaplinski**

*The participants would like to thank organizers for the perfectly organized meeting, wonderful time and enthusiasm and hope that we will soon meet again in Vilnius in 2012, 2013,... for further scientific collaboration or tourism ...*

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**Forthcoming Events**

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**THE 25TH EUROPEAN CONFERENCE ON OPERATIONAL RESEARCH (EURO XXV) Vilnius,  
Lithuania, July 8-11, 2012**  
([www.euro-2012.lt](http://www.euro-2012.lt))

During this conference the EURO Working Group "OR in Sustainable Development and Civil Engineering (ORSDC)" will organize and coordinate a Stream of invited sessions in the field "OR for Development and Developing Countries".

You are invited to submit the abstract to one of the following sessions:

**Session 1**

*"Sustainable Development in Civil Engineering and Multi-attribute Decision Making"*

**Session 2**

*"OR in Sustainable Urban Development"*

**Session 3**

*"Sustainable Construction Processes"*

The papers presented in these sessions and prepared according to journal requirements will be published in scientific journals:

**"JOURNAL OF CIVIL ENGINEERING AND MANAGEMENT"** <http://www.tandfonline.com/loi/tcem20>

ISSN 1392-3730 print, ISSN 1822-3605 online

2010 Impact Factor: 3,711 \*

**"INTERNATIONAL JOURNAL OF STRATEGIC PROPERTY MANAGEMENT"**

<http://www.tandfonline.com/loi/tspm20>

ISSN 1648-715X print, ISSN 1648-9179 online

2010 Impact Factor: 2.615, Ranking: 32/144 (Management) \*

**"TECHNOLOGICAL AND ECONOMIC DEVELOPMENT OF ECONOMY"**

<http://www.tandfonline.com/loi/tted20>

ISSN 2029-4913 print, ISSN 2029-4921 online

2010 Impact Factor: 5.605, Ranking: 3/305 (Economics) \*

**"JOURNAL OF BUSINESS ECONOMICS AND MANAGEMENT"** <http://www.tandfonline.com/loi/tbem20>

ISSN 1611-1699 print, ISSN 2029-4433 online

2010 Impact Factor: 3.866, Ranking - 4/103 (Business), Ranking - 7/305 (Economics) \*

We kindly ask to submit by e-mail the title of article and abstract to these sessions to the stream organizer:

dr. Tatjana Vilutiene

E-mail: [tatjana.vilutiene@vgtu.lt](mailto:tatjana.vilutiene@vgtu.lt)

Vilnius Gediminas Technical University

Sauletekio al. 11, LT-10223 Vilnius-40, Lietuva-Lithuania

Phone: +370 52 745233, +370 612 90700

More information You can find of the Web site of conference: [www.euro-2012.lt](http://www.euro-2012.lt)

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**Forthcoming Events**

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**International Colloquium****„Innovative solutions in construction technology and management“**

MAY 15, 2013

**Chairman of Progr. Com.** Prof. E. K. Zavadskas  
**E-mail:** [colloquium13@vgtu.lt](mailto:colloquium13@vgtu.lt)VGTU Faculty of Civil Engineering / Poznan University of Technology (Poland) / Leipzig University  
of Applied Science (Germany) Vilnius

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**11th International Conference****„Modern Building Materials, Structures and Techniques“**

MAY 16, 2013

**Chairman of Progr. Com.** Assoc. Prof. A. Juozapaitis  
**E-mail:** [mbmst11@vgtu.lt](mailto:mbmst11@vgtu.lt)VGTU Faculty of Civil Engineering / International Association for Bridge and Structural Engineering  
/ European Council of Civil Engineering / The Association of European Civil Engineering Faculties /  
Lithuanian Academy of Sciences Vilnius

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**2nd International Scientific Conference****„Contemporary Issues in Business, Management and Education‘ 2013“**

NOVEMBER 14, 2013

**Chairman of Progr. Com.** Dr J. Stankevičienė  
**E-mail:** [vvstud@vgtu.lt](mailto:vvstud@vgtu.lt)VGTU Faculty of Business Management / Riga Technical University (Latvia) / Tallinn University of  
Technology (Estonia) / Belarus State University (Byelorussia) / Cracow University of Economics  
(Poland) / University of Finance and Management (Poland) VGTU



### ScienceWatch.com Rising Stars

ScienceWatch.com producing a listing of the scientists, institutions, countries, and journals that have achieved the highest percentage increase in total citations from the sixth bimonthly period of 2010 to the first bimonthly period of 2011 – that is, from December 2010 to February 2011. These entities are singled out as Rising Stars in their respective fields.

Several EWG-ORS DCE members-scientists, one university and one journal published by EWG-ORS DCE members have been singled out as Rising Stars in period of 2011.

Large contribution of the EWG-ORS DCE researchers determined that in July 2011 within the framework of academic performance Vilnius Gediminas Technical University has been nominated for the prestigious "Rising Star" nomination in the field of engineering:

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### RISING STARS> JULY 2011

SCIENTISTS, INSTITUTIONS, COUNTRIES, & JOURNALS WITH THE LARGEST INCREASE IN TOTAL CITATIONS

SCIENCEWATCH HOME

INSIDE THIS MONTH...

