

■ MA-01

Monday, 8:30-10:00

RB-Alfa

Keynote Lecture: Professor Ignacio Grossmann

Chair: *Vincent Mousseau*

- 1 - **Challenges in the Application of Mathematical Programming in the Enterprise-wide Optimization of Process Industries**

Ignacio Grossmann

■ MA-02

Monday, 8:30-10:00

RB-Beta

Scheduling Applications

Chair: *Malgorzata Sterna*

1 - Scheduling chains of divisible computations

Maciej Drozdowski, Joanna Berlinska

2 - Scheduling malleable tasks with arbitrary processing speed functions

Maciej Machowiak, Mikhail Y. Kovalyov, Jan Weglarz, Maksim Barketau

3 - Fast Truck-Packing of 3D boxes

Grzegorz Pawlak, Joanna Jozefowska, Erwin Pesch, Dawid Kowalski, Michal Morze

4 - Genetic Algorithm Supporting Supply Process in Charitable Organizations

Malgorzata Sterna, Mateusz Cichenski, Mateusz Jarus, Michal Miskiewicz, Jaroslaw Szymczak

■ MA-03

Monday, 8:30-10:00

RB-L1

Business Excellence in Logistics: Intelligent and Interactive Routing

Chair: *Martin Josef Geiger*

Chair: *Murat Koksalan*

1 - An Interactive Approach for Multi-objective Route Selection Problem

Diclehan Tezcaner, Murat Koksalan

2 - Delivery Scheduling Using Intelligence

Gulgun Kayakutlu, Gokcen Turkel

3 - A holistic optimization problem for aviation community noise

Daniel Zachary, Ulrich Leopold

■ MA-04

Monday, 8:30-10:00

RB-L2

Optimization of shared urban transportation systems

Chair: *Gonçalo Correia*

1 - Strategic design of public bicycle sharing systems with service level constraints

Jenn-rong Lin, Ta-hui Yang

2 - Testing the validity of the MIP approach for locating carsharing stations in one-way systems

Diana Rita Ramos Jorge, Gonçalo Correia, Cynthia Barnhart

3 - Assessing the profitability of carsharing fleet distributions based on usage patterns

Mathias Goepfel

4 - A shared-taxi agent based model. Testing several market configurations for the Lisbon municipality

Gonçalo Correia, Luis Martinez, José Viegas

■ MA-05

Monday, 8:30-10:00

RB-L3

Maritime fleet size and mix

Chair: *Trond A. V. Johnsen*

1 - Containership speed and fleet size optimisation with semi-elastic demand: an application to northern europe-south america trade

Ali Cheaitou, Pierre Cariou

2 - On solving the feeder containership network design problem via meta-heuristic approaches

Olcay Polat, Hans-Otto Guenther, Osman Kulak

3 - Fleet size and mix in liner shipping

Trond A. V. Johnsen, Lars Magne Nonås, Kjetil Fagerholt, Bjørn Egil Asbjørnslett

■ MA-06

Monday, 8:30-10:00

RB-Gamma

Matheuristics in Transportation

Chair: *Fabien Tricoire*

- 1 - **Fresh bovine skin transportation from slaughters to tannery with special time windows and capacity constraints**

Giorgio Romanin-Jacur, Carlo Filippi

- 2 - **Freight train composition with minimum shunting operations**

Uwe T. Zimmermann, Ronny Hansmann

- 3 - **Hybrid heuristics for solving a maritime short sea inventory routing problem**

Alexandrino Delgado, Agostinho Agra, Marielle Christiansen, Luidi Simonetti

■ MA-07

Monday, 8:30-10:00

RB-Eta

Novel and emerging VRPs

Chair: *Jorge E. Mendoza*

- 1 - **A Multiple Plan Approach for the Dynamic Technician Routing and Scheduling Problem**
Victor Pillac, Christelle Gueret, Andres Medaglia
- 2 - **Capacitated Vehicle Routing Problem with Loading Constraints: A Case in the UK**
Nasrin Asgari, Xiang Song, Dylan Jones, Tim Pigden
- 3 - **The Minimum Duration Truck Driver Scheduling Problem**
Asvin Goel
- 4 - **A GRASP with heuristic concentration for the vehicle routing problem with stochastic demands**
Jorge E. Mendoza, Juan G. Villegas

■ MA-08

Monday, 8:30-10:00

RB-Epsilon

Network Optimization 1

Chair: *Ana Bautzer*

1 - Recent Developments in the Ring Spur Assignment Problem

Paula Carroll, Bernard Fortz, Martine Labbé, Seán McGarraghy

2 - ILP Models for the PON Access Network Design Problem

Maria João Lopes, Luis Gouveia, Amaro de Sousa

3 - Robust optimization of optical fiber access networks deployments

Cédric Hervet, Marie-Christine Costa, Faye Alain, Matthieu Chardy, Stanislas Francfort

4 - Models for a Steiner multi-ring network design problem with revenues

Ana Bautzer, Luis Gouveia, Ana Paias, José Pires

■ MA-09

Monday, 8:30-10:00

RB-Zeta

Cutting and Packing 1

Chair: *A. Miguel Gomes*

1 - Heuristics for the three-dimensional loading capacitated vehicle routing problem

Leonardo Junqueira, Reinaldo Morabito

2 - A heuristic for the vehicle routing problem with backhauls and three-dimensional loading constraints

Andreas Bortfeldt, Lars Moench

3 - Inter-depot transportation planning involving palletisation and truck loading.

Maria Teresa Alonso Martínez, Ramon Alvarez-Valdes, Joaquim Gromicho, Francisco Parreno, Gerhard F. Post, Jose Tamarit

4 - A study on multiobjective rectilinear packing problems

A. Miguel Gomes, Marisa Oliveira, M^a Eduarda Pinto Ferreira

■ MA-10

Monday, 8:30-10:00

RB-Theta

Applications

Chair: *Hicham Chehade*

Chair: *Lionel Amodeo*

- 1 - **Determining means of serial processors and parameters of lot rectifying inspection plan**
Ashraf El-Ga'aly, Shokri Selim
- 2 - **High speed methods for volume computation and applications to robust optimization in Supply Chain Management**
Rahul Paul, G. N. Srinivasa Prasanna, Kundan Kumar, Subhrajit Debnath
- 3 - **Optimal replenishment policy for deteriorating items with time dependent demand**
Shivraj Singh
- 4 - **Optimization of the processing times of cyclically repeated intersecting operation sets**
Boris Rozin, Genrikh Levin

■ MA-11

Monday, 8:30-10:00

RB-Iota

Incursion of foreign transportation resources

Chair: *Jörn Schönberger*

1 - Heuristic Strategies for Bundle Bidding in Transport Auctions

Tobias Buer, Herbert Kopfer

2 - Benefits of a heterogeneous fleet — the ecological perspective

Herbert Kopfer, Heiko Kopfer, Jörn Schönberger

3 - Collaborative Transportation Operations Planning in a Real-world Scenario - Handling of Backhauls

Andrea Nagel, Giselher Pankratz, Hermann Gehring

4 - Enrichment of Mobile Freight Auctions with Location Sensitivity: Systemic Design Considerations

Dimitrios Emiris, Charis Marentakis

■ MA-12

Monday, 8:30-10:00

RB-Omicron

Fuzzy Goal Programming and Optimization Methods

Chair: *Mariano Jimenez-Lopez*

1 - Soft computing applied to portfolio selection with uncertain data

Carlos Cruz Corona, Ricardo Coelho Silva, Josè L. Verdegay

2 - Fuzzy goal programming for material requirement planning under uncertainty and integrity conditions

Josefa Mula, Manuel Díaz-Madroño, Mariano Jimenez-Lopez

Paper moved from session MB-12

3 - A Novel Approach for Multiobjective Programming Problems with fuzzy objective functions

Monga K Luhandjula

Paper moved to session MB-12

Simulation of Stochastic Linear Queuing Systems

Richard Cimler, Martin Gavalec

5 - Sequential Goal Programming with Fuzzy Hierarchy: Application to Sustainable Investments

Mariano Jimenez-Lopez, Amelia Bilbao-Terol, Mar Arenas-Parra, Verónica Cañal

■ MA-13

Monday, 8:30-10:00

RB-Tau

Lot-sizing and Related Topics 1

Chair: *Bernardo Almada-Lobo*

- 1 - **Integrated scheduling of continuous casters and hot strip mills in the steel industry: a block planning approach**
Pedro Amorim, Imke Mattik, Hans-Otto Guenther
- 2 - **Lot sizing and scheduling of chemical commodity products: An evolutionary block planning application**
Andreas Schöpperl, Hans-Otto Guenther
- 3 - **Combining column generation and metaheuristics for solving a parallel machine scheduling problem with job splitting**
Carina Pimentel, Filipe Alvelos, Diogo Alves
- 4 - **Neighbourhood-based hybrid algorithm for pulp and paper production planning**
Gonçalo Figueira, Maristela Santos, Bernardo Almada-Lobo

