Editors
Pedro Lorca  
Catalin Popescu

Associate Editor
Chunwei Lu

Recent Researches in Applied Economics & Management

Economic Aspects of Environment, Development, Tourism and Cultural Heritage - Volume 2

Proceedings of the 5th International Conference on Applied Economics, Business and Development (AEBD ’13)

Chania, Crete Island, Greece, August 27-29, 2013

Scientific Sponsors

-Democritus University of Thrace, Greece
-Romanian-American University, Romania
-Ain Shams University, Egypt
-University De Los Andes, Venezuela
-Istanbul Technical University, Turkey
-Lucian Blaga University of Sibiu, Romania
-Megatrend University of Belgrade, Serbia
-Shu Zen College of Medicine and Management, Taiwan
-Stefan Cel Mare University of Suceava, Romania
-International Telematic University UniNettuno in Rome, Italy
-Transilvania University of Brasov, Romania
-Universitatea Constantin Brancusi, Romania
-University of Ploiesti, Romania
-University of Tokushima, Japan
-University of Craiova, Romania
-University of West Bohemia, Czech Republic
-University of Genoa, Italy
-Technical University of Cluj-Napoca, Romania
-University of Agricultural Sciences and Veterinary Medicine of Cluj-Napoca, Romania
Editors:
Prof. Pedro Lorca, University of Oviedo, Spain.
Prof. Catalin Popescu, University of Oil and Gas from Ploiești, Romania.

Associate Editor:
Prof. Chunwei Lu, Shu-Zen College of Medicine and Management, Japan.

Reviewers:
Jiri Strouhal
Loukas Georgiou
Paulo Avila
Dumitru-Alexandru Bodislov
Amin Daneshmand Malayeri
Constantinescu Dan
Al Emran Ismail
Stoican Mirela
Michaela Krechovska
Aw Yohe Cheng
Vijay Kumar G
Chao Wang
Nitish Gupta
Daniela Cristina Momete
David Procházka
Abdelkader Nouibat
Claudia - Georgeta Carstea
Ioana Adrian
Petr Hajek
Catalin Albu
Jana Matoskova
Andrei Jean Vasile
Umer Asgher
Dragan Randjelovic
Roxana Ionescu
Nikos Loukeris
Ana Barreira
Doñita Ariton
Nagaraj S.V.
Alejandro Fuentes-Penna
Eugenio Iancu
Ashraf Bany Mohammed
Jose Antonio Porfírio
Lukas Melecky
Federica Palumbo
Ahadollah Azami
Yang Zhang
John Manuel Delgado Barroso
Yin-Tsuo Huang
Iuliana Oana Mihai
Petra Tausl Prochazkova
Pavlina Hejdukova
Ionel Bostan-Dhc
Daniela Žirra
Kalliopi Kalampouka
Jana Vodakova
Radha Gupta
Lilia Dvorakova
Claudiu Mereuta
Angela Roman
Paresh Rathod
Usama Awan
Miguel Angel Vigil Berrocal
Jan Stejskal
Maja Pervan
Mihail Negulescu
Gherghinescu Sorin
Klimis Ntalianis
Nelson Duarte
Balcu Florina
Sebastian Bakalarczyk
Katarina Curko
Dib Karam
Francisco Antunes
Maria Gabriela Sterian
Rui Fragoso
Lukacs Edit
Andreea Iacobuta
Catalin Popescu
Arion Felix
Takuya Yamano
Ricardo Bustillo
Mihaela Gondor
Javier De Andrés
Alina Nuta
Mihaieiela Iliescu
Rimma Shiptsova
Ricardo Gouveia Rodrigues
Dragolea Larisa Dragolea
Stilianos Tampakis
Vicente Rodriguez
Chunwei Lu Wini Lu
Larion Alin
Zdenek Riha
Capusneanu Sorinel
Mohammad D. Al-Tahat
Mojtaba Shivaie
Preface
This year the 5th International Conference on Applied Economics, Business and Development (AEBD '13) was held in Chania, Crete Island, Greece, August 27-29, 2013. The conference provided a platform to discuss business management, financial management, business ethics, electronic commerce, business law, economic and efficient energy systems, socio-economic aspects of energy, natural resources management etc with participants from all over the world, both from academia and from industry.

