



Ljubljana, 29. januar, 2010

Zadeva: ***Poročilo SDI-SOR o SOR'09***

Sekcija za operacijske raziskave Slovenskega društva INFORMATIKA (Vožarski pot 12, 1000 Ljubljana, tel. (01) 241 51 06, faks: (01) 241 53 44), ki ji predseduje prof. dr. Lidija Zadnik Stirn, je v dneh od 23. do 25. septembra 2009 organizirala v Hit Hotelu Casino Perla v Novi Gorici 10. mednarodni simpozij iz operacijskih raziskav (The 10th International Symposium on Operational Research – SOR'09). SOR'09 je sofinancirala Javna agencija za raziskovalno dejavnost RS.

SOR'09 je bil strokovno brežhibno organiziran po zaslugi **Organizacijskega odbora SOR'09** v sestavi:

- B. Nemeč, HIT, Nova Gorica, Slovenija, predsednik
- M. Bastič, UM, Ekonomsko-poslovna fakulteta, Maribor, Slovenija
- S. Drobne, UL, Fakulteta za gradbeništvo in geodezijo, Ljubljana, Slovenija
- A. Lisec, UL, Fakulteta za gradbeništvo in geodezijo, Ljubljana, Slovenija
- B. Peček, UL, Fakulteta za upravo, Ljubljana, Slovenija
- D. Škulj, UL, Fakulteta za družbene vede, Slovenija
- L. Zadnik Stirn, UL, Biotehniška fakulteta, Ljubljana, Slovenija
- B. Zmazek, UM, Fakulteta za strojništvo, Maribor, Slovenija

Za kakovostno raven vabljenih prispevkov in recenziranih referatov nosi odgovornost **Programski odbor SOR'09** v sestavi:

- L. Zadnik Stirn, Biotehniška fakulteta, Ljubljana, Slovenija, predsednica
- J. Žerovnik, Inštitut za matematiko, fiziko in mehaniko, Ljubljana, Slovenija, predsednik
- M. Bastič, UM, Ekonomsko-poslovna fakulteta, Maribor, Slovenija
- L. Bogataj, UL, Ekonomska fakulteta, Ljubljana, Slovenija
- M. Bogataj, UL, Fakulteta za pomorstvo in promet, Portorož, Slovenija
- V. Boljunčič, Faculty of Economics and Tourism, Pula, Hrvaška
- B. Böhm, Institute for Mathematical Models and Economics, Dunaj, Avstrija
- K. Cechlarova, Faculty of Science, Košice, Slovaška
- V. Čančer, UM, Ekonomsko-poslovna fakulteta, Maribor, Slovenija
- A. Čizman, UM; Fakulteta za organizacijske vede, Kranj, Slovenija
- S. Drobne, UL, Fakulteta za gradbeništvo in geodezijo, Ljubljana, Slovenija
- L. Ferbar, UL, Ekonomska fakulteta, Ljubljana, Slovenija
- S. Indihar, UM, Ekonomsko-poslovna fakulteta, Maribor, Slovenija
- P. Köchel, Chemnitz University of Technology, Chemnitz, Nemčija
- J. Jablonsky, University of Economics, Praga, Češka
- J. Kušar, UL, Fakulteta za strojništvo, Ljubljana, Slovenija
- L. Lenart, Inštitut Jožef Stefan, Ljubljana, Slovenija

- M. Marinovič, University of Rijeka, Reka, Hrvaška
- L. Neralić, Faculty of Economics, Zagreb, Hrvaška
- J. Povh, Fakulteta za informacijske študije, Novo mesto, Slovenija
- W. Ukovich, DEEI, University of Trieste, Trst, Italija