■ MA-14

Monday, 8:30-10:00

RB-Omega

Scheduling

Chair: *Wieslaw Kubiak*

- 1 - **Product Rate Variation problem on parallel machines and divisor methods of apportionment**
Joanna Jozefowska
- 2 - **An Efficient Algorithm for Finding Ideal Schedules**
Dariusz Dereniowski, Ed Coffman, Wieslaw Kubiak
- 3 - **Coordinating Subcontractor Scheduling with Divisible Jobs and Private Information**
Behzad Hezarkhani, Wieslaw Kubiak
- 4 - **Time auction as a tool for solving multiagent scheduling problems**
Piotr Modliński

■ MA-15 has moved to TD-19

■ MA-16

Monday, 8:30-10:00

RB-2103

Advances in Nonsmooth Optimization

Chair: Adilson Elias Xavier

- 1 - **A Simple Resilient Backpropagation Algorithm for Non-Smooth Optimization Problems**
Apostolos Kotsialos
- 2 - **Solving the Continuous Multiple Allocation p-Hub Median Problem by the Hyperbolic Smoothing Approach: Computational Results**
Adilson Elias Xavier, Claudio Gesteira
- 3 - **Solving the Minimum Sum of L1 Distances Clustering Problem by Hyperbolic Smoothing and Partition into Boundary and Gravitational Regions**
Sergio B. Villas-Boas, Vinicius Layter Xavier
- 4 - **Solving the Fermat-Weber Problem with the Hyperbolic Smoothing Method**
Vinicius Layter Xavier, Felipe França, Adilson Elias Xavier, Priscila Lima

■ MA-17

Monday, 8:30-10:00

RB-2105

Location and Supply Chain Management

Chair: *Teresa Melo*

1 - On the Feasibility of Establishing a Northern Western Australian Beef Abattoir as a Facility Location Problem

Rodolfo Garcia-Flores, Andrew Higgins, Andreas Ernst

2 - Design of a pooled distribution network: a case study

Olivier Péton, Fabien Lehuédé, Christian Leroux, Xavier Perraudin

3 - Comparing classical performance measures for a multi-period logistics network design problem

Teresa Melo, Isabel Correia, Francisco Saldanha-da-Gama

■ MA-18

Monday, 8:30-10:00

RB-2107

Financial Crisis Modelling

Chair: *Blanka ?krabi? Peri?*

- 1 - **Spanish savings banks in the credit crunch: could distress have been predicted before the crisis? A multivariate statistical analysis**
Martí Sagarra, Cecilio Mar-molinero
- 2 - **On the transition of Japanese corporate rating structure under the recent credit crises**
Motohiro Hagiwara, Yasuhiro Matsushita, Katsuaki Tanaka
- 3 - **Using assignment problem in financial products' design**
Maria Mavri, Michail Bekiaris
- 4 - **Recent crisis, credit boom and nonperforming loans in CEE countries-panel data evidence**
Blanka ?krabi? Peri?, Josip Arneric

■ MA-19

Monday, 8:30-10:00

RB-2111

Risk management in commodities markets

Chair: *Massimo Panella*

Chair: *Rita Decclesia*

Chair: *Bogdan Iftimie*

1 - Energy commodities:price relationships the key issue

Rita Decclesia

2 - A Mixed Integer Linear Programming Approach to Markov Chain Bootstrapping

Roy Cerqueti, Paolo Falbo, Cristian Pelizzari, Federica Ricca, Andrea Scozzari

3 - Financial Optimization Modeling in R

Ronald Hochreiter

■ MA-20

Monday, 8:30-10:00

RB-2113

Financial Time Series Analysis and Forecasting

Chair: *Marcus Hildmann*

1 - Carbon Price Sensitivity and Sectoral Analysis

Omer Kayhan Seyhun

2 - Online Financial Data Streams Value at Risk Segmentation Methods

Dima Alberg

3 - Modeling the market decision problems for electrical energy balancing systems

Mariusz Kaleta

■ MA-21

Monday, 8:30-10:00

RB-2115

Financial Mathematics and OR 1

Chair: *Tansel Avkar*

Chair: *Gerhard-Wilhelm Weber*

1 - Different approaches for evaluating a Portfolio of R&D Projects

Anabela Costa, José Paixão

2 - Time series forecasting and optimal stopping problem in market index portfolio

Lukas Pichl

3 - Portfolio Optimization with Hybrid Uncertainty

Alexander Yazenin

4 - Multicriteria decision making in comparison of objective and subjective criteria of companies' success

Branka Marasovic, Ivana Tadic

■ MA-22

Monday, 8:30-10:00

RB-2117

Soft Computing and SCM Applications

Chair: *Kaj-Mikael Bjork*

1 - A tabu search vehicle routing problem

Kaj-Mikael Bjork

2 - A Multi-item Fuzzy Economic Production Quantity Problem with Backorders and Limited Storage Space

Magnus Westerlund, Kaj-Mikael Bjork, József Mezei

3 - Systems of (max, min)-linear equations and inequalities

Martin Gavalec, Karel Zimmermann

4 - Measuring transitivity of fuzzy pairwise comparison matrix in DM problems

Jaroslav Ramik, Petr Korviny

■ MA-23

Monday, 8:30-10:00

RB-Delta

Generalized Differentiation

Chair: *Alexander Kruger*

Chair: *Gerhard-Wilhelm Weber*

1 - On Weak Subdifferentials and Exhausters

Mustafa Soyertem, Mahide Kucuk, Ryszard Urbanski, Jerzy Grzybowski, Yalcin Kucuk, Ilknur Atasever, Didem Tozkan

2 - Exhausters, Weak Subdifferentials and Optimality Conditions

Didem Tozkan, Mahide Kucuk, Ryszard Urbanski, Jerzy Grzybowski, Yalcin Kucuk, Ilknur Atasever, Mustafa Soyertem

3 - Relationships between gw-subdifferentials and radial epiderivatives for nonconvex vector functions

Ilknur Atasever, Yalcin Kucuk, Mahide Kucuk

4 - Minkowski-Radstrom-Hormander cone and reducing infinite exhausters

Jerzy Grzybowski, Ryszard Urbanski, Mahide Kucuk, Yalcin Kucuk, Ilknur Atasever, Mustafa Soyertem, Didem Tozkan

■ MA-24

Monday, 8:30-10:00

CC-A11

Cooperation and Logistics

Chair: *Ignacio García-Jurado*

- 1 - **A polynomial expression for the Owen value in the maintenance cost game**
Julian Costa
- 2 - **Minimum cost Steiner tree problems**
Silvia Lorenzo-Freire, Gustavo Bergantinos, Leticia Lorenzo, Juan Vidal-Puga
- 3 - **Scheduling jobs with a common due date via combinatorial games**
Irinel Dragan
- 4 - **On graphs which can or cannot induce Chinese Postman games with a non-empty core**
Daniel Granot

■ MA-25

Monday, 8:30-10:00

CC-A23

Energy Distribution: Planning and Optimization

Chair: *Carmen Anido*

1 - Unit Commitment optimisation through matheuristics

Ana Viana, Dewan Fayzur Rahman, Joao Pedro Pedrosa

2 - Optimising Distributed Energy Operations in Buildings

Afzal Siddiqui, Markus Groissböck, Somayeh Heydari, Ana Mera Vazquez, Eugenio Perea Olabarria, Michael Stadler

3 - Compatibility of optimized distributed storage profiles for grid operators and energy traders

Stefan Nykamp

Paper added to session

4 - A hybrid genetic algorithm for the optimal allocation of remote controlled switches in radial distribution system

Laura Assis, Fábio Usberti, Christiano Lyra, Fernando J. Von Zuben, José Federico Vizcaino

Regulatory agencies define target reliability indices to increase the quality of electrical power supply. These indices can be improved with the solution of specific combinatorial optimization problem. This work tackles the problem of finding the best number, location and type of switches to be installed in a radial power distribution network. The objective is to improve system reliability, while minimizing the total cost of the solution. An effective hybrid genetic algorithm that evaluates and optimizes the allocation of remote controlled sectionalizers and tie switches is proposed.