INTERVIEWS

SPECIAL TOPICS

ANALYSES

DATA & RANKINGS

- Sci-Bytes
- Fast Breaking Papers
- New Hot Papers
- Emerging Research Fronts
- Fast Moving Fronts
- Research Front Maps
- Current Classics
- Top Topics
- Rising Stars**
- New Entrants
- Country Profiles

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Following the latest bimonthly update to *Essential Science Indicators<sup>SM</sup>* from Thomson Reuters, ScienceWatch.com has produced a listing of the scientists, institutions, countries, and journals that have achieved the highest percentage increase in total citations from the sixth bimonthly period of 2010 to the first bimonthly period of 2011—that is, from December 2010 to February 2011. These entities are singled out as Rising Stars in their respective fields.

SELECT SCIENTISTS **INSTITUTIONS** COUNTRIES JOURNALS

#### INSTITUTIONS

Among the institutions, the Rising Stars are:

Institution	Field
JIANGNAN UNIV	Agricultural Sciences
MED UNIV VIENNA	Biology & Biochemistry
CHARLES UNIV PRAGUE	Chemistry
SAITAMA MED UNIV	Clinical Medicine
INST GENET & BIOL MOL & CELLULAIRE	Computer Science
COPENHAGEN SCH ECON & BUSINESS ADM	Economics & Business
VILNIUS GEDIMINAS TECH UNIV	Engineering
S AFRICAN NATL BIODIVERS INST	Environment/Ecology
UNIV CINCINNATI	Geosciences

#### RISING STARS

Home

#### ABOUT

- New Entrants
- Understanding Core Data

#### WHAT'S NEW IN RESEARCH

Sci-Bytes (updated weekly)

#### FEATURED IMAGE

Red balloons are released outside the Financial Services Authority offices in London's Canary Wharf financial district Sep. 2009. REUTERS/Kevin Coomb.

ScienceWatch.com Rising Stars

The scientific journal *Technological and economic development of economy* publishing by the members of EWG-ORSDC has achieved the highest percentage increase in total citations from the sixth bimonthly period of 2010 to the first bimonthly period of 2011:

RISING STARS> JULY 2011

SCIENTISTS, INSTITUTIONS, COUNTRIES, & JOURNALS WITH THE LARGEST INCREASE IN TOTAL CITATIONS

- SCIENCEWATCH HOME
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- ANALYSES
- DATA & RANKINGS
  - Sci-Bytes
  - Fast Breaking Papers
  - New Hot Papers
  - Emerging Research Fronts
  - Fast Moving Fronts
  - Research Front Maps
  - Current Classics
  - Top Topics
  - Rising Stars**
  - New Entrants
  - Country Profiles
- ABOUT SCIENCE WATCH



Following the latest bimonthly update to *Essential Science Indicators<sup>SM</sup>* from Thomson Reuters, ScienceWatch.com has produced a listing of the scientists, institutions, countries, and journals that have achieved the highest percentage increase in total citations from the sixth bimonthly period of 2010 to the first bimonthly period of 2011—that is, from December 2010 to February 2011. These entities are singled out as Rising Stars in their respective fields.

RISING STARS

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WHAT'S NEW IN RESEARCH

Sci-Bytes (updated weekly)

FEATURED IMAGE

Red balloons are released outside the Financial Services Authority offices in London's Canary Wharf financial district Sep. 2009. REUTERS:Kevin Coomb.

SELECT | SCIENTISTS | INSTITUTIONS | COUNTRIES | **JOURNALS**

**JOURNALS**

ACS *Applied Materials and Interfaces* is making its second visit to the Rising Stars ranks, while its sister journal ACS *Nano* has made the list for the eighth time. Other journals enjoying repeat visits to this list include: *Clinical and Vaccine Immunology*, *Nature Geoscience*, the *European Journal of Pain*, and *Communications in Nonlinear Science and Numerical Simulation*. All of the journals named as Rising Stars are given in the table below:

Journal	Field
<b>FOODBORNE PATHOG DIS</b> <i>ScienceWatch.com</i> interview	Agricultural Sciences
AFR J BIOTECHNOL	Biology & Biochemistry
<b>ACS NANO</b> <i>ScienceWatch.com</i> interview	Chemistry
PLOS ONE	Clinical Medicine
J DISP TECHNOL	Computer Science
<b>TECHNOL ECON DEV ECON</b>	Economics & Business

**ScienceWatch.com Rising Stars**

The Chair of EWG-ORSDC *Edmundas Kazimieras Zavadskas* have achieved the highest percentage increase in citations in *Essential Science Indicators*<sup>SM</sup> from the third bimonthly period of 2011 to the fourth bimonthly period of 2011 in the field of Economics & Business (ScienceWatch.com - Thomson Reuters):

**SCIENCE WATCH**

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Data & Rankings | Rising Stars | November 2011 - Rising Stars | FOLLOW US

**RISING STARS> NOVEMBER 2011**  
SCIENTISTS, INSTITUTIONS, COUNTRIES, & JOURNALS WITH THE LARGEST INCREASE IN TOTAL CITATIONS

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**Fast Moving Fronts**  
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Country Profiles

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Understanding Core Data  
**WHAT'S NEW IN RESEARCH**  
Sci-Bytes (updated weekly)

Following the latest bimonthly update to *Essential Science Indicators*<sup>SM</sup> from Thomson Reuters, ScienceWatch.com has produced a listing of the scientists, institutions, countries, and journals that have achieved the highest percentage increase in total citations from the second bimonthly period of 2011 to the third bimonthly period of 2011—that is, from April 2011 to June 2011.

