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Recent Advances in Urban Planning & Construction

**Proceedings of the 4th International Conference on
Urban Sustainability, Cultural Sustainability, Green Development,
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High-Performance Concrete Structures and Materials (COSTMA '13)**

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Table of Contents

<u>Plenary Lecture 1: A New Mechanism for Managing Individual Creativity in the Workplace by Bayesian Network</u>	9
<i>Kun Chang Lee</i>	
<u>Chemical Precipitation of Phosphorus on a Wastewater Treatment Pilot Plant</u>	11
<i>Gheorghe Badea, Marius - Daniel Roman, Ioan Giurca, Călin Ovidiu Safirescu, Ioan Așchilean, Dan Mureșan</i>	
<u>Modeling the Role of Urban Green Infrastructures on Students' Exposure to Traffic-Related Air Pollution</u>	16
<i>Jorge H. Amorim, Joana Valente, Cláudia Pimentel, Pedro Cascão, Vera Rodrigues, Ana Isabel Miranda, Carlos Borrego</i>	
<u>Heat transfer through Box Double-Skin Façade</u>	23
<i>Gabriel Nastase, Robert Gavriluc, Alexandru Serban</i>	
<u>Establishing a Biosensors Network for Identifying Ecological Problems Along a Seashore with Human Settlements</u>	27
<i>Christina G. Siontorou, Fragiskos A. Batzias</i>	
<u>Back Analysis for the Determination of Primary Stress State in Rock Massif</u>	37
<i>Eva Hrubesova, Josef Aldorf</i>	
<u>Structural Behavior of Eccentrically Loaded FRP Confined Square RC Columns</u>	41
<i>V. Munteanu, G. Oprisan, N. Taranu, C. Cozmanciuc, R. Oltean, P. Mihai</i>	
<u>Analysis of Roundabout Intersections on Routes of Abnormal Loads</u>	47
<i>Jan Petru, Karel Zeman</i>	
<u>Aspects Regarding using Solar Energy in Heating Systems and Sanitary Hot Water</u>	54
<i>Gheorghe Badea, Teodora M. Șoimoșan, Ioan Giurca, Călin Ovidiu Safirescu, Ioan Așchilean, Raluca-Andreea Felseghi</i>	
<u>The Software Used as Design Application for Composite Steel-Concrete Columns</u>	60
<i>Miroslav Rosmanit, Premysl Parenica</i>	
<u>Prediction of Structural Behavior of FRP Confined Square RC Columns using Numerical Modeling</u>	64
<i>V. Munteanu, G. Oprisan, N. Taranu, P. Mihai, I. Entuc</i>	
<u>Differences between Material Properties of Cement Pastes with Various types of Fly Ash</u>	70
<i>Pavel Padevĕt, Tereza Otcovská, Ondřej Zobal</i>	
<u>Removal of Copper Using Groundwater Treatment Plant Sludge (GWTPS) Adsorbent in Continuous Flow Activated Sludge System</u>	76
<i>S. R. M. Kutty, S. G. Khaw, C. L. Lai, M. H. Isa</i>	

<u>Effects of pH and Bi-Functional Groups Modification on Adsorption of Carbamazepine by Porous Silicas</u>	83
<i>Patiparn Punyapalakul, Thitikamon Sitthisorn</i>	
<u>Influence of Education System in Culture on Creative Industries Development</u>	91
<i>Radomila Soukalová, Eva Strakošová</i>	
<u>Study Regarding the Determination of Specific Flows of Wastewater for Rural Localities</u>	101
<i>Gheorghe Badea, Dan Muresan, Ioan Giurca, Ioan Așchilean, Marius-Daniel Roman, Emil Moldovan</i>	
<u>Experimental Tests of Pre-Stressed Masonry</u>	108
<i>Marie Stara</i>	
<u>An Integrated Framework to Sustainable Electricity Planning</u>	112
<i>Paula Ferreira, Madalena Araújo</i>	
<u>Influence of Parameters of a 3D Numerical Model on Deformation Arising in Interaction of a Foundation Structure and Subsoil</u>	119
<i>Radim Cajka, Jana Labudkova</i>	
<u>Choosing the Optimal Fuel Cell Technology for Application in the Field of Passive Houses</u>	125
<i>Gheorghe Badea, Raluca-Andreea Felseghi, Ioan Giurca, Călin Ovidiu Săfîrescu, Ioan Așchilean, Teodora M. Șoimoșan</i>	
<u>Probabilistic Reliability Assessment of Reinforced High-Performance Concrete Beam Using SBRA Method</u>	131
<i>David Pustka</i>	
<u>Formulation of Nitrification, BOD and COD Kinetics in Compact Extended Aeration Reactor (CEAR)</u>	139
<i>S. R. M. Kutty, N. I. Mohammed, S. N. M. Som, A. D. Dawam</i>	
<u>The New Conception Circular System of Steel Structure Bracing</u>	145
<i>Roman Fojtík, Tomáš Novotný</i>	
<u>The Vicious Spiral of Economic and Cultural Crisis. Cultural Implications of Romania's Economic Collapse (2009-2010)</u>	149
<i>Gabriela Dumbrava, Mihaela Camelia Schmidt</i>	
<u>Contemporary Sliding Joints in the Foundation Structures</u>	159
<i>Martina Janulíková, Marie Stara</i>	
<u>Authors Index</u>	163