■ MA-26

Monday, 8:30-10:00

CC-A24

OR Applications in Oil and Gas

Chair: *Krystsina Bakhrankova*

- 1 - **Stochastic MIP modeling of a natural gas-powered industrial park**
Gerardo Perez Valdes, Kjetil Midthun, Michal Kaut, Vibeke Nørstebø
- 2 - **Strategic behaviour in the crude oil market - one-stage vs. two-stage oligopoly models**
Daniel Huppmann, Clemens Haftendorn
- 3 - **Stochastic mixed integer programming for integrated portfolio planning in the LNG supply chain**
Kristin Tolstad Uggen, Adrian Werner, Marte Fodstad, Arnt-Gunnar Lium
- 4 - **Modeling gas infrastructure investments under uncertainty**
Ozge Ozdemir, Jeroen de Joode

■ MA-27

Monday, 8:30-10:00

CC-A25

Empirical Research on Decision Processes - Methods & Findings

Chair: *Gilberto Montibeller*

- 1 - **Exploring IT project managers' decision making processes in-situ, in-actu, in-toto: an empirical study of day-to-day decision making in medium size software development**
Ana Barcus
- 2 - **The impact of need for closure on model-supported group conflict management**
Etienne Rouwette, L. Alberto Franco
- 3 - **Post-catastrophe decision making**
Ian Durbach, Gilberto Montibeller

■ MA-28

Monday, 8:30-10:00

CC-A27

OR in Quality Management 1

Chair: *Ipek Deveci Kocakoç*

1 - Dealing with multiple quality characteristics as responses in prediction modeling: An aggregation approach

Leman Esra Dolgun, Gulser Koksal, Nimetullah Burnak

2 - A supervised learning procedure for monitoring mean and covariance simultaneously

Ipek Deveci Kocakoç, Eralp Dogu

3 - Optimization on selection problem of solder paste inspection machines

Gokce Baysal, Ipek Deveci Kocakoç

4 - An adaptive Bayesian scheme for joint monitoring of process mean and variance

George Nenes, Sofia Panagiotidou

■ MA-29

Monday, 8:30-10:00

CC-A29

Mixed-Integer Quadratic Problems

Chair: *Adam Letchford*

- 1 - **A New Separation Algorithm for the Boolean Quadric and Cut Polytopes**
Michael Sørensen, Adam Letchford
- 2 - **Cutting Planes from a Convex Quadratic Relaxation of the Stable Set Problem**
Fabrizio Rossi, Monia Giandomenico, Adam Letchford, Stefano Smriglio
- 3 - **Nonstandard Semidefinite Bounds For Solving Exactly 0-1 Quadratic Problems**
Frederic Roupin, Nathan Krislock, Jerome Malick
- 4 - **On the Gap Inequalities for the Max-Cut Problem**
Adam Letchford, Laura Galli, Konstantinos Kaparis

■ MA-30

Monday, 8:30-10:00

CC-A31

Fat Tail Models in Finance

Chair: *Audrius Kabasinskas*

- 1 - **Application of estimates of alpha-stable distribution to distress forecast**
Audrius Kabasinskas, Zivile Kalsyte
- 2 - **Hurst coefficient and alpha-stable parameter for analysis of financial series**
Roman Rodriguez Aguilar
- 3 - **Xpress-Mosel: Modelling support for distributed, remote, and cloud computing with applications in Finance**
Susanne Heipcke, Oliver Bastert, Yves Colombani
- 4 - **High-Frequency Financial Data: A Mixed-Stable approach**
Audrius Kabasinskas, Igoris Belovas, Leonidas Sakalauskas

■ MA-31

Monday, 8:30-10:00

CC-A33

Game Theory and Social Networks 1

Chair: *Juan Tejada*

1 - Analysis of Network Formation with Learning Dynamics

Michiharu Masui

2 - Centrality in Weighted Social Networks. A Game Theoretic Approach.

Conrado M. Manuel, Enrique González-Arangüena

3 - Clustering networks by a new edge betweenness measure: A cooperative game theoretical approach

Daniel Gomez Gonzalez, Javier Castro

4 - Computing centralities and the Myerson value in large social networks

Juan Tejada, Javier Castro, Daniel Gomez Gonzalez, Elisenda Molina

■ MA-32

Monday, 8:30-10:00

CC-A34

Combining Methods & Multimethodology

Chair: *Alberto Paucar-Caceres*

1 - Combining hard-soft OR for generative design thinking

Polyxeni Vassilakopoulou, Vassilis Tsagkas, Nicolas Marmaras

2 - Contrasting the 'expected' versus 'realized' benefits of multi-methodology

Felipe Henao, L. Alberto Franco

3 - Applying Soft Systems Methodology and Systems Dynamics to Environmental Management: A boundary critique framework

Alberto Paucar-Caceres, Diane Hart, Ricardo Rodriguez-Ulloa

4 - Structuring Community Issues - working with community members to identify and (re)structure local problematic issues

Rebecca Herron

■ MA-33

Monday, 8:30-10:00

CC-A37

OR for Business and Industrial Development

Chair: *Honora Smith*

Chair: *Tatjana Staube*

1 - Mining Industrial Transformations and Resource Re-Allocation Using a New MCDM Model – Case of Taiwan and Poland

Mei-Chen Lo, Gwo-Hshiung Tzeng, Tian-Jong Hwu, Jerzy Michnik, Tadeusz Trzaskalik, Maciej Nowak

2 - Using DEA to Inform an Integrated Response to Policy Change: The Case of the South African Private Hospital Industry

Shivani Ramjee

3 - Determining the Position of E7 Countries among Developing Countries by Kohonen Networks

Hüseyin Tatlidil, Nurbanu Bursa

4 - Does Latvia use its advantageous location?

Tatjana Staube, Ineta Geipele

■ MA-34

Monday, 8:30-10:00

CC-A39

Game Solutions

Chair: *Encarnación Algaba*

1 - Equilibria in Load Balancing Games

Bo Chen

2 - Dealing with time issues in testing revealed preference axioms

Fabrice Talla Nobibon, Yves Crama, Frits Spieksma

3 - Equilibrium, coalitive and computational aspects of Pareto-Nash-Stackelberg Games

Valeriu Ungureanu

4 - Harsanyi power solutions for union stable systems

Encarnación Algaba, Jesus-Mario Bilbao, Rene van den Brink

■ MA-35

Monday, 8:30-10:00

CC-A41

OR Industry; OR Software

Chair: *Belarmino Adenso-Diaz*

1 - High-performance local search for TV media planning on TF1

Frédéric Gardi

2 - Cost optimization in planning the dubbing of a film

M^a Luisa Carpena, Ana Cerdeira-Pena, Silvia Lorenzo-Freire

3 - Multistage Multiproduct Advertising Budgeting

Cesar Beltran-Royo, Huizhen Zhang, Luis Blanco, Jose Almagro

■ MA-36

Monday, 8:30-10:00

CC-A43

DEA and Performance Measurement: Metodology 1

Chair: *Timo Kuosmanen*

1 - Aggregation in cross-efficiency evaluations with induced ordered weighted averaging (IOWA) operators

Inmaculada Sirvent, Teresa Leon, Nuria Ramón, José L. Ruiz

2 - Performance Measurement Tools for HR Management related Processes based on System Identity Analysis

Jitka Civinova

3 - One-stage and two-stage DEA estimation of the effects of contextual variables

Timo Kuosmanen, Andrew Johnson

4 - Estimation Efficiency of Teachers through Data Envelopment Analysis

Venkata Hrd

■ MA-37

Monday, 8:30-10:00

CC-Act

Bioinformatics I

Chair: *Jacek Blazewicz*

Chair: *Metin Turkey*

1 - A data mining case study on brain cancer patients

Fadime Uney-Yuksektepe

2 - Markov models of voltage gating of gap junction channels

Henrikas Pranevicius, Feliksas Bukauskas, Mindaugas Pranevicius, Osvaldas Pranevicius, Saulius Vaiceliunas

3 - Inferring two-generation kinship (or genealogy) from microsatellite samples

Tanya Berger-Wolf, Daehan Won, Chun An Chou, W. Art Chaovalitwongse, Bhaskar Dasgupta, Ashfaq Khokhar, Mary V. Ashley

■ MA-38

Monday, 8:30-10:00

HH-Colombus

Integer Linear and Linear Multiobjective Optimization

Chair: *Walter Habenicht*

- 1 - **Enumerative Cuts in Integer Linear Vector Optimization**
Walter Habenicht
- 2 - **Graphical exploration of the weight space in multiobjective integer linear programming**
Maria João Alves, João Paulo Costa
- 3 - **A multicriteria linear programming model for measuring efficiency in productive processes**
David Alcaide Lopez de Pablo, Rafaela Dios-Palomares, Angel M. Prieto
- 4 - **Factoraggregation and its application for solving bilevel linear programming problems.**
Pavels Orlovs, Olga Montvida

■ MA-39

Monday, 8:30-10:00

HH-Cousteau

MADM Applications I

Chair: *Chin-Tsai Lin*

Chair: *Chie-bein Chen*

- 1 - **A storage location assignment problem for a pick-and-pass warehousing system with multiple pickers and congestion considerations**