These entities are singled out as Rising Stars in their respective fields.

SELECT **SCIENTISTS** INSTITUTIONS COUNTRIES JOURNALS

**SCIENTISTS**

The scientists named as Rising Stars for this period are as follows:

Scientist	Field
PAN, TM	Agricultural Sciences
DORN, GW	Biology & Biochemistry
ROTH, S	Chemistry
MITCHELL, D	Clinical Medicine
GRASSO, C	Computer Science
<b>ZAVADSKAS, EK</b>	Economics & Business
BARNETT, SA	Engineering
STAMATAKIS, A	Environment/Ecology
HINZMAN, LD	Geosciences
HAYNES, BF	Immunology

The extract from the *ScienceWatch.com* Web page

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**New “Hot Papers” 2011**

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*ScienceWatch.com* has included several scientific papers of EWG-ORSDCE researchers in lists of *Hot papers*:

**June 2009.** Zavadskas, E. K.; Zakarevicius, A.; Antucheviciene, J. 2006. Evaluation of ranking accuracy in multi-criteria decisions, *Informatika*, [17\(4\): 601-618](#).

**June 2009.** Turskis, Z. 2008. Multi-attribute contractors ranking method by applying Ordering of feasible alternatives of solutions in terms of preferability technique, *Technological and economic development of economy*, [14\(2\): 224-239](#).

**January 2010.** Zavadskas, E. K.; Kaklauskas, A.; Turskis, Z.; Tamosaitiene, J. 2008. Selection of the effective dwelling house walls by applying attributes values determined at intervals, *Journal of Civil Engineering and Management*, [14\(2\): 85-93](#).

**March 2011.** Urbanaviciene, V; Kaklauskas, A; Zavadskas, EK, 2009. The conceptual model of construction and real estate negotiation, *International Journal of Strategic Property Management*, [13\(1\): 53-70](#).

**July 2011.** Zavadskas, E. K.; Vilutienė, T.; Turskis, Z.; Tamošaitienė, J. 2010. Contractor selection for construction works by applying SAW-G and TOPSIS grey techniques, *Journal of business economics and management*, [11\(1\): 34-55](#).

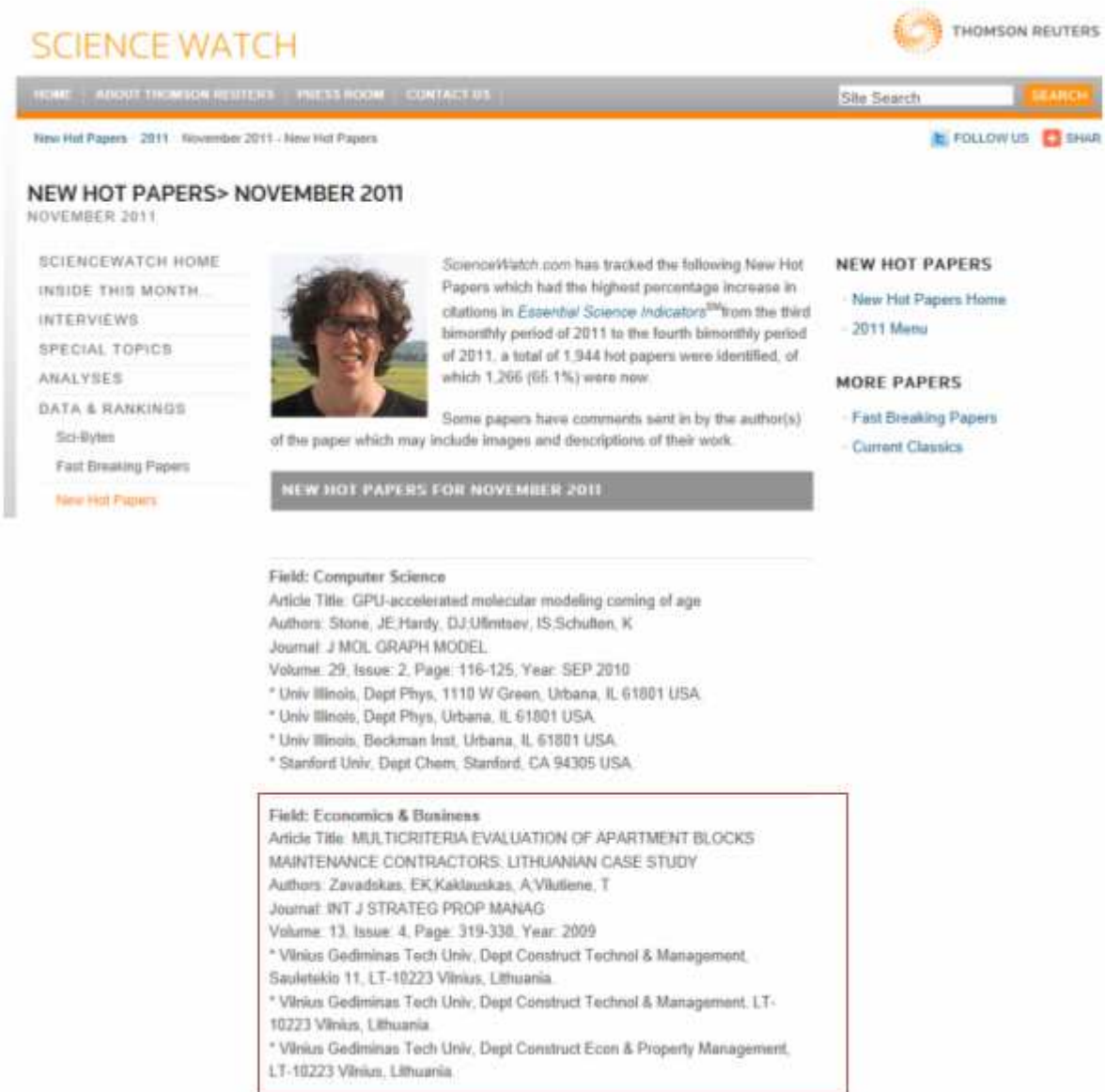
**November 2011.** Zavadskas, E. K.; Kaklauskas, A; Vilutienė, T. 2009. Multicriteria evaluation of apartment blocks maintenance contractors: Lithuanian case study. *International Journal of Strategic Property Management*. [13:319–338](#).