Its success is reflected in the papers received, with participants coming from several countries, allowing a real multinational multicultural exchange of experiences and ideas.

The accepted papers of this conference are published in this Book that will be sent to international indexes. They will be also available in the E-Library of the WSEAS. Extended versions of the best papers will be promoted to many Journals for further evaluation.

Conferences such as this can only succeed as a team effort, so the Editors want to thank the International Scientific Committee and the Reviewers for their excellent work in reviewing the papers as well as their invaluable input and advice.

The Editors
# Table of Contents

Plenary Lecture 1: Approximation and Interpolation of Scattered n-Dimensional Economical Data  
*Vaclav Skala*  
13

Plenary Lecture 2: Stochastic and Fuzzy Models in Business Applications  
*M. G. Voskoglou*  
14

Plenary Lecture 3: The Modal Split in Transportation and Cross Elasticity  
*Zdenek Riha*  
15

Plenary Lecture 4: Management Models for Pricing in Mining Industry  
*Catalin Popescu*  
16

Analytical View on the Choice of Holiday Package based on Price  
*Stanislaw Brzeziński, Sebastian Kot, Martina Ferencová, Lubomír Karas*  
17

Cost Analysis of Using Transport Infrastructure in Chosen Countries of the European Union  
*Stanislaw Brzeziński, Beata Slusarczyk, Michal Biazik*  
24

Economic Efficiency Analysis of Buildings  
*Felicia Elena Stan Ivan*  
29

Competition in Transport and the Cross Elasticity  
*Viktorie Jiřová, Zdeněk Říha*  
35

Management Models for Pricing in Mining Industry  
*Marius Bulearcă, Catalin Popescu*  
40

Using of the Dynamic Pricing Model in the Passenger Air Transport  
*Petra Skolílova, Zdenek Riha*  
50

The Principle and Use of Special Filters in the Field of Population Protection by Sheltering  
*Jurikova Lucie, Rak Jakub, Adamek Milan, Sevcik David*  
54

Forecasting with Fourier Residual Modified ARIMA Model- An Empirical Case of Inbound Tourism Demand in New Zealand  
*Ying-Fang Huang, Peng-Jen Chen, Thanh-Lam Nguyen*  
61

Forecasting Inbound Tourism Demand in Thailand with Grey Model  
*Ying-Fang Huang, Thanh-Lam Nguyen, Ming-Hung Shu*  
66

TA Study of Low-Cost Carriers Service - The Impact is on Passenger Satisfaction for Cabin Service - Benchmark to Hanoi – Ho Chi Minh City  
*Cheng-Hsien Sung, Feng-Tsung Cheng, Mei-Fang Wu*  
71
Evaluating the Operation Performance of International Tourist Hotel in Taiwan by Data Envelopment Analysis
Yi-Fang Chen, Hui-Chin Tang

Inbound China Tourist Group Competitiveness of Taiwan Tourist Agencies
Chielin Lee

Localization of Warehouses in Distribution Companies
Filip Exnar, Otakar Machač

The Culture of Ethics and Social Responsibility on the Romanian Market of Mobile Telecommunications
Iuliu-Marin Ivânescu, Mona-Maria Ivânescu

Cultural Services in Romania – a Sustainable Development Perspective
Cecilia-Irina Rabontu, Ana-Gabriela Babucea

Public-Private Partnerships in the Field of Municipality Water Projects
Radek Jurčík

Theoretical and Practical Aspects of the Impact of Organizational Culture on Firm Performance
Catalin Popescu, Mihaela Otelea

Coal Prices at the Stock Market and Sustainable Consumption in Function of the Transition towards a Green Economy
Biljana Ilic, Dragica Stojanovic, Bojan Djordjevic

The Importance of Local Self-Government and Citizen Participation in Modern Society
Andrija Blanusa

The Truth about the Internet Advertising System and Untapped Monetization Models
Alexandru Tăbuscă

Cultural Diversity and Cultural Identity in Globalization
Katarina Otasevic

Influence of Media to Social Behavior and the Changes that have been Caused by New Media
Mirjana Tankosic