Jason Chao-Hsien Pan, MingHung Wu

- 2 - **The Effects of Individualism/Collectivism Orientations**

Kuochung Chang

- 3 - **An EOQ Model with Defective Items and Imperfect Inspection Process**

Chia-Huei Ho, Liang-yuh Ouyang, Chia-hsien Su

- 4 - **Market Effectiveness and Reinstatement of Top Managers**

Chin-Tsai Lin, Yi-Hsien Wang, Jung-Ho Lu, Hwa-Rong Shen, Yang-Sheng Wang

■ MA-40

Monday, 8:30-10:00

HH-Livingstone

MADM Applications V

Chair: *Chin-Tsai Lin*

Chair: *Chie-bein Chen*

- 1 - **The study on the festival event experience benefit structure relationship model — a case of Kaohsiung Zuoying Wannian Folklore Festival**
Tang-Chung Kan, Hung-ju Chien, Vivien Y.C. Chen
- 2 - **Dealer selection for an automotive company using ELECTRE I and TOPSIS methodologies**
Elif Maç, Zerrin Aladag
- 3 - **An empirical analysis between Japanese Government and NPOs in the New Period**
Kuo Tzu-hsuan, Vivien Y.C. Chen, Tang-Chung Kan
- 4 - **A multi-objective strategy for Pareto set refinement**
Adriano Lisboa, Fellipe Santos, Douglas Vieira, Rodney Saldanha, Marcus Lobato

■ MA-41

Monday, 8:30-10:00

HH-Heyerdahl

Evolutionary Multiobjective Optimization

Chair: *Juergen Branke*

Chair: *Arnaud Liefoghe*

1 - Preference-based Evolutionary Algorithm for Many Objective Optimization Problems

Ankur Sinha, Kalyanmoy Deb, Pekka Korhonen, Jyrki Wallenius

2 - Automatic Design of Multi-Objective Optimizaton Metaheuristics

Manuel López-Ibáñez, Thomas Stützle

3 - Anytime Local-Search Algorithms for Multi-Objective Optimization

Jérémie Dubois-Lacoste, Manuel López-Ibáñez, Thomas Stützle

4 - Multi-objective combinatorial benchmark problems and search space structure

Arnaud Liefoghe

■ MA-42

Monday, 8:30-10:00

BW-Amber

Simulation 1

Chair: *Michael Manitz*

- 1 - **A research of computer network systems' productivity and efficiency with simulation modeling**
Sultan Ceren Salk?n
- 2 - **The impact of a waiting-time threshold in overflow systems with impatient customers**
Michael Manitz, Raik Stolletz
- 3 - **Value analysis of healthcare asset tracking systems using simulation**
Ece Arzu Demircan, Nilgun Fescioglu-Unver

■ MA-43

Monday, 8:30-10:00

BW-Granite

Multistage Stochastic Programming

Chair: *Alois Pichler*

- 1 - **Ambiguity in multistage stochastic programming and worst case trees**
Georg Pflug
- 2 - **Measures of information in multistage stochastic programming**
Marida Bertocchi, Francesca Maggioni, Elisabetta Allevi
- 3 - **Stochastic programming formulations of coherent multiperiod risk measurement**
Martin Denzinger
- 4 - **Decomposition of Risk Measures**
Alois Pichler

■ MA-44

Monday, 8:30-10:00

BW-Marble

Airline Revenue Management

Chair: *Tatsiana Levina*

Chair: *Yuri Levin*

1 - Uncertainty in air cargo revenue management

Emily Cookson, Kevin Glazebrook, Joern Meissner

2 - Airline product design based on consumer preference for ticketing restrictions

Dong Myong Lee, Do Hee Han, Meghana Dhungana

3 - A continuous-time dynamic pricing model knowing the competitor's pricing strategy

Kimitoshi Sato, Katsushige Sawaki

4 - Dynamic pricing of flight passes

Yuri Levin, Mikhail Nediak, Huseyin Topaloglu

■ MA-45

Monday, 8:30-10:00

BW-Water

Advertising decisions in the supply chain

Chair: *Salma Karray*

1 - Bilateral Cooperative Advertising

Marcus Kunter

2 - Cooperative Advertising in a Dynamic Retail Market Duopoly

Suresh Sethi, Anshuman Chutani

3 - Optimal Sequence of play for channels with cooperative advertising programs

Salma Karray

■ MB-01

Monday, 10:30-12h00

RB-Alfa

IFORS Invited Tutorial: Professor Erhan Erkut

Chair: *Elena Fernandez*

1 - How to Make OR the Most Liked Course in the Curriculum?

Erhan Erkut

■ MB-02

Monday, 10:30-12h00

RB-Beta

New scheduling models and algorithms

Chair: *Dirk Briskorn*

1 - A tactical approach to skill management

Murat Firat, Cor Hurkens, Alexandre Laugier

2 - Integrated planning of jobs and maintenance activities on a single machine

Dirk Briskorn, Stefan Bock, Andrei Horbach

3 - A labeling algorithm for scheduling deliveries with e-vehicles

Sleman Saliba, Sven Krumke, André Chassein

4 - Hybrid method for minimizing earliness and tardiness penalties in a single-machine problem with a common due date

Christophe Wilbaut, Saïd Hanafi, Rachid Benmansour, Mustapha Ratli, Rita Macedo

■ MB-03

Monday, 10:30-12h00

RB-L1

Business Excellence in Logistics: Future Transport and Production

Chair: *Martin Josef Geiger*

1 - A Scheduling heuristic for surface treatment process of steel coils and its application

Ozlem Uzun Araz, Ozgur Eski, Ceyhun Araz, Levent Bayoglu

2 - Future Transport Demand Analysis for Turkey

Fusun Ulengin, Sule Onsel, Burc Ulengin, Ozay Ozaydin, Özgür Kabak

3 - Multi-criteria analysis of transport policy targets with the help of telematic services

Gideon Mbiydzennyuy

4 - Measuring Cost Effects of Supply Chain Stockouts: An Interactive Approach with Fast Cost Function Convergence

Sebastian Langton, Martin Josef Geiger

■ MB-04

Monday, 10:30-12h00

RB-L2

Public Transport Perspectives within a Changing Mobility Environment

Chair: *Claus Doll*

- 1 - **USEmobility: Why do people switch to environmentally friendly modes of transport?**

Jolanta Skalska

- 2 - **Social Costs and Benefits of Sustainable and Healthy Mobility Patterns**

Claus Doll

■ MB-05

Monday, 10:30-12h00

RB-L3

Maritime Transportation 1

Chair: *Harilaos Psaraftis*

- 1 - **An Integrated Model for Ship Routing with Transshipment and Berth Allocation**
Jiyin Liu, King-Wah Pang
- 2 - **Stochastic Optimal Positioning of Tramp Vessels: A Markovian Approach**
Evangelos Magirou
- 3 - **A taxonomy and survey of speed models in maritime transport**
Harilaos Psaraftis
- 4 - **Maritime transport as an important link in the global supply chain**
Algirdas ?akalys

■ MB-06

Monday, 10:30-12h00

RB-Gamma

Design and parameter tuning of metaheuristics

Chair: *Mike Wright*

- 1 - **Scheduling cricket umpires using neighbourhood search — The dramatic impact of a simple change in neighbourhood definition**
Mike Wright
- 2 - **Online Parameter Tuning: Another Aspect of Learning for Metaheuristics**
Arif Arin, Ghaith Rabadi
- 3 - **Probabilistic stopping rules for GRASP heuristics**
Celso Ribeiro, Isabel Rosseti, Reinaldo Souza
- 4 - **A solution clustering based guidance mechanism for parallel metaheuristic algorithm**
Jianyong Jin, Arne Løkketangen, Teodor Gabriel Crainic

■ MB-07

Monday, 10:30-12h00

RB-Eta

Neighborhood reduction strategies for vehicle routing

Chair: *Wout Dullaert*

1 - A Simple Parameter-free Heuristic for the Fleet Size and Mix Problem with Time Windows

Olli Bräysy, Wout Dullaert

2 - Efficient local search methods for the large-scale Vehicle Routing Problem.