## New "Hot Papers" 2011

Zavadskas, E. K.; Kaklauskas, A; Vilutienė, T. Multicriteria evaluation of apartment blocks maintenance contractors: Lithuanian case study. *International Journal of Strategic Property Management*. 13:319–338, 2009. (ISI Web of Science).

ScienceWatch.com have tracked this paper as new hot paper in November 2011 as having the highest percentage increase in citations in *Essential Science Indicators*<sup>SM</sup> from the third bimonthly period of 2011 to the fourth bimonthly period of 2011 in the field of Economics & Business (ScienceWatch.com - Thomson Reuters): <http://sciencewatch.com/dr/nhp/2011/11novnhp/>



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New Hot Papers 2011 November 2011 - New Hot Papers FOLLOW US SHARE

### NEW HOT PAPERS> NOVEMBER 2011

NOVEMBER 2011

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Sci-Bytes  
Fast Breaking Papers  
New Hot Papers

 ScienceWatch.com has tracked the following New Hot Papers which had the highest percentage increase in citations in *Essential Science Indicators*<sup>SM</sup> from the third bimonthly period of 2011 to the fourth bimonthly period of 2011, a total of 1,944 hot papers were identified, of which 1,266 (65.1%) were new.  
Some papers have comments sent in by the author(s) of the paper which may include images and descriptions of their work.

**NEW HOT PAPERS**  
- New Hot Papers Home  
- 2011 Menu

**MORE PAPERS**  
- Fast Breaking Papers  
- Current Classics

**NEW HOT PAPERS FOR NOVEMBER 2011**

Field: Computer Science  
Article Title: GPU-accelerated molecular modeling coming of age  
Authors: Stone, JE, Hardy, DJ, Ulmirtsev, IS, Schullen, K  
Journal: J MOL GRAPH MODEL  
Volume: 29, Issue: 2, Page: 116-125, Year: SEP 2010  
\* Univ Illinois, Dept Phys, 1110 W Green, Urbana, IL 61801 USA.  
\* Univ Illinois, Dept Phys, Urbana, IL 61801 USA.  
\* Univ Illinois, Beckman Inst, Urbana, IL 61801 USA.  
\* Stanford Univ, Dept Chem, Stanford, CA 94305 USA.

Field: Economics & Business  
Article Title: MULTICRITERIA EVALUATION OF APARTMENT BLOCKS MAINTENANCE CONTRACTORS. LITHUANIAN CASE STUDY  
Authors: Zavadskas, EK, Kaklauskas, A, Vilutiene, T  
Journal: INT J STRATEG PROP MANAG  
Volume: 13, Issue: 4, Page: 319-338, Year: 2009  
\* Vilnius Gediminas Tech Univ, Dept Construct Technol & Management, Sauletekio 11, LT-10223 Vilnius, Lithuania.  
\* Vilnius Gediminas Tech Univ, Dept Construct Technol & Management, LT-10223 Vilnius, Lithuania.  
\* Vilnius Gediminas Tech Univ, Dept Construct Econ & Property Management, LT-10223 Vilnius, Lithuania.

The extract from the *ScienceWatch.com* Web page

## New "Hot Papers" 2011

Zavadskas, E. K.; Vilutienė, T; Turskis, Z.; Tamošaitienė, J. Contractor's selection for construction works by applying SAW-G and TOPSIS grey techniques. *Journal of Business Economics and Management*. 11(1):34-35, 1010. (ISI Web of Science).