Plenary Lecture 1

A New Mechanism for Managing Individual Creativity in the Workplace by Bayesian Network



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Abstract: When we consider the fiercely competitive environment in which modern companies operate, highly creative people can be considered strategic assets in furthering companies' competitiveness. This research provided a novel approach to creativity management through scenario analyses that applied the Bayesian network. This research focused particularly on perceptions of individual creativity and asked two questions: how do the processes of creative revelation—exploitation and exploration—contribute to building individual creativity, and how do environmental factors—task complexity, and bureaucratic and supportive cultures—affect individual creativity? The Bayesian network seems appropriate from this perspective because Bayesian network structure addresses the causal relationships between all variables. For the empirical test, we collected questionnaires and applied the Bayesian network to the survey data to extract a set of reliable causal relationships. By performing scenario-based simulations—both 'what-if' and 'goal-seeking' simulations—we found that individual creativity can be managed very effectively by adjusting the related variables in such a way as to maximize that quality.

Brief Biography of the Speaker: Dr. Kun Chang Lee is a full professor of MIS at SKK Business School at Sungkyunkwan University, South Korea. He also holds a WCU (World Class University) professor position at Department of Interaction Science at the same university. He received his PhD degree in MIS from KAIST (Korea Advanced Institute of Science and Technology). He is on the editorial board at several international journals such as Online Information Review (SSCI), Scientia (SCIE), Journal of Universal Computer Science (SCIE), and Information (SCIE). He conducted as a guest editor at Decision Support Systems. Now he is organizing special issues in Online Information Review (SSCI), Electronic Commerce Research and Applications (SSCI), and Computers in Human Behavior (SSCI), all of which are going to publish in 2012-2013. He has presented his papers regularly in a number of prestigious international conferences like HICSS (Hawaii International Conference on System Sciences), AMCIS (Americas Conference on Information Systems), and ICIS (International Conference on Information Systems). Professor Lee is an internationally recognized authority on decision support, ubiquitous computing, intelligent systems, and creativity science. His publication records include over 150 articles in scholarly and professional journals. Refer to <http://academic.research.microsoft.com/Author/957772/kun-chang-lee> for more details on Professor Lee's academic records. He has contributed to a number of international conferences as a program committee member; it includes CONTEXT (International and Interdisciplinary Conference on Modeling and Using Context), ACIIDS (Asia Conference on Intelligent Information and Database), WORLDCOMP (World Congress in Computer Science, Computer Engineering, and Applied Computing), UCMA (International Conference Ubiquitous Computing and Multimedia Applications), UBICOMM (International Conference on Mobile Ubiquitous Computing, Systems, Services and Technologies), PACIS (Pacific Conference on Information Systems), IASTED International Conference on Artificial Intelligence and Applications, International Conference on Intelligent Systems and Control, International Conference on Ubiquitous Information Management and Communication, IASTED International Conference on Computational Intelligence, International Workshop on Improved Mobile User Experience (IMUX), and IADIS International Conference on Information Systems, among others. Since 2006-2009, he initiated collaborative researches on intelligent decision makings with Waseda University, Japan. He is frequently invited by many companies to help direct the development of intelligent decision support systems and to deliver lectures on decision making to their executives. Last year, he was invited by Harvard Kennedy School as Rajawali visiting fellow to conduct researches on creativity and organize seminars on the related issues. He is the recipient of numerous research funds from Korean Government to continue his studies on creativity, and ubiquitous decision support systems. Dr. Lee is capable of integrating intelligent techniques and behavioral research framework to create a new paradigm of researches on complexity and creativity. In line with this motif, he has recently adopted using multi-agent simulations and brain informatics, obtaining a number of pioneering results that seem useful and meaningful in terms of both practical and academic sense. As for introducing his pioneering works to practitioners working at banking industry, he gave lectures to staffs and faculties at The World Bank, Washington D.C., US.