Onne Beek, Birger Raa, Wout Dullaert

3 - Incorporating constraint preservation in GA operators for VRPTW problem

Gintaras Vaira, Olga Kurasova

■ MB-08

Monday, 10:30-12h00

RB-Epsilon

Network Optimization 2

Chair: *Dimitri Papadimitriou*

1 - Single Source Tree Network Design Under Convex Costs

Henrique Luna, Gilberto Miranda, Ricardo Camargo

2 - SearchCol algorithms for unsplittable multicommodity flow problems

Filipe Alvelos, Amaro de Sousa, Dorabella Santos

3 - Ultra-fast meta-heuristic for the spectrum re-allocation problem in flexgrid optical networks

Marc Ruiz, Alberto Castro, Luis Velasco, Jaume Comellas

4 - Exploiting geometry of large-scale topologies for routing operations

Dimitri Papadimitriou

■ MB-09

Monday, 10:30-12h00

RB-Zeta

Cutting and Packing 2

Chair: *Maria Antónia Carravilla*

1 - A hybrid metaheuristic for the nesting problem

José Fernando Oliveira, Ramon Alvarez-Valdes, Antonio Martinez Sykora, Maria Antónia Carravilla, A. Miguel Gomes, Jose Tamarit

2 - Optimisation Containment Problem of Arbitrary Shaped Objects into a Circular Container

Alexander Pankratov, Yuri Stoyan, Tatiana Romanova

3 - Tetris-like Item Packing with Balancing and Additional Conditions: an MIP-based Heuristic Approach

Giorgio Fasano

4 - The Dotted-Board Model, a promising MIP model for the Nesting Problem

Maria Antónia Carravilla, Franklina Toledo, Cristina Ribeiro, José Fernando Oliveira, A. Miguel Gomes

■ MB-10

Monday, 10:30-12h00

RB-Theta

Performance Analysis and Inventory

Chair: *Frédéric Dugardin*

Chair: *Christophe Duhamel*

Chair: *Olga Nazarenko*

1 - Performance evaluation of a merge system: A distribution centre with multiple random suppliers

Michael Vidalis, Stelios Koukoumialos

2 - Does greater company size lead to better performance? Evidence from Greek food supply chain

Emel Aktas, Michael Bourlakis, George Maglaras, Christos Fotopoulos

3 - Inventory management optimisation in multi-echelon enterprise

Olga Nazarenko, Yuriy Pasenchenko

■ MB-11

Monday, 10:30-12h00

RB-Iota

Transport Modelling

Chair: *Jaume Barcelo*

- 1 - **Logit models incorporating driving styles variables for representing gap-acceptance behavior**
Riccardo Rossi, Massimiliano Gastaldi, Claudio Meneguzzer
- 2 - **An integrated fleet assignment model with supply-demand interactions**
Bilge Atasoy, Michel Bierlaire, Matteo Salani
- 3 - **Ship route modelling for traffic pattern analysis**
Ronald Pelot, Dong Lin, Casey Hilliard
- 4 - **The sensor location problem**
Jaume Barceló

■ MB-12

Monday, 10:30-12h00

RB-Omicron

Fuzzy Relations & Neural Networks

Chair: *Martin Gavalec*

1 - Eigenproblem of Circulant and Toeplitz matrices in extremal algebra

Hana Tomaskova, Martin Gavalec

2 - Learning Effect Approach for Scheduling Problem with Fuzzy Processing Time and Fuzzy Due Date

Merve Kayaci Çodur, Vecihi Yigit

3 - Mean-Partial moments models for portfolio selection with fuzzy returns

Mbairadjim Moussa Alfred, Sadefo Kamdem Jules, Terraza Michel

Paper moved to session MA-12

A Novel Approach for Multiobjective Programming Problems with fuzzy objective functions

Monga K Luhandjula

Paper moved from session MA-12

5 - Simulation of Stochastic Linear Queuing Systems

Richard Cimler, Martin Gavalec

■ MB-13

Monday, 10:30-12h00

RB-Tau

Lot-sizing and Related Topics 2

Chair: *Christian Almeder*

- 1 - **The impact of major factors in food processing industry on the capacitated lot-sizing and scheduling problem**
G.D.H. (Frits) Claassen, J.c. Gerdessen, M.t. Patek
- 2 - **A multicommodity lotscheduling model for the soft drink production process**
Socorro Rangel, Michelli Maldonado
- 3 - **Modeling the multi-level lot-sizing and scheduling problem - a comparison**
Renate Traxler, Christian Almeder

■ MB-14

Monday, 10:30-12h00

RB-Omega

Discrete-continuous scheduling

Chair: *Jan Weglarz*

- 1 - **Metaheuristics for discrete-continuous project scheduling with discounted cash flows and various payment models**
Grzegorz Waligora
- 2 - **Metaheuristic approaches for power-aware scheduling problem**
Rafal Rozycki
- 3 - **Multimode resource-constrained project scheduling problem with setup costs**
Marek Mika
- 4 - **Optimal resource allocation in virtual datacenters — a multidimensional continuous bin packing approach**
Holger Schrödl

■ MB-15

Monday, 10:30-12h00

RB-2101

Nonlinear Optimization and Applications 1

Chair: *Simone Göttlich*

1 - Range Approximation of Multivariate Polynomials for Global Optimization

Martin Stöcker

2 - Linear least squares with different types of constraints: effectiveness of methods.

Arnaud Vandaele

3 - Optimization Techniques: Combinatorial Optimization and Adjoint Calculus

Simone Göttlich

4 - An improved approach to subset selection for parameter estimation in on-line applications

Diana López, Tilman Barz, Harvey Arellano-Garcia, Günter Wozny

■ MB-16

Monday, 10:30-12h00

RB-2103

Hybrid Algorithms & Nonsmooth Optimization

Chair: *Angel A. Juan*

Chair: *Albert Ferrer*

1 - Successive Approximations of the SimuRoute Procedure to solve the Heterogeneous Vehicle Routing Problem

Javier Faulin, Angel, A. Juan, Alba Agustín, Miguel Angel Llorente

2 - Solving non-smooth problems through biased randomization of heuristics

Angel A. Juan, Albert Ferrer, Javier Faulin, Helena Ramalhinho Lourenço

3 - A Randomized Algorithm for the Heterogeneous Fixed Fleet Vehicle Routing Problem

Jose Caceres Cruz, Angel, A. Juan, Daniel Riera, Helena Ramalhinho Lourenço

4 - Solving a real application of the Time-Constraint Capacitated Open Vehicle Routing Problem

Helena Ramalhinho Lourenço, Luciana Pessoa, Alex Grasas, Angel A. Juan, Mauricio Resende

■ MB-17

Monday, 10:30-12h00

RB-2105

Location and GIS

Chair: *Burcin Bozkaya*

1 - A fast spatial query algorithm for location analysis

Honora Smith

2 - Location Survey and GIS (Geographic Information System) for Shopping Centers Across the Country (Turkey)

Ceren Erdin Gundogdu

3 - Locating Temporary Shelter Areas After a Large-Scale Disaster

Burcin Bozkaya, Firat Kilci, Bahar Yetis Kara

■ MB-18

Monday, 10:30-12h00

RB-2107

Risk Analysis and Options

Chair: *Susanne Griebisch*

1 - Designing a combinatorial auction for real estate

Dries Goossens, Frits Spijksma, Onderstal Sander

2 - A Stochastic Volatility Cointegration Model in Continuous Time

Susanne Griebisch, Kay Pilz

Paper moved from session TD-34

3 - The Antecedents and the Benefits of Partnership in PEF (Private Equity Fund) of South Korean Industries: The Sustainability Perspective

Hansuk Lee, Seongtae Hong, In-Young Lee

■ MB-19

Monday, 10:30-12h00

RB-2111

Energy and Environmental markets

Chair: *Silvana Stefani*

1 - The impact of grandfathering on emission certificates for the electricity sector

Paolo Falbo, Daniele Felletti, Silvana Stefani

2 - An inspection of Energy and Agricultural Markets after Fukushima

Angelica Gianfreda, Giacomo Scandolo

3 - Forecasting Volatility with Interday or Intraday Data: A Case Study on Istanbul Stock Exchange 30 National Index

Alper Inkaya

■ MB-20

Monday, 10:30-12h00

RB-2113

Data Mining and Risk Analysis

Chair: *Marcus Hildmann*

1 - Estimation of Stochastic Volatility Models for Commodities with few Options

Gonzalo Cortazar, Federico Alonso

2 - Data cleansing of implied volatility surfaces

Dejan Stokic

3 - A Linear Programming Model for Enhanced Indexation based on Strong Stochastic Dominance

Renato Bruni, Francesco Cesarone, Andrea Scozzari, Fabio Tardella

4 - Pump Storage Hydro Plant Valuation under Risk Constraints

Marcus Hildmann, Florian Herzog, Sebastiano Rossi

■ MB-21

Monday, 10:30-12h00

RB-2115

Financial Mathematics and OR 2

Chair: *Tansel Avkar*

- 1 - **Recently crisis, credit boom and nonperforming loans in CEE countries-panel data evidence**
Blanka ?krabi? Peri?, Josip Arneric
- 2 - **A Technology Credit-Scoring Model for Service Industry**
So Young Sohn, Mooyeob Lee
- 3 - **Properties and Calculation of MVaR and MCVaR**
Jinwook Lee, Andras Prekopa
- 4 - **A bank's attractiveness as described by a cusp catastrophe model**
Vassilis Angelis, Katerina Dimaki

■ MB-22

Monday, 10:30-12h00

RB-2117

Multiple-criteria evaluation and decision-making under fuzziness: theory and applications