ScienceWatch.com have tracked this paper as new hot paper in July 2011 as having the highest percentage increase in citations in *Essential Science Indicators*<sup>SM</sup> from the third bimonthly period of 2011 to the fourth bimonthly period of 2011 in the field of Economics & Business (ScienceWatch.com - Thomson Reuters): <http://sciencewatch.com/dr/nhp/2011/11julnhp/>

The screenshot shows the ScienceWatch.com website interface. At the top, there is a navigation bar with links for HOME, ABOUT THOMSON REUTERS, PRESS ROOM, and CONTACT US. A search bar is located on the right. Below the navigation bar, the page title is 'New Hot Papers - 2011 - July 2011 - New Hot Papers'. The main content area is titled 'NEW HOT PAPERS > JULY 2011'. On the left, there is a sidebar with links for SCIENCEWATCH HOME, INSIDE THIS MONTH, INTERVIEWS, SPECIAL TOPICS, ANALYSES, and DATA & RANKINGS. The main content area features a profile picture of a woman and a text block stating: 'ScienceWatch.com has tracked the following New Hot Papers which had the highest percentage increase in citations in Essential Science Indicators<sup>SM</sup> from Thomson Reuters from the first bimonthly period of 2011 to the second bimonthly period of 2011, a total of 1,742 hot papers were identified, of which 1,227 (70.4%) were new. Some papers have comments sent in by the author(s) of the paper which may include images and descriptions of their work.' To the right of the main content, there are sections for 'NEW HOT PAPERS' and 'MORE PAPERS' with links to 'New Hot Papers Home', '2011 Menu', 'Fast Breaking Papers', and 'Current Classics'.

**Field: Economics & Business**

Article Title: CONTRACTOR SELECTION FOR CONSTRUCTION WORKS BY APPLYING SAW-G AND TOPSIS GREY TECHNIQUES

Authors: Zavadskas, E.K., Vilutienė, T., Turskis, Z., Tamošaitienė, J.

Journal: J BUS ECON MANAG

Volume: 11, Issue: 1, Page: 34-35, Year: 2010

\* Vilnius Gediminas Tech Univ, Fac Civil Engrn, Dept Construct Technol & Management, Sauletekio Al 11, LT-2040 Vilnius, Lithuania

\* Vilnius Gediminas Tech Univ, Fac Civil Engrn, Dept Construct Technol & Management, LT-2040 Vilnius, Lithuania.

**Field: Engineering**

Article Title: Application of Periodized Harmonic Wavelets towards Solution of Eigenvalue Problems for Integral Equations

Authors: Cattani, C., Kudreyko, A.

Journal: MATH PROBL ENG

Volume: , Issue: , Page: art., Year: no -570136 2010

\* Univ Salerno, Dept Math & Comp Sci, Via Ponte Don Melillo, I-84084 Fisciano, Italy.

\* Univ Salerno, Dept Math & Comp Sci, I-84084 Fisciano, Italy.

The extract from the *ScienceWatch.com* Web page

## New "Hot Papers" 2011

Urbanaviciene, V; Kaklauskas, A; Zavadskas, EK, 2009. The conceptual model of construction and real estate negotiation, *International Journal of Strategic Property Management*, [13\(1\): 53-70](#).

ScienceWatch.com have tracked this paper as new hot paper in March 2011 as having the highest percentage increase in citations in *Essential Science Indicators*<sup>SM</sup> from the third bimonthly period of 2011 to the fourth bimonthly period of 2011 in the field of Economics & Business (ScienceWatch.com - Thomson Reuters): <http://sciencewatch.com/dr/nhp/2011/11marnhp/>

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New Hot Papers - 2011 - March 2011 - New Hot Papers FOLLOW US SHARE

### NEW HOT PAPERS > MARCH 2011

MARCH 2011

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**New Hot Papers**  
Emerging Research Fronts



ScienceWatch.com has tracked the following New Hot Papers which had the highest percentage increase in citations in *Essential Science Indicators*<sup>SM</sup> from Thomson Reuters from the fifth bimonthly period of 2010 to the sixth bimonthly period of 2010, a total of 1,787 hot papers were identified, of which 1,192 (66.7%) were new.

Some papers have comments sent in by the author(s) of the paper which may include images and descriptions of their work.

**NEW HOT PAPERS**

- New Hot Papers Home
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**MORE PAPERS**

- Fast Breaking Papers
- Current Classics

**FEATURED IMAGE:**

"...magnetic resonance imaging detects structural brain changes in the prodromal

Field: Economics & Business



New Hot Paper Commentary:

"Edmundas Kazimieras Zavadskas, Arturas Kaklauskas, & Vita Urbanaviciene"

Article Title: THE CONCEPTUAL MODEL OF CONSTRUCTION AND REAL ESTATE NEGOTIATION

Authors: Urbanaviciene, V;Kaklauskas, A;Zavadskas, EK

Journal: INT J STRATEG PROP MANAG

Volume: 13, Issue: 1, Page: 53-70, Year: 2009

\* Vilnius Gediminas Tech Univ, Dept Construct Econ & Property Management, Sauletekio Al 11, LT-10223 Vilnius, Lithuania.

\* Vilnius Gediminas Tech Univ, Dept Construct Econ & Property Management, LT-10223 Vilnius, Lithuania.

\* Vilnius Gediminas Tech Univ, Dept Construct Technol & Management, LT-10223 Vilnius, Lithuania.