Building Learning Soceites for Sustainability - Cross-Cultural Management Aproach
Jane Paunkovic

The Reproduction of Knowledge Based on the Cooperation between Enterprises and Institutions of Higher Education
Dragana Trifunovic, Mirjana Tankosic
Development of Cultural Institutions through Implementation of Service Innovation
Mirjana Tankosic, Dragana Trifunovic

The Concept of Revolutionary Subject in Marcuse’s Thought
Mario Kalik

The Role of Smart Technologies in Increasing the Bucharest Visibility as a Cultural Destination
Camelia Monica Gheorghe

Territorial Implications of Urban Development in the Towns of Dolj County between the 14th and the 20th Centuries
Ciunel Andreea, Avram Sorin, Rosca Adrian

Integrating Environment Component in Economical and Technical Decisions
Mădălina Albu

The REINPO-RETAIL Project: Reinforcing the Retail Sector through a Virtual Community
Dario Assante, Alessandro Caforio, Raimondo Sepe

Heuristics for Limiting Pollution in Ground Control Optimization
Adacher Ludovica, Flamini Marta, Masi Marco

A Decentralized Approach for Air Traffic Congestion
Adacher Ludovica, Flamini Marta

The Centrality of Energy Retrofitting in the Historical City as a Challenge for the Immediate Future. The Role of the Representation as Instrument for Control and Evaluation of the Processes of Transformation; Case Study for a Sustainable Regeneration
Gerardo Maria Cennamo

Landscape Protection between Preservation and Change
Carlo Truppi, Gerardo Maria Cennamo

Engineering Approach to the Musealisation of Underwater Archaeological Sites
E. Angelini, D. Assante, S. Grassini, M. Parvis, S. Tusa

In-situ Electrochemical Impedance Spectroscopy Measurements on Immovable Cultural Heritage
E. Angelini, D. Assante, S. Grassini, M. Parvis

Surveying Works of Structural Monitoring under Cinematic Regime on a Chimney of 351.5 m High at the Industrial Platform of Baia Mare, Romania
Gheorghe M. T. Rădulescu, Adrian T. Gh. M. Rădulescu