Chair: *Jana Talasova*

- 1 - **A multi-agent multiple-criteria approach to fraud detection under fuzziness**
Mario Fedrizzi, Alessandro Buoni, Alessandro Buoni
- 2 - **Multiple criteria evaluation of creative work outcomes**
Jana Talasova, Jan Stoklasa
- 3 - **Linguistically oriented model for academic staff performance evaluation**
Jan Stoklasa, Jana Talasova, Pavel Holešek
- 4 - **Multicriteria analysis of teacher's managerial competencies**
Helena Brozova

■ MB-23

Monday, 10:30-12h00

RB-Delta

Optimality Conditions and Stability

Chair: *Alexander Kruger*

Chair: *Gerhard-Wilhelm Weber*

1 - First and Second Order Optimality Conditions for Vector Optimization Problems with Non-solid Positive Cone

Valentin Gorokhovich

2 - Risk-Sensitive Average Optimality in Finite and Denumerable Markov Decision Chains

Karel Sladky

■ MB-24

Monday, 10:30-12h00

CC-A11

Centralized Inventory and Production

Chair: *Ana Meca*

1 - Cooperation in Assembly Systems: the Role of Knowledge Sharing Networks

Fernando Bernstein, Gurhan Kok, Ana Meca

2 - Cost allocation in inventory transportation systems

Ignacio García-Jurado, M^a Gloria Fiestras-Janeiro, Ana Meca, Manuel Alfredo Mosquera Rodríguez

3 - Capacity sharing: capacity or labor division? A cooperative game approach

Shoshana Anily

4 - k-norm Cost Games with Critical Players

Ana Meca, Greys Sosic

■ MB-25

Monday, 10:30-12h00

CC-A23

Practical Issues of Environmental Management

Chair: *Carmen Anido*

1 - Dynamic Modelling of Climate Change Adaptation Pathways: The Case of Surf Life Saving Australia

Oz Sahin, Marcello Sano, Russell Richards, Shauna Sherker

2 - Materials and Technologies for Industrial Heritage Sustainability

Michal Ganobjak, Eva Kralova

3 - Impacts of Climate Change on the Slovak Economy

Tomas Domonkos, Ivan Lichner

■ MB-26

Monday, 10:30-12h00

CC-A24

Recent Research Advances in the Oil Sector

Chair: *Irina Dolgopolova*

1 - From a decoupled to an integrated planning approach in the supply chain of specialty oils

Mario Guajardo, Martin Kylinger, Mikael Rönnqvist

2 - Dynamic pricing application in the energy market

Gamze O?cu, Ozlem Cosgun

3 - Revenue management and pricing: A case study for a natural gas supplier

Ozlem Cosgun, Emre Meterelliyoz, Abdulkadir K?vrak, Yunus Sart?k, Seniye Ümit Oktay F?rat

■ MB-27

Monday, 10:30-12h00

CC-A25

MCDA and Decision Processes

Chair: *K. Nadia Papamichail*

1 - Design and evaluation of MCDA interventions

K. Nadia Papamichail, Theodor Stewart

2 - Criteria definition and weight assignment in MCDA: a review on environmental problems

Miguel Morgado, Luis C. Dias

3 - Introduction to a new evidential reasoning rule for decision analysis

Jian-Bo Yang

4 - Supporting the restoration of historical portable organ with a new hybrid MCDM model

Tian-Jong Hwu, Mei-Chen Lo, Jerzy Michnik, Tadeusz Trzaskalik, Maciej Nowak, Gwo-Hshiung Tzeng

■ MB-28

Monday, 10:30-12h00

CC-A27

OR in Quality Management 2

Chair: *Gulser Koksal*

1 - Optimum 2k-p factorial experiment sequencing: A bi-objective mathematical model

Vitoria Pureza, Pedro Oprime, Antonio Branco Costa

2 - Observer scheduling for quality monitoring

Satyaveer S. Chauhan, Anjali Awasthi, Anna Guinzbourg

3 - A two-stage stochastic programming model for p-chart design

Elif Elcin Gunay, Ufuk Kula, Tülin Aktin

■ MB-29

Monday, 10:30-12h00

CC-A29

Robust Optimization and Non-Convex Integer Programming

Chair: *Emiliano Traversi*

- 1 - **Cutting Planes for the Network Loading Problem with Stochastic Demands**
Konstantinos Kaparis, Adam Letchford, Stein W. Wallace
- 2 - **Robust Integer Non-Linear Optimization**
Ruth Hübner, Anita Schöbel
- 3 - **A concave programming approach for Sparse Principal Component Analysis and Sparse representation of signals**
Francesco Rinaldi, Giampaolo Liuzzi
- 4 - **Separable underestimators for Quadratic Combinatorial Optimization.**
Emiliano Traversi, Christoph Buchheim

■ MB-30

Monday, 10:30-12h00

CC-A31

Emerging Applications in Finance

Chair: *Amparo Soler-Dominguez*

1 - Assessing the role of managers as determinants of mutual fund efficiency: a nonparametric approach

Amparo Soler-Dominguez, Emili Tortosa-Ausina, Juan Carlos Matallin-Saez

2 - Optimal stopping rules for the random horizon duration problems

Mitsushi Tamaki

3 - The Effects of Topology and Behavioral Canon on Network Equilibria

Abhijit Deshmukh, Brandon Pope

■ MB-31

Monday, 10:30-12h00

CC-A33

Game Theory and Social Networks 2

Chair: *Elisenda Molina*

1 - Social Capital. A Game Theoretic Approach.

Enrique González-Arangüena, Anna Khmelnitskaya, Conrado M. Manuel

2 - A Game-theoretic Approach to Networks

Martha Saboya, Guillermo Owen, Susana Lopez

3 - Average Forest Value for Directed Graph Restricted Games

Elisenda Molina, Ramon Flores, Anna Khmelnitskaya, Juan Tejada

■ MB-32

Monday, 10:30-12h00

CC-A34

Understanding the Practice of Soft OR Interventions I

Chair: *L. Alberto Franco*

- 1 - **The emergence of agreements within facilitated modelling workshops**
Thanos Papadopoulos, L. Alberto Franco
- 2 - **Exploring dialogue in problem structuring workshops**
Elena Tavella
- 3 - **Exploring the communicative impact of Problem Structuring Methods: Results of an interaction-analysis based research.**
Orestis Afordakos
- 4 - **On the roles, uses, and effects of models in Soft OR workshops**
L. Alberto Franco

■ MB-33

Monday, 10:30-12h00

CC-A37

OR and Modelling for Sustainable Development

Chair: *Subhash Datta*

1 - OR/MS Models for Sustainable Development in India

Subhash Datta

2 - Multicriteria decision making in comparison of objective and subjective criteria of companies' success

Branka Marasovic, Ivana Tadic

3 - Revised ICI as a leading indicator of Croatian industrial production during a recession

Mirjana Cizmesija, Natasa Erjavec, Vlasta Bahovec

4 - Flexible approach in planning of infrastructure development

Jerzy Paslawski

■ MB-34

Monday, 10:30-12h00

CC-A39

Cooperative games: dynamics, robustness and related topics

Chair: *Ehud Lehrer*

Paper moved to session WA-34

Cooperative games on accessible union stable systems

Rene van den Brink, Encarnación Algaba, Chris Dietz

■ MB-35

Monday, 10:30-12h00

CC-A41

Assortment and Replenishment Planning

Chair: *Michael Sternbeck*

1 - Joint product assortment, inventory and price optimization

Argyro Katsifou, Ralf W. Seifert, Jean-Sébastien Tancrez

2 - Selecting order packaging units for store delivery in grocery retailing

Michael Sternbeck, Heinrich Kuhn

3 - Scheduling in-store replenishments under service-level and capacity constraints

Rob Broekmeulen

■ MB-36

Monday, 10:30-12h00

CC-A43

DEA and Performance Measurement: Methodology 2

Chair: *Dimitris Despotis*

- 1 - **Two-stage data envelopment analysis: A slacks-based measure procedure for the upper bound performance**
Fuh-Hwa Liu, Yu-Cheng Liu
- 2 - **Cost efficiency when prices are not fixed: Disentangling quantity and price efficiency**
Emmanuel Thanassoulis, Maria Portela
- 3 - **Value-based DEA: A piece-wise linear programming approach**
Dimitrios-Georgios Sotiros, Dimitris Despotis
- 4 - **An alternative approach to two-stage DEA with a series relationship between the stages**
Gregory Koronakos, Dimitris Despotis

■ MB-37

Monday, 10:30-12h00

CC-Act

Bioinformatics II

Chair: *Aleksandra Swiercz*

Chair: *Pawel Wojciechowski*

1 - Highly efficient parallel algorithm for de novo assembly

Aleksandra Swiercz, Piotr Gawron, Jacek Blazewicz, Marta Kasprzak

2 - The fast method for contig extraction from the overlap graph

Piotr Gawron

3 - A greedy randomized adaptive search procedure with Path Relinking for the Shortest Superstring Problem