Simpozija se je udeležilo 73 strokovnjakov s področja operacijskih raziskav iz univerz, inštitutov, podjetij in javne uprave. Izmed vseh udeležencev je bilo 32 domačih in 41 tujih. Udeleženci so predstavili 7 vabljenih predavanj in 54 recenziranih referatov, ki jih je napisalo 105 avtorjev in soavtorjev. Posebej je treba omeniti vabljene predavatelje in častne govornike na otvoritveni slovesnosti, med katerimi gre posebno mesto predsednikom oziroma **predstavnikom društev za operacijske raziskave naslednjih držav:**

- Hrvaška: Croatian Society for Operational Research, Zoran Babić
- Avstrija: Austrian Society for Operational Research, Marion Rauner
- Nemčija: German Society for Operational Research, Peter Köchel
- Madžarska: Hungarian Society for Operational Research, Tibor Csendes
- Poljska: Polish Society for Operational Research, Tadeusz Trzaskalik

Častni govorniki so bili:

- Slovenian Society Informatika (SDI), Niko Schlamberger, predsednik
- HIT, Boris Nemec
- UL, Faculty of Economics, Miro Gradišar
- Croatian Society for Operational Research, Zoran Babić
- Austrian Society for Operational Research, Marion Rauner
- German Society for Operational Research, Peter Köchel
- Hungarian Society for Operational Research, Tibor Csendes
- Polish Society for Operational Research, Tadeusz Trzaskalik

Vabljeni predavatelji (plenarna predavanja) so bili:

Prof. Dr. Zoran Babić, University of Split, Faculty of Economics, Department for Quantitative methods (head of department), Split, Croatia (Hrvaška)
Naslov predavanja: *De Novo Programming – A Bluff or not a Bluff*

Prof. Dr. Tibor Csendes, University of Szeged, Department of Applied Informatics (head of department), general and scientific vice dean, Szeged, Hungary (Madžarska)
Naslov predavanja: *Reliable Optimization Techniques and Their Application*

Prof. Dr. Robert W. Grubbström, Linköping Institute of Technology, Linköping, Sweden (Švedska)
Naslov predavanja: *Recent Developments in MRP Theory and Future Opportunities*

Prof. Dr. Marion Rauner, University of Vienna, Department of Innovation and Technology Management, Vienna, Austria (Avstrija)
Naslov predavanja: *Operations Research and Management Games with a Special Focus on Health Care Games*

Prof. Dr. Tadeusz Trzaskalik, Karol Adamiński University of Economics, Department of Operational Research (head of department), Director of International Postgraduate Studies in Project Management, Katowice, Poland (Poljska)
Naslov predavanja: *Vector Approach to Changeable Importance of Period Objectives in Multiobjective Dynamic Programming*

*Prof. Dr. Di Yuan, Linköping University, Department of Science and Technology (ITN),
Director of PhD study, Linköping, Sweden (Švedska)*

Naslov predavanja: *Operations Research in Mobile Cellular Network Design*

*Dr. Moshe Sniedovich, University of Melbourne, Department of Mathematics and Statistics
Melbourne, Australia*

Naslov predavanja: *Modeling of Robustness Against Severe Uncertainty*

Proceedings of the 10th International Symposium on Operational Research, ki so ga uredil prof. dr. Lidija Zadnik Stirn, prof. dr. Janez Žerovnik, mag. Samo Drobne in doc. dr. Anka Lisec je *eferiran* v: ISI (Index to Scientific and Technical Proceedings on CD-ROM and ISI/ISTP&B online database), Current Mathematical Publications, Mathematical Review, MathSci, Zentralblatt für Mathematics, Mathematics Abstracts, MATH on STN International CompactMath, INSPEC, Journal of Economic Literature.

Referati v zborniku del so razdeljeni v deset poglavij (številka v oklepaju pomeni število prispevkov v sekciji): Plenary section (7), Discrete Mathematics and Optimization (9), Multicriteria Decision Making (6), Production and Inventory (5), Scheduling and Control (5), Finance and Investment (5), Location and Transport (6), Environment and Human Resources (6), OR Perspectives (2) in Statistics (10).