Modern Methods of Structural Monitoring of Abfallbehandlungsanlage Rinterzelt, Wien (Austria)
Adrian T. Gh. M. Rădulescu, Gheorghe M. T. Rădulescu
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-Waste Management in Romania</td>
<td>240</td>
</tr>
<tr>
<td>Mihaela Podariu, Gabriela Filip</td>
<td></td>
</tr>
<tr>
<td>Considerations Regarding Aluminium Beverage Cans Recycling in Romania</td>
<td>246</td>
</tr>
<tr>
<td>Mihaela Podariu, Gabriela Filip</td>
<td></td>
</tr>
<tr>
<td>Some Aspects of using Modern GNSS-RTK Type Technology in Agriculture</td>
<td>252</td>
</tr>
<tr>
<td>Gabriel Bădescu, Rodica Bădescu, Mircea Ortelecan, Ovidiu Ştefan, Marcel Dirja</td>
<td></td>
</tr>
<tr>
<td>Modern Systems for Processing of Brasses and Bronzes with Gas Filtration</td>
<td>259</td>
</tr>
<tr>
<td>Jozsef Juhasz</td>
<td></td>
</tr>
<tr>
<td>Clean Technology of Lead Recovery from Spent Lead Paste</td>
<td>263</td>
</tr>
<tr>
<td>Vasile Hotea</td>
<td></td>
</tr>
<tr>
<td>Considerations on the Behavior of Incheon Bridge, Seul, South Korea to the Action of un Uniform Sunshine, Comparison Study to the Extreme Temperature’s Exposure Periods</td>
<td>270</td>
</tr>
<tr>
<td>Adrian T. Gh. M. Rădulescu, Gheorghe M. T. Rădulescu</td>
<td></td>
</tr>
<tr>
<td>The Mining Industry’s Management through Adaptation of the Informatics MDB GIS System, Simulation for the Mining Area Baia Mare Maramures</td>
<td>276</td>
</tr>
<tr>
<td>Virgil Mihai Gh. M. Rădulescu, Corina Rădulescu</td>
<td></td>
</tr>
<tr>
<td>The Importance of Including Enterprise Resource Planning, in the New Concept Mining Data Bank GIS</td>
<td>282</td>
</tr>
<tr>
<td>Virgil Mihai Gh. M. Rădulescu, Corina Rădulescu</td>
<td></td>
</tr>
<tr>
<td>GDB GIS, an Informatic System of the Management of Prospecting and Geological Research Activities, the Component of the Digital Mine</td>
<td>288</td>
</tr>
<tr>
<td>Virgil Mihai Gh. M. Rădulescu, Corina Rădulescu</td>
<td></td>
</tr>
<tr>
<td>Women Entrepreneurship in the Maramures County</td>
<td>294</td>
</tr>
<tr>
<td>Corina Rădulescu, Rita Toader</td>
<td></td>
</tr>
<tr>
<td>Aspects Regarding the Use of GIS and ROMPOS Environmental Projects</td>
<td>299</td>
</tr>
<tr>
<td>Gabriel Bădescu, Ovidiu Ştefan, Marcel Dirja, Mircea Ortelecan, Rodica Bădescu</td>
<td></td>
</tr>
<tr>
<td>Strategic and Operational Decision Making on Outsourcing in Road Transport</td>
<td>304</td>
</tr>
<tr>
<td>Vladimira Vlckova, Filip Exnar, Otakar Machac</td>
<td></td>
</tr>
<tr>
<td>Authors Index</td>
<td>310</td>
</tr>
</tbody>
</table>
Abstract: Data approximation and interpolation is one of the most often task in economical studies and engineering. Several techniques have been developed for data approximation and interpolation, but they expect some kind of data “ordering”. In many economical problems, data are not given in an ordered way and they can be considered as scattered in n dimensional space, in general. Usually scattered data are tessellated using triangulation, tetrahedronization etc. but for n dimensional data interpolation this approach for is quite prohibitive because of the computational cost. An interesting technique is n dimensional data interpolation using Radial Basis Functions (RBF). RBF interpolation is computationally more expensive because interpolated data are not ordered, but offers quite interesting applications with acceptable computational cost. We will shortly introduce RBF theory at the “application level” including some basic principles and computational issues. There are two main groups of interpolating functions: “global” and “local”. Application of “local” functions, called Compactly Supporting Functions-CSFBF, can significantly decrease computational cost as they lead to a system of linear equations with a sparse matrix. The RBF interpolation will be demonstrated on practical applications.

Brief Biography of the Speaker: Prof. Vaclav Skala is a Full professor of Computer Science at the University of West Bohemia, Plzen and VSB-Technical University Ostrava, Czech Republic. He received his Ing. (equivalent of MSc.) degree in 1975 from the Institute of Technology in Plzen and CSc. (equivalent of Ph.D.) degree from the Czech Technical University in Prague in 1981. In 1996 he became a full professor in Computer Science. In 1997 the Center of Computer Graphics and Visualization (CCGV) was formally established and since then he is the Head of the CCGV in Plzen (http://Graphics.zcu.cz).

Prof. Vaclav Skala is a member of editorial of The Visual Computer (Springer), Computers and Graphics (Elsevier), Machine Graphics and Vision (Polish Academy of Sciences) and the Editor in Chief of the Journal of WSCG. He is a member of several international program committees of prestigious conferences and workshops. He is a member of ACM SIGGRAPH, IEEE and Eurographics Association.

Prof. Vaclav Skala has published over 200 research papers in scientific journal and at international conferences. His current research interests are computer graphics, visualization and mathematics, especially geometrical algebra, algorithms and data structures.

Details can be found at http://www.VaclavSkala.eu
Abstract: There used to be a tradition in science and engineering of turning to probability theory when one is faced with a problem in which uncertainty plays a significant role. This transition was justified when there were no alternative tools for dealing with the uncertainty. Today this is no longer the case. Fuzzy logic, which is based on fuzzy sets theory introduced by Zadeh in 1965, provides a rich and meaningful addition to standard logic and probability theory. The applications which may be generated from or adapted to fuzzy logic are wide-ranging and provide the opportunity for modelling under conditions which are imprecisely defined, despite the concerns of classical logicians.