Theodoros Gevezes

4 - A lattice model approach to the molecular distance geometry problem

Cristina Requejo, Agostinho Agra, Rosa Maria Figueiredo, Carlile Lavor, António Pereira, Nelson Maculan

■ MB-38

Monday, 10:30-12h00

HH-Colombus

Duality in Multi-objective Optimization

Chair: *Andreas Löhne*

1 - Alternative generalized Wolfe type and Mond-Weir type vector duality

Emilia-Loredana Pop, Sorin-Mihai Grad

2 - Lagrange necessary conditions for Pareto minimizers in Asplund spaces and applications

Christiane Tammer, Truong Q. Bao

3 - Applications of duality in multiobjective optimization

Andreas Löhne

■ MB-39

Monday, 10:30-12h00

HH-Cousteau

MADM Applications II

Chair: *Chin-Tsai Lin*

Chair: *Chie-bein Chen*

1 - Evaluating Information Quality and Validity of Value Line Stock Ratings

Shin-Yun Wang, Po-Lung Yu

2 - Selecting the Optimal Foreign Dramas for Commercial TV Stations in Taiwan Using Delphi and AHP

Pi-Fang Hsu, Shu-Yu Lin

3 - Developing a Selection Model for Newspaper Integrated Marketing Communication Service

Ya-Han Lin, Pi-Fang Hsu

4 - Measuring the International Backpackers Travelling Risk

Pin-Ju Juan, Shin-Yi Lin

■ MB-40

Monday, 10:30-12h00

HH-Livingstone

MADM Applications VI

Chair: *Chin-Tsai Lin*

Chair: *Chie-bein Chen*

1 - A qualitative model for collective intelligence analysis

Jiang-Liang Hou, Hung Lung Lin, Shih-Ting Yang, Yu-Min Chiang

2 - Taiwan Health Communication Research: Application and Impact of New Media

Rose Hung, Pi-Fang Hsu

3 - Hybrid MCDM Approach for Company Growth Strategy Selection in Marketing

Tuncay Gürbüz, Y. Esra Albayrak

■ MB-41

Monday, 10:30-12h00

HH-Heyerdahl

AHP/ANP 1

Chair: *Josef Jablonsky*

1 - Determinants of customers satisfaction in the Nigerian aviation industry using AHP model

Adebola Adekoya, B.e.a. Oghojafor, Emmanuel O. Oyatoye

2 - Performance evaluation of inmetro: a contribution of multicriteria decision aid

Lorena Berzins, Luis Rangel

3 - Combine ANP and Fuzzy integral approaches for supplier evaluation and selection

James Liou, Yen-Ching Chuang, Gwo-Hshiung Tzeng

4 - Comparison of methods for deriving priorities in the analytic hierarchy process

Josef Jablonsky

■ MB-42

Monday, 10:30-12h00

BW-Amber

EURO Doctoral Dissertation Award (EDDA 2012)

Chair: *Jacques Teghem*

Chair: *Silvano Martello*

Chair: *Hartmut Stadler*

Chair: *Hartmut Stadler*

Chair: *Stéphane Dauzere-peres*

Chair: *Ahti Salo*

■ MB-43

Monday, 10:30-12h00

BW-Granite

Stochastic Programming - Stability, Estimation

Chair: *Petr Lachout*

1 - Empirical Estimates via Heavy Tails

Vlasta Kašková

2 - Stochastic program with additional information

Petr Lachout

3 - Universal Confidence Sets - Estimation and Relaxation

Silvia Vogel

4 - Stability and convexity of chance-constrained problems with structural dependence

Michal Houda

■ MB-44

Monday, 10:30-12h00

BW-Marble

Inventory, Pricing, and Customer Behavior

Chair: *Qing Li*

1 - Group buying mechanisms

Rachel Zhang

2 - Optimal pricing policy for recyclable short life-cycle products

Hsiao-Fan Wang

3 - Managing perishable goods under different customer preferences

Qing Li, Xiaoli Wu

■ MB-45

Monday, 10:30-12h00

BW-Water

Applications of Pricing and Revenue Management

Chair: *Luce Brotcorne*

- 1 - **Revenue management in sequential distribution: An application to the Hindi Movie Industry**
Megha Sharma, Sumanta Basu
- 2 - **Dynamic pricing with predefined tariff constraints**
Kris Meyers, Mario Vanhoucke, Behzad Samii
- 3 - **An efficient heuristic approach for a dynamic pricing problem in telecommunications**
Jean-robin Medori, Mustapha Bouhtou, Michel Minoux
- 4 - **A Bilevel Approach for a Long Haul Freight Transportation Pricing Problem**
Luce Brotcorne, Diaby Moustapha, El-ghazali Talbi

■ MC-01

Monday, 12:30-14:00

RB-Alfa

Keynote Lecture: Professor Ceyda Oguz

Chair: *Gerhard-Wilhelm Weber*

- 1 - **Computational Biology and Operations Research**
Ceyda Oguz

■ MC-02

Monday, 12:30-14:00

RB-Beta

Scheduling Approaches for Complex Manufacturing Systems

Chair: *Lars Moench*

- 1 - **A GRASP Approach for the Job Shop Scheduling Problem with Total Weighted Tardiness Objective**
Jens Kuhfahl, Christian Bierwirth
- 2 - **Heuristics for Integrated Process Planning and Scheduling**
Oleh Sobeyko, Lars Moench
- 3 - **Scheduling Flowline Manufacturing Cells with Intercellular Moves: The Cell Scheduling Problem**
Janis Sebastian Neufeld, Udo Buscher
- 4 - **A New Hybrid Algorithm for Solving the Resource-Constrained-Project-Scheduling-Problem (RCPSP).**
Luis Moreno, Javier Diaz, Gloria Peña

■ MC-03

Monday, 12:30-14:00

RB-L1

Business Excellence in Logistics: Advanced Vehicle and Inventory Routing

Chair: *Martin Josef Geiger*

1 - Cyclic Delivery Schedules for Inventory Routing Problem

Gultekin Kuyzu, Ali Ekici, Okan Ozener

2 - Multi-Objective Inventory Routing: Recent Advances

Martin Josef Geiger, Thibaut Barthelemy, Marc Sevaux

3 - A Multi-Stage Optimisation Approach for Delivery Planning and Scheduling

Vitaly Bolshakov, Galina Merkuryeva, Michael Affenzeller, Erik Pitzer

4 - Selective and Periodic Inventory Routing Problem

Özge Tüncel, Sibel Salman, Onur Kaya, Deniz Aksen

■ MC-04

Monday, 12:30-14:00

RB-L2

Optimal Control I

Chair: *Erik Kropat*

Chair: *Ekaterina Kostina*

1 - Direct Optimal Control Methods for a Centralized Approach to Separation Management

Ekaterina Kostina

2 - Optimal control models of renewable energy production under fluctuating supply

Gernot Tragler, Elke Moser, Dieter Grass, Alexia Prskawetz

3 - Proposing and simulating a new suboptimal hybrid embedding-PMP technique for tumor anti-angiogenesis optimal control

Alireza Fakharzadeh, Zahra Khoshgam

Paper moved to session WB-16

Optimization for switching control system

Shahlar Meherrem, Refet Polat

■ MC-05

Monday, 12:30-14:00

RB-L3

Liner shipping optimization

Chair: *Fernando Alvarez*

1 - A Multi-period Planning Model for Liner Shipping's Bunker Management

Xiaoyu Wang, Chee Chong Teo

2 - The Vessel Schedule Recovery Problem - disruption management in liner shipping

Berit Dangaard Brouer, Christian Edinger Munk Plum, Bo Vaaben, David Pisinger, Jakob Dirksen

3 - Competition and efficiency in the container liner shipping industry

Christa Sys

■ MC-06

Monday, 12:30-14:00

RB-Gamma

Production, planning and facility location

Chair: *Maria Eugénia Captivo*

- 1 - **A Dynamic Scheduling Approach for Solving the Single Machine Total Weighted Tardiness Problem**
Sener Akpınar, Alper Hamzadayı, Simge Yelkenci Kose, Hanifi Okan Isguder, Atabak Elmi
- 2 - **A competitive genetic algorithm for single row facility layout**
Ravi Kothari, Diptesh Ghosh
- 3 - **A genetic approach for planning elective surgeries in a Portuguese hospital**
Maria Eugénia Captivo, Inês Marques, Margarida Pato
- 4 - **A Hybrid Metaheuristic-Dynamic Programming Algorithm for Integrated Optimization of Manual Order Picking and Sorting Warehouse Operations**
Athanassios Nikolakopoulos, Ioannis Ganas, Ioannis Konstantaras, Konstantina Skouri