The extract from the *ScienceWatch.com* Web page

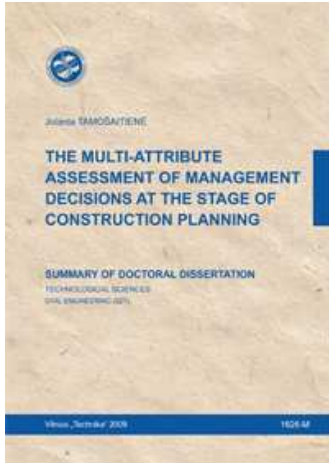
[Read an Interview with Edmundas K. Zavadskas: Science Watch 'Hot Paper Commentary'](http://sciencewatch.com/dr/nhp/2011/11maynhp/11maynhpZavaET/)  
<http://sciencewatch.com/dr/nhp/2011/11maynhp/11maynhpZavaET/>

**PhD Dissertations defended during 2011**

<b>Name of doctoral student</b>	<b>Title of dissertation</b>	<b>Year</b>	<b>Scientific supervisor</b>
Jūratė Venckauskaitė	Analysis of urban sustainability process and quality of life evaluation	2011	Marija Burinskienė
Olga Regina Šostak	Planning development of construction by taking into account interests of the third parties	2011	Sigitas Mitkus
Loreta Kelpšienė	Construction modelling in environment of economic recession	2011	Artūras Kaklauskas

Short review of defended dissertations presented below.



**Short review of defended dissertations****Analysis of urban sustainability process and quality of life evaluation**

Jūratė Venckauskaitė

Summary of Doctoral Dissertation

Technological Sciences, Civil Engineering (02T).

Vilnius: Technika, 2011. 24 p.

**Research object.** The general object of this study is urban areas, their development according sustainable development principles and the assessment of the consequences. The study object is Vilnius city and its residential areas.

**Scientific novelty.** The following new findings were obtained for civil engineering:

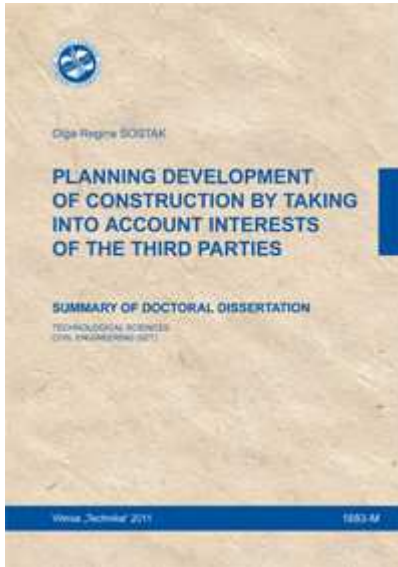
1. The quality of life evaluation model in urbanized territories was constructed. Statistical methods to evaluate the quality of life and to identify urban homogenous zones were proposed for the new model.
2. The system of indicators showing and evaluating quality of life integrated into the territorial planning is presented and concrete indicators are proposed. Indicators were grouped into 9 groups: communication systems, social environment, economic environment, utilities, safety/crime rate, environmental protection, leisure, culture and population communicability, city maintenance and care, city management and planning.

**Research methodology.**

In the empirical study the following methods of multi-dimensional statistical analysis were used: the method of key components, factorial analysis, multi-dimensional regression analysis method, cluster analysis. Initial hypotheses were verified with the help of these statistical methods. For the purpose of this study, after the factors determining real estate price in the city of Vilnius were identified, cluster analysis was used to distinguish relatively homogeneous groups of districts of Vilnius city. This method was integrated with the geographical information systems (GIS), which allowed to present the research findings visually.

**The scope of the scientific work.** The scientific work consists of the general characteristic of the dissertation, three chapters, conclusions, list of literature, list of publications and 4 annexes were attached. The total scope of the dissertation – 121 pages, 22 pictures, 11 tables and 4 addenda.

**Approval of the thesis.** The main statements of the thesis were discussed during international scientific conferences. The most important results of the thesis were published in four scientific publications, three of them in Thomson ISI Web of Science journals.



## Planning development of construction by taking into account interests of the third parties

O. R. Šostak

Summary of Doctoral Dissertation

Technological Sciences, Civil Engineering (02T).

Vilnius: Technika, 2011. 24 p.

**Research object.** Properties of the territorial planning legal infringements while planning construction investments; legal base of investment construction process regulation; infringements of the third-party rights during construction development, methods and peculiarities of defense of the third-party rights; modeling of the infringed third-party rights defense process while implementing investment construction process; mathematical modeling of construction planning solutions. Object of experiment is the litigations which took place in Lithuania in 2003-2009 and which are related to the planning and implementation of construction investment project.

**The aim of the Thesis.** Modeling of decisions of the construction planning, by taking into the account the interests of the third parties, in order to minimize the risk of litigation initiation related to the implementation of construction investment projects.

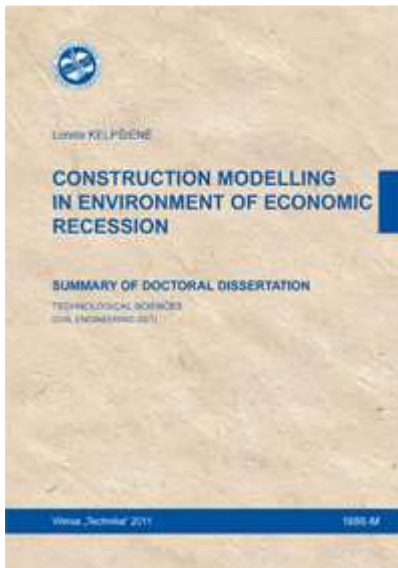
**Scientific novelty.** The infringed third-party rights defense process during implementation of investment construction process is modeled by applying the tree diagram of solutions. The mathematical modeling of a dispute process between the investors and third parties concerning possibly infringed third-party rights was carried out using stochastic dynamic programming. The issues of construction investment project implementation due to possibly infringed third-party rights are for the first time considered, analyzed and summarized on the basis of the realias of the litigations in the construction sector which took place in the Lithuania in 2003-2009 in order to create the rational ways of defense of the third-party rights.