Vsebina in struktura prispevkov je bila nekoliko orientirana v korist problemskim sklopom, čeprav je bilo tudi veliko zelo kakovostnih metodoloških prispevkov. Opazno je, da se operacijske raziskave vse bolj vključujejo v neposredne gospodarske probleme; navkljub velikemu številu udeležencev, ki so običajno avtorji, zlasti teoretičnih prispevkov, z univerz in raziskovalnih inštitutov. Nadalje je potrebno poudariti, da je bilo med avtorji veliko predstavnikov mlajše generacije, kar pomeni, da imajo operacijske raziskave tudi, kar se tiče kadrov, svetlo prihodnost.

Kot smo opazili že v preteklih letih, smo žal tudi ob tem dogodku opazili, da je bila kljub pravočasnemu in ustreznemu informiranju občutna premajhna odzivnost uporabnikov OR-raziskovanja; pri tem mislimo tako zastopnike javnih sistemov kot na zastopnike industrije. Od prvih (razen nekaj s področja bančništva in igralništva, ki so na simpoziju bili prisotni) so to splošno energetski, okoljevarstveni, elektroenergetski, gradbeniški, transportni, vojaški strokovnjaki, med drugimi so to strokovnjaki iz managementa industrijskih podjetij in proizvodnje. To so skratka vsi tisti, ki bi pri svojem delu morali intenzivno uporabljati metode OR. V primeru, da bi bilo srečanje tako izpopolnjeno, čemur bienalni simpoziji iz OR težijo, bi lahko prišlo že v okviru simpozija do začetka reševanja problemov, ki se v Sloveniji v okviru OR s praktičnega stališča zdijo kritični. To so predvsem identifikacija problemov in identifikacija ljudi ter skupin, ki se tako na strani uporabnikov kot na strani izvajalcev lahko soočijo z njimi. V takšnem primeru bi lahko prišlo do zametka primernih delovnih skupin. Smatramo, da bi se v bodoče moralo Ministrstvo za gospodarstvo bolj aktivno vključiti v delo simpozija.

Na koncu lahko ugotovimo, da je SOR'09, ki je tokrat obeležil že 10. izvedbo in tako še na poseben način poudaril tradicijo pomen operacijskih raziskav v Sloveniji, presešel naša pričakovanja tako v strokovnem kot tudi moralnem pogledu. Velika udeležba tujih strokovnjakov je potrdila zaupanje v naše strokovne sile, obenem pa nudila domačim strokovnjakom priložnost, da se seznanijo z dosežki, ki razvitemu svetu pomenijo generator njihove diferencialne rente.

Seznam vabljenih predavateljev SOR'09

Prof. Dr. Zoran Babić

University of Split, Faculty of Economics, Department for Quantitative methods (head of department), Split, Croatia (Hrvaška)

Prof. Dr. Tibor Csendes

University of Szeged, Department of Applied Informatics (head of department), general and scientific vice dean, Szeged, Hungary (Madžarska)

Prof. Dr. Robert W. Grubbström

Linköping Institute of Technology, Linköping, Sweden (Švedska)

Prof. Dr. Marion Rauner

University of Vienna, Department of Innovation and Technology Management, Vienna, Austria (Avstrija)

Prof. Dr. Tadeusz Trzaskalik

Karol Adamiecki University of Economics, Department of Operational Research (head of department), Director of International Postgraduate Studies in Project Management, Katowice, Poland (Poljska)

Prof. Dr. Di Yuan

Linköping University, Department of Science and Technology (ITN), Director of PhD study, Linköping, Sweden (Švedska)

Dr. Moshe Sniedovich

University of Melbourne, Department of Mathematics and Statistics, Melbourne, Australia (Avstralija)

Seznam referatov SOR'09

Podroben seznam referatov po dnevih je razviden iz delovnega programa. V nadaljevanju pa podajamo seznam referatov po sekcijah (iz zbornika del SOR'09):