Concerning the probability theory, Markov chains offer ideal conditions for the study and mathematical modelling of a certain kind of phenomena depending upon random variables. The basic concepts of the corresponding theory were introduced by Markov in 1907 on coding literary texts. Since that time the Markov chain theory was developed by a number of leading mathematicians such as Kolmogorov, Feller etc., but only from the 60's the importance of this theory to the Natural, Social and most of the other Applied Sciences has been recognized.

In this plenary lecture we shall present characteristic examples of applications of finite Markov chains to Business problems, which can be solved - as most of the problems concerning applications of Markov chains in general do - by distinguishing between two types of such chains, the ergodic and the absorbing ones. We shall also present two characteristic applications of fuzzy sets to problems of commercial enterprises. The former concerns the evaluation of the fuzzy data of a market's research, while the latter is a decision making problem in a fuzzy environment. The two types of models that we will use (stochastic and fuzzy ones) will be compared to each other by listing their advantages and disadvantages.

Brief Biography of the Speaker: Michael Gr. Voskoglou (B.Sc., M.Sc., M.Phil., Ph.D. in Mathematics) is a Professor of Mathematical Sciences at the Graduate Technological Educational Institute (T. E. I.) of Patras, Greece. He has also taught at the Hellenic Open University, at the Mathematics Department of the University of Patras, at T. E. I. of Mesolonghi, etc. As a visiting professor he has taught in M.Sc. courses of the department of Operational Mathematics at the University of Applied Sciences in Berlin and of the School of Management at the University of Warsaw, while he worked for 3 years (1997-2000) as a post doctoral researcher in the Bulgarian Academy of Sciences in Sofia (under sabbatical).

He is the author of 8 books in Greek and English language and of more than 270 papers published in reputed journals and proceedings of conferences of 23 countries in 5 continents, with many references from other researchers.

He is also the Editor in Chief of the "International Journal of Applications of Fuzzy Sets and Artificial Intelligence" (e-journal), reviewer of the American Mathematical Society and member of the Editorial Board or referee in several mathematical journals. His research interests include Algebra, Fuzzy Sets, Markov Chains and Mathematics Education.

Relative links are he following:
Home Page URL: http://eclass.teipat.gr/eclass/courses/523102
Author Page URL: https://www.amazon.com/author/michaelvoskoglou
arXiv author identifier: http://arxiv.org/a/voskoglou_m_1
Plenary Lecture 3

The Modal Split in Transportation and Cross Elasticity

Assistant Professor Zdenek Riha
Department of Logistics and Transport Management
Faculty of Transportation Sciences
Czech Technical University in Prague
Czech Republic
E-mail: riha@fd.cvut.cz

Abstract: It holds in general that for a perfect competition the following four conditions must hold: perfect information of buyers and sellers, zero transaction costs of provider change, homogenous product and big number of suppliers. If we aim at the condition of a homogenous product, i.e. all sellers supply products of the same features, we find out that this condition can be fulfilled in practice only in a very limited number of cases like e.g. the market of primary raw materials. Then it is interesting to analyse, whether the rival products are substitutes. This question is solved by the so called cross elasticity. This topic is also aimed at in this paper that analyses the development of oil and fuel prices and studies their impact on the output of passenger rail transport. If we mention the cross elasticity, two goods A and G are compared that are either substitutes (i.e. mutually replaceable), complements (or additional goods) or there is no similar relation between them. The cross elasticity indicates the volume that changes in the demand of the good B when it comes to a unit change of good A. The paper analyses in this way the transport market and presents another interesting statistics that have featured the transport in the past ten years.

Brief Biography of the Speaker: Ing. Zdenek Riha, Ph.D was born on 12th April 1974. His dissertation (2005) was focused on the problems of externalities in transportation. He aims on relations between economics, transportation, environment and energy system. Zdeněk Riha is author or co-author of approximately 30 papers in special journals or international conferences and of one monograph. He devotes to popularization of transport and he created three exhibitions, which were focused on transportation system development from history (middle age) to present, it was seen by approximately 40 000 visitors.
Plenary Lecture 4

Management Models for Pricing in Mining Industry

Professor Catalin Popescu
Management, Accounting and Finance Department
University of Oil and Gas from Ploiesti
ROMANIA
E-mail: cpopescu@upg-ploiesti.ro

Abstract: Given that economic analysis of extractive industry is fundamentally different from the analysis of agriculture, manufacturing and services, this paper deals with finding and applying the political and economic principles of pricing in mining industry (in the first part), and with demonstrating the relationship between the level of extraction, depletion time and price trend resulted in time (in the second part).