**Research methodology.** The method of comparative analysis has been applied when analyzing the legal acts of the European Union and the Republic of Lithuania, regulating the rights of the third parties and their protection, also when the classification of violations of the third parties. Modeling of the dispute among the investors and the third parties on the possibly violated rights of the third parties is conducted by forming the tree of formation of the options of behavior of the parties of the dispute (decision tree). In order to understand the optimum strategy of behavior of the investor, we apply the stochastic dynamic programming. The task of finding optimum strategies is solved following the Bellman's Principle of Optimality.

**Practical value.** Original and innovatory package of construction law instruments has been created. It is intended for making rational decisions while planning and implementing construction investment projects under conditions of uncertainty in order to reduce the risk of litigation and successfully implement the construction projects. The up-to-date planning and management technologies for construction projects created in the research can be integrated into all stages of construction projects planning and management and are widely applied by various interested groups (investors, third parties, state legal structure, ect.)

**The scope of the scientific work.** The scientific work consists of the Introduction, four chapters, generalization of results, list of the used literature, list of author's articles on the subject of the dissertation and 3 annexes. Volume of work is 126 pages, excluding the annexes, 39 figures and 12 tables, 119 sources of literature have been used when writing the dissertation.

**Approval of the thesis.** The main statements of the thesis were discussed during international scientific conferences. The most important results of the thesis were published in five scientific publications, three of them in Thomson ISI Web of Science journals.



## Construction modelling in environment of economic recession

L. Kelpšienė

Summary of Doctoral Dissertation

Technological Sciences, Civil Engineering (02T).

Vilnius: Technika, 2011. 24 p.

**Research object.** The object of this research are factors affecting construction at national, social and corporate level, the stakeholder groups involved and their goals.

**Research goal.** The research aims to develop a model of construction in environment of economic recession and an intelligent system based on the model. It also aims to assess and describe construction trends with the help of the developed model of construction in environment of general economic distress, as well as to develop the recommendable decision support system for construction based on the multiple criteria analysis method and multiple criteria variant design method.

**Research methodology.** The research is based on the analysis of the research done by Lithuanian and foreign scientists, statistical publications, online statistical data. The multiple criteria analysis methods, the principles of analogy, methods of comparative analysis, logic and synthesis were used as well.

**Practical significance of the research results.** An original recommendable system for the environment of construction in times of economic recession was developed: it may facilitate efficient management decisions in construction projects. The system might be helpful to many stakeholder groups: investors, contractors, manufacturers of building materials, designers, users, etc.

**The scope of the scientific work.** The scientific work consists of the introduction, four chapters and conclusions, as well as the list of references. There are 6 appendices. The volume is 112 pages (without appendices) with 17 numbered equations, 36 figures and 15 tables. The list of references includes 106 items.

**Approval of the thesis.** The main statements of the thesis were discussed during international scientific conferences. The most important results of the thesis were published in five scientific publications.

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**The scientific event**

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**The results of scientific internship***Dr. Jolanta Tamošaitienė*

Construction environment is uncertain, unstable, unpredictable and almost uncontrolled. The creation of mathematical models for managerial and technical solutions in order to obtain the best economic indicators currently became a basis for a rational construction. Only the successful cooperation between the interested groups of the building life time let to talk about a smooth construction process phases: planning, construction, maintenance and so on. Otherwise, the construction management process is unbalanced; there are a lot of unwanted disputes that militate the construction process, delays in work progress. In such case the management process can be inefficient, causes the building defects, and thus the huge financial and moral loss. This is due to the fact that stakeholder interests in managerial, technical or other type of building solutions are indefinite and the information available is not completely accurate and is in certain ranges (intervals). Decisions are usually not lead to expected results, and the objectives are not always achieved in rational way. Therefore, to solve efficiently construction management problems it is necessary to look for new ways and methods of problem solving. Modeling is particularly important, because each object is unique due to the special conditions. Such models are in great demand for engineers, planners, organizers and leaders of various levels, especially those who have not previously encountered a similar situation.

Up to now, the performed researches covered the models of construction management and technical problem solving in construction were managerial and technical decision-making is performing taking into account the idea of sustainability, evaluating risks and other obstacles through application of traditional and new multipurpose evaluation methods, the theory of games, performing a synthesis of results, by comparison and expert assessment. The aforementioned problems were thoroughly described in this year performed research work "Construction management and technical solutions in construction", which has been evaluated by Lithuanian Academy of Sciences as the best research in technical field in Young Scientists competition of scientific works. On the basis of this research the scientific paper „Selection of the effective dwelling house walls by applying attributes values determined at intervals“ (Journal of Civil Engineering and Management, 14(2), (2008), p. 85-93. Authors: Zavadskas E. K., Kaklauskas A., Turskis Z.; Tamošaitienė J.). This publication on January 2010 was elected as the world's most cited publication in the field of engineering by Science IndicatorsSM of Thomson Reuters (<http://sciencewatch.com>).