Plenary Lectures

Zoran Babić

De Novo Programming – A Bluff or not a Bluff

Tibor Csendes

Reliable Optimization Techniques and Their Application

Robert W. Grubbström

Recent Developments in MRP Theory and Future Opportunities

Marion Rauner and Markus Kraus

Operations Research and Management Games with a Special Focus on Health Care Games

Moshe Sniedovich

Modeling of Robustness Against Severe Uncertainty

Tadeusz Trzaskalik

Vector Approach to Changeable Importance of Period Objectives in Multiobjective Dynamic Programming

Di Yuan

Operations Research in Mobile Cellular Network Design

Section I: Discrete Mathematics and Optimization

Darko Bečaj and Janez Žerovnik

Optimization of Waste Collection in Maribor

Kristijan Cafuta, Igor Klep and Janez Povh

Convex and Positive Noncommutative Polynomials

Louis Dorard, Dorota Glowacka and John Shawe-Taylor

Gaussian Process Modelling of Dependencies in Multi-Armed Bandit Problems

Dušan Hvalica

Hypergraphs and Satisfiability

Dušan Hvalica

Satisfiability Testing in the Context of Hypergraphs

Polona Pavlovčič Prešeren, Oskar Sterle, Miran Kuhar and Bojan Stopar

Continuous GNSS Orbit Construction Using Interpolation and Neural Network Approximation Approach

Igor Pesek and Janez Žerovnik

Different Approaches to the Tuning of the RCPSP Algorithm RaR

Janez Povh

Contribution of Copositive Formulations to Graph Partitioning Problem

Gašper Žerovnik and Janez Žerovnik

Experimental Comparison of Constructive Heuristics for the Canister Filling Problem

Section II: Multicriteria Decision Making

Andrej Bregar

Efficiency of Problem Localization in Group Decision-Making

Vesna Čančer

Considering Interactions in Multi-Criteria Decision-Making

Petra Grošelj and Lidija Zadnik Stirn

Comparison of Group Methods in Analytic Hierarchy Process

Tunjo Perić

Feed Blend Optimization by Fuzzy Multicriteria Linear Programming Method

Nataša Šarlija, Kristina Šorić, Silvija Vlah and Višnja Vojvodić Rosenzweig

Logistic Regression and Multicriteria Decision Making in Credit Scoring

Tomasz Wachowicz and Paweł Wieszala

Pre-negotiation Phase Protocol for Electronic Negotiation Support

Section III: Production and Inventory

Marko Jakšič

The Value of Sharing Advance Capacity Information under “Zero-Full” Supply Capacity Availability

Danijel Kovačić and Ludvik Bogataj

Multistage Reverse Logistics of Assembly Systems in Extended MRP Theory

Dubravko Mojsinović

How to Implement Key Performance Indicators in a Company

Aleš Slak and Jože Tavčar

Scheduling the Production of Turned Parts with Genetic Algorithms

Jelena Vidović and Zdravka Aljinović

Research on Stock Returns in Central and South-East European Transitional Economies

Section IV: Scheduling and Control

Ludvik Bogataj and Marija Bogataj

The Perturbed Adjoint Operator Developed for Filtering the Supply Systems with Stochastic Delay in Control

Karsten Hentsch and Peter Köchel

Scheduling Jobs with Forbidden Setups with Metaheuristics and Penalties – A Case Study at a Continuous Casting Plant

Dmitry Ivanov, Boris Sokolov and Joachim Kaeschel

Combined Application of Operations Research and Optimal Control: A New Viewpoint on the Problem Semantic in Supply Chain Management

Jaroslav Janáček

Handling of a Non-linear Model of the Evacuation Plan Design by IP-Solver

Lado Lenart, Jan Babič and Janez Kušar

Direct Use of Functional Gradients and Linear Programming in Optimal Control

Section V: Finance and Investments

Josip Arnerić, Blanka Škrabić and Nataša Erjavec

Cross-Countries Capital Markets Development Analysis in Framework of Dynamic Panel Models