Brief Biography of the Speaker: Dr. Catalin Popescu is Professor of Management at University of Oil and Gas from Ploiesti, Romania. His research and consulting interest include general management, engineering management, project management, quantitative methods for business and management, management information systems, human resource management, operations management, energy and environmental management. He received in 1991 a degree in Engineering, a degree in Management (2000) and a PhD (2001) in Automated Systems concern Modeling and simulation of production systems, from the University of Oil and Gas from Ploiesti, Romania. Dr. Popescu has published over 160 articles and conference papers, 8 books and he was involved in more than 28 scientific research grants and international projects. He is member of AMIER (Managers and Economical Engineers Association from Romania), COLEAD (International Research Society in Leadership and Organizational Culture), IBIMA (International Business Information Management Association) and IMTA Alumni Association (International Management Teachers Academy) from Slovenia. His international experience includes presentations and participation with papers in many places all over the world, in more than 25 countries. Dr. Catalin Popescu was plenary speaker, editor or participant to some conferences organized by WSEAS in collaboration with NAUN. He participated in 10 WSEAS Conferences and presented 12 papers and also he participated in international conferences organized by WSEAS and NAUN with 5 articles. On the other hand he published 12 papers in the WSEAS journals. Dr. Popescu is assessor in many academic and scientific organizations such as: WSEAS (World Scientific and Engineering Academy and Society), ANCS (National Agency for Scientific Reasearch for the european projects under POS – CCE competition) and IBIMA (International Business Information Management Association).
Authors Index

Adamek, M. 54 Hotea, V. 263 Rădulescu, C. 276, 282
Albu, M. 186 Huang, Y.-F. 61, 66 Rădulescu, C. 288, 294
Angelini, E. 218, 223 Ilic, B. 117 Rădulescu, G. M. T. 228, 234, 270
Assante, D. 192, 218, 223 Ivănescu, I.-M. 95 Rădulescu, V. M. Gh. M. 276, 282, 288
Avram, S. 179 Ivănescu, M.-M. 95 Rak, J. 54
Babucea, A.-G. 100 Jírová, V. 35 Říha, Z. 35, 50
Bădescu, G. 252, 299 Juhasz, J. 259 Rosca, A. 179
Bădescu, R. 252, 299 Jurčík, R. 105 Sepe, R. 192
Biazik, M. 24 Jurikova, L. 54 Sevcik, D. 54
Blanusa, A. 123 Kalik, M. 167 Shu, M.-H. 66
Brzeziński, S. 17, 24 Karas, L. 17 Skolilova, P. 50
Bulearcă, M. 40 Kot, S. 17 Šlusarczyk, B. 24
Caforio, A. 192 Lee, C. 82 Stan Ivan, F. E. 29
Cennamo, G. M. 207, 212 Machač, O. 87, 304 Stojanovic, D. 117
Chen, P.-J. 61 Masi, M. 197 Sung, C.-H. 71
Chen, Y.-F. 76 Nguyen, T.-L. 61, 66 Tăbuscă, A. 129
Cheng, F.-T. 71 Ortelecan, M. 252, 299 Tâng, H.-C. 76
Ciúinel, A. 179 Otasevic, K. 137 Tankosic, M. 143, 155, 161
Dirja, M. 252, 299 Otelea, M. 111 Toader, R. 294
Djordjevic, B. 117 Ovidiu, S. 252, 299 Trifunovic, D. 155, 161
Exnar, F. 87, 304 Parvis, M. 218, 223 Truppi, C. 212
Feřencová, M. 17 Paunkovic, J. 149 Tusà, S. 218
Filip, G. 240, 246 Podariu, M. 240, 246 Vickova, V. 304
Flamini, M. 197, 202 Popescu, C. 40, 111 Wu, M.-F. 71
Gheorghe, C. M. 173 Rabontu, C.-I. 100