A part of the research work was the result of scientific internship in German construction company. Internship has been organized by VGTU partner Leipzig University of Applied Sciences (Germany). Dean of Civil Engineering Faculty Prof. K. Holschemacher (also the SIB NL II Company) and Mr. P. Foerster send a personal invitation to 3-week internship. The company



founded 20 years ago, the average annual turnover of SIB NL II, Leipzig Division during the last 10 years of operation is over 90 million Euro. It employs more than one hundred different specialists and workers. The company's activity begins with the decision to construct the building; includes the site acquisition, management of building design, construction, the organization and management of building usage and building demolition.

STAATSBETRIEB IMMOBILIEN-  
UND BAUMANAGEMENT  
SIB



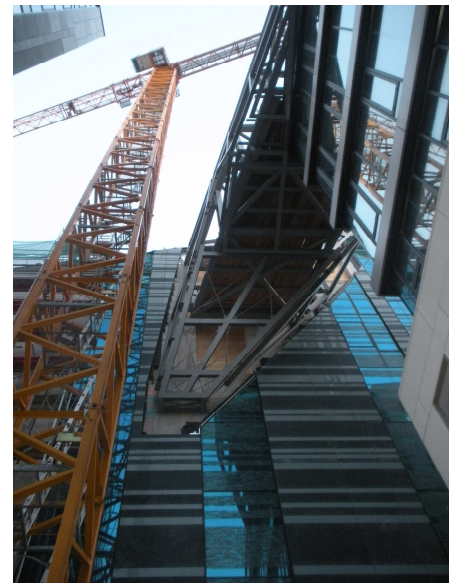
**Leipzig Department of SIB NL II (Germany)**



**Mrs. P. Förster and  
Dr. J. Tamošaitienė**



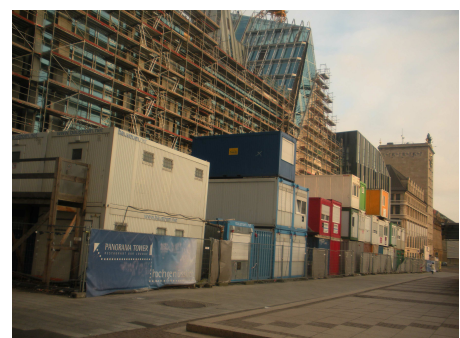
**Leipzig University building visualization on Augustus Square**



**LU building design solutions on  
Augustus Square**



**Dr. J. Tamošaitienė on Leipzig University construction site**



**LU building construction works  
carried out on Augustus Square by  
more than twenty-contractors**

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**Other news 2011**

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- Congratulations to the prof. E.K.Zavadskas and prof. A.Kaklauskas the members of EWG-ORS DCE. This year they become the Full Members of the [Lithuanian Academy of Sciences](#).
- The members of EWG-ORS DCE prof. E.K.Zavadskas had become the member of advising board and prof. Z.Turskis had become the member of editorial board of [International Journal of Information Technology & Decision Making](#).
- The member of EWG-ORS DCE prof. E.K.Zavadskas had become the member of editorial board of scientific journal [Archives of Civil and Mechanical Engineering](#) (Publisher: the Politechnika Wroclawska ; Polska Akademia Nauk. Oddział (Wroclaw, Poland)
- The members of EWG-ORS DCE prof. E.K.Zavadskas and prof. V.Podvezko had become the member of editorial board of scientific journal [Economic Computation and Economic Cybernetics Studies and Research](#) (Published by the Academy of Economic Studies in Bucharest, Romania)
- The member of EWG-ORS DCE prof. Z.Turskis had become the member of editorial board of scientific journal [Actual Problems of Economics](#) (Publisher: the Ukrainian National Academy of Management, Kyiv, Ukraine)
- The member of EWG-ORS DCE prof. E.K.Zavadskas had become the member of editorial board of scientific journal [Panoeconomicus](#) (Serbia)
- The member of EWG-ORS DCE prof. E.K.Zavadskas had become the member of editorial board of scientific journal [Economic Research](#) (Publisher: the Juraj Dobrila University of Pula, Croatia)
- New invention has been registered by the member of EWG-ORS DCE in 2010. Tamošaitis, Romualdas (author, inventor.). Decorative, protective fence: patent / inventor: Romualdas Tamošaitis. Vilnius, 2010. Available at: <http://lt.espacenet.com>.

**Editor's personal comments**

*Dear EWG-ORSDCE members, dear fiends,*

*This issue presents the results of only one year activities. This year was highlighted by the anniversary meeting of "scientific triangle" where we discussed the overall results of many years of cooperation. We really happy that cooperation is resulted with new published scientific books, more than four hundred articles published in scientific journals, several new professors defended a habilitation or passed habilitation procedure, many doctoral students defended doctoral dissertations in field of civil engineering, several Top cited and Hot articles in mathematics, engineering and business fields, etc., and hope our further endeavor will rise up us to more impressive results.*

*We invite all members of EWG-ORSDCE to disseminate actively their researches and participate in next EURO XXV "OR – Connecting Sciences", which will held on July 8-11, 2012 in Vilnius, Lithuania and of course in colloquium, which will held on May 15, 2013 in Vilnius, Lithuania.*

*On behalf of the Editorial Board of EWG-ORSDCE Newsletter, Tatjana Vilutienė*

*EWG-ORSDCE Newsletter*

*Editorial Board: Tatjana Vilutienė, Edmundas Kazimieras Zavadskas*

*Co-worker: Jolanta Tamošaitienė*