Ali Osman Kusakci

Market Value Valuation with Ohlson Model: An Empirical Analysis of ATX Indexed Companies in Vienna Stock Exchange

Miklavž Mastinšek

Delta Hedging and Return

Ivana Simeunović, Aleksandar Zdravković and Jelena Minović

Applying Markov Chains in Bonus System

Ivana Tomas and Josipa Višić

Real Option Analysis - Decision Making in Volatile Environment

Section VI: Location and Transport

Marija Bogataj, Danijela Tuljak Suban and Samo Drobne

The Parallel Regression-Fuzzy System for Land Appraisal

Marta Janáčková and Alžbeta Szendreyová

First Aid Stations Location Problem and an Impact of the Set of Candidates on the Recourse of a Patient

Tomaž Kramberger, Uroš Kramar and Andreja Čurin

Modeling the Fiscal Impact of Electronic Fee Collection System

Peter Matis and Michal Koháni

Very Large Street Routing Problem with Mixed Transportation Mode

Lorenzo Ros, M. Victoria de la Fuente and Marija Bogataj

The Logistics of Heavy and Small Packages

Nico M. van Dijk, Erik van der Sluis, René Haijema, Assil Al-Ibrahim and

Jan van der Wal

OR and Simulation in Combination for Optimization

Section VII: Environment and Human Resources

Zoran Babić, Zdravka Aljinović and Ivana Tadić

Multicriteria Job Evaluation within the Centre of Lifelong Education

Samo Drobne, Miha Konjar and Anka Lisec
Delimitation of Functional Regions Using Labour Market Approach

Gregor Guna, Vincenc Butala and Marija Bogataj
Wood Fuel Supply Model – Costs, Energy Usage and CO₂ Emissions

Špela Pezdevšek Malovrh, Janez Krč and Lidija Zadnik Stirn
Applying A'WOT Method to Private Forest Management: Case Study on Chamber of Agriculture and Forestry of Slovenia

Aleksander Srđić and Jana Šelih
Application of Multi-attribute Decision Methods in Road Infrastructure Management

Jaka Žgajnar and Stane Kavčič
Linear and Weighted Goal Programming in Livestock Production: An Example of Organic Pig Farming

Section VIII: OR Perspectives

Borut Jereb
Risk Modeling and Simulations

Viljem Rupnik
Does a Saddle Point of Capital-Labor Negotiation under Neoliberal Globalisation Exist?

Section IX: Statistics

Mirjana Čižmešija and Vlasta Bahovec
Test of Independence between Variables in the Business Survey for the Services Sector – Some Empirical Evidence from Croatia

Ksenija Dumičić, Irena Čibarić and Anita Čeh Časni
Evaluating Trend Models in Forecasting Exports Time Series in Croatia

Elza Jurun and Snježana Pivac
Multiple Monte Carlo Simulations – Case Study of Croatian Counties

Alenka Kavkler, Darja Boršič and Jani Beko
Some Second Generation Panel Unit Root Tests for Investigating the Validity of Purchasing Power Parity

Nataša Kurnoga Živadinović and Petar Sorić
Multivariate Analysis of Entrepreneurial Productivity: Case of Croatia

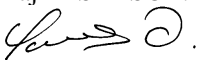
Zoran Mihanović, Josip Arnerić and Mario Pepur
Differences Testing between Clusters: Evidence from Market Orientation of Croatian Faculties


Jelena Minović, Miroslav Minović and Miloš Milovanović
Modeling Wealth Distribution for 100 Richest People in South-Eastern Europe

Dejan Paliska and Daša Fabjan
Modeling the Impact of Transit Service Unreliability on Demand

Mirjana Pejić Bach, Ksenija Dumičić and Zrinka Marušić
Application of Association Rules Method in Tourism Product Development

Snježana Pivac and Anita Udiljak
Average Weights of the Composite Price Indices

Tajnik SDI-SOR:

mag. Samo Drobne

Predsednica SDI-SOR:

prof. dr. Lidija Zadnik Stirn