■ MC-07

Monday, 12:30-14:00

RB-Eta

Applications of Vehicle Routing

Chair: *Johan Oppen*

1 - A Real-World VRP with Uncertain Delivery Quantities

Birk Baumbach, Axel Simroth

2 - A two phase multi-objective algorithm for the bi-objective VRP

Jorge Oyola, Arne Løkketangen

3 - Milk Collection in Western Norway Using Trucks and Trailers

Arild Hoff

4 - Intermodal flexible liner shipping

Johan Oppen

■ MC-08

Monday, 12:30-14:00

RB-Epsilon

Network Optimization 3

Chair: *M. Emre Keskin*

- 1 - **DiffServ Aware Routing Optimization in Telecommunication Networks**
Amaro de Sousa, Carlos Lopes, Dorabella Santos, Filipe Alvelos
- 2 - **Optical Fiber Network Design with Real Life Constraints and Cost Function**
Stanislas Francfort, Frederic Moulis, Cédric Hervet, Matthieu Chardy
- 3 - **The Package Server Location Problem**
Arnaud Malapert, Mohamed Rezgui, Jean-Charles Régis, Jean Parpaillon, Yvan Manon
- 4 - **An integrated approach to lifetime maximization in wireless sensor networks**
M. Emre Keskin, I. Kuban Altinel, Necati Aras, Cem Ersoy

■ MC-09

Monday, 12:30-14:00

RB-Zeta

Cutting and Packing 3

Chair: *Ramon Alvarez-Valdes*

- 1 - **An analysis of the problem instances and the data sets used for computational experiments in the Identical Item Packing Problem**
Elsa Silva, José Fernando Oliveira, Gerhard Wäscher
- 2 - **Optimizing Shelf Space in Retail Stores**
Teresa Bianchi-Aguiar, Maria Antónia Carravilla, José Fernando Oliveira
- 3 - **A local optimization switch algorithm for packing non-identical circles**
Georgiy Yaskov, Yuri Stoyan
- 4 - **Determining the best shipper sizes for sending products to customers**
Ramon Alvarez-Valdes, Maria Teresa Alonso Martínez, Francisco Parreno, Jose Tamarit

■ MC-10

Monday, 12:30-14:00

RB-Theta

Non-deterministic models

Chair: *Farouk Yalaoui*

Chair: *De Souza Mauricio*

Chair: *Y. Ilker Topcu*

1 - Manufacturing flexibility in an oligopoly competition with demand uncertainty

Liu Yang, Chi To Ng

2 - Designing a robust supply chain for competition against existing competitors in retailer level

Ghasem Rajabloo, Shabnam Rezapoor, Maghsud Solimanpur

3 - A decision analysis on cooperative advertising

Sebnem Burnaz, Esin Ekmekci, Y. Ilker Topcu

■ MC-11

Monday, 12:30-14:00

RB-Iota

Transport Planning

Chair: *Hani Mahmassani*

1 - New Algorithm for the Stochastic Generalized Transportation Problem

Marcin Anholcer

2 - The Dynamic Driver-Routing Problem

Niels Agatz, Jordan Srouf, Johan Oppen

3 - Optimal Bus Route Frequency Allocation in a Large-Scale Urban System

Hani Mahmassani, Ismail Omer Verbas

Paper moved to session WA-30

Development of an optimisation framework for scheduling of street works

Rahman Pilvar

■ MC-12

Monday, 12:30-14:00

RB-Omicron

Application of fuzzy logic and soft methodologies in decision-making and financial modelling

Chair: *Robert Fullér*

Chair: *Mikael Collan*

1 - Fuzzy Models and Statistics

Reinhard Viertl

2 - An Integration of TOPSIS Method and Interval Type II Fuzzy Sets to Evaluate Municipality Investment Alternatives: The Case of Istanbul Municipality

Nazmi Sener, Hasan Huseyin Turan

3 - Quantifying expected benefits from investment projects with the fuzzy pay-off method

Mikael Collan

4 - Numerical Patent Analysis with a Fuzzy Compound Real Option Model

Xiaolu Wang

■ MC-13

Monday, 12:30-14:00

RB-Tau

Lot-sizing and Related Topics 3

Chair: *Franklina Toledo*

- 1 - **An approach of implementing the Kalman filter in the calculation of lot sizes**
Katharina Amann, Jutta Geldermann
- 2 - **Hybrid relax-and-fix heuristics for the lot-sizing and scheduling problem in the industry of consumer goods for personal hygiene**
Debora Ronconi, Márcio Kawamura
- 3 - **A hybrid metaheuristic for production planning in the spinning industry**
Victor Camargo, Franklina Toledo, Bernardo Almada-Lobo

■ MC-14

Monday, 12:30-14:00

RB-Omega

Resource allocation and scheduling in practice: further complexity

Chair: *Sacramento Quintanilla*

- 1 - **Balancing the use and distribution of warehouse resources: a scheduling pre-processing procedure**
M. Angeles Pérez, Francisco Ballestin, M.Pilar Lino, Sacramento Quintanilla, Vicente Valls
- 2 - **Simultaneous allocation of medical resources and scheduling of visits in a Hospital at Home service**
Sacramento Quintanilla, Francisco Ballestin, M.Pilar Lino, M. Angeles Pérez, Vicente Valls
- 3 - **Approximate algorithms for simultaneous project scheduling and resource allocation with controllable processing times**
Jose M. Framinan, Victor Fernandez-Viagas Escudero
- 4 - **Project Resource Leveling and Robustness Optimization using ANP**
Elena Rokou, Konstantinos Kirytopoulos

■ MC-15

Monday, 12:30-14:00

RB-2101

Nonlinear Optimization and Applications 2

Chair: *Edite M.G.P. Fernandes*

- 1 - **A multi-layers method to improve optimization algorithms. Application to the design of bioreactors for water treatment.**
Benjamin Ivorra, Juan M. Bello Rivas, Jérôme Harmand, Angel Manuel Ramos, Alain Rapaport
- 2 - **Comparing two MINLP models for the Hydro Scheduling Problem: The case of a head-dependent cascaded reservoir system in Portugal**
Javier Diaz, Luis Moreno
- 3 - **Continuous optimization using a biologically-motivated multilevel system**
JongChen Chen
- 4 - **Nonlinear Optimal Control of Spacecraft Attitude Using Internal Momentum Rotors**
M. Navabi, Mina Tavana

■ MC-16

Monday, 12:30-14:00

RB-2103

Numerical methods of nonsmooth optimization

Chair: *Albert Ferrer*

1 - Hyperbolic smoothing function method for minimax problems

Adil Bagirov

2 - Nonsmooth nonconvex optimization via smooth optimization

Gurkan Ozturk, Adil Bagirov

3 - A Truncated Codifferential Method: Using hypogradients from current and previous iterations

Ali Hakan Tor, Adil Bagirov

4 - Iterative local search algorithm for solving non-smooth flow shop problems

Albert Ferrer, Angel, A. Juan, Helena Ramalhinho Lourenço

■ MC-17

Monday, 12:30-14:00

RB-2105

Reverse Logistics Network Design

Chair: *Sibel A. Alumur*

1 - Sustainable Reverse Logistics Network Design for Multi-modal Transport of Household Plastic Waste

Jacqueline Bloemhof, Xiaoyun Bing, Jack van der Vorst

2 - Integrating forward and reverse flows: a generic model for remanufacturing activity

Neslihan Demirel, Hadi Gökçen

3 - Multi-Period Reverse Logistics Network Design

Sibel A. Alumur, Stefan Nickel, Francisco Saldanha-da-Gama, Vedat Verter

■ MC-18

Monday, 12:30-14:00

RB-2107

Financial Modelling

Chair: *Tatjana Slijepcevic-Manger*

1 - Moment-matching method with monomial approach

Alessandro Staino, Andrea Consiglio

2 - Stratified Sampling Implementations in Financial Simulation

Ismail Basoglu, Wolfgang Hörmann

3 - Modeling Hedge Fund Performance Using Neural Network Models

Joseph Paradi, Marinos Tryphonas

4 - Ruin probability functions with N intersections

Tatjana Slijepcevic-Manger

■ MC-19

Monday, 12:30-14:00

RB-2111

Quantitative approaches to bank performance and asset evaluation

Chair: *Enrique Ballester*

Chair: *Mila Bravo*

- 1 - **Ranking funds offered by the Spanish CaixaBank: A compromise approach to performance**
Enrique Ballester
- 2 - **Evaluating artistic assets: A multicriteria method**
Paloma Pareja, Sonia Zendehzaban
- 3 - **Multicriteria ranking of Spanish banks from the 2011 European Banking Authority wide stress test**
Mila Bravo, Antonio Benito

■ MC-20

Monday, 12:30-14:00

RB-2113

Risk Analysis and Credit Scoring

Chair: *Cristian Bravo*

1 - Improving Credit Scoring by Differentiating Defaulter Behavior

Cristian Bravo, Lyn Thomas, Richard Weber

2 - Intensity models and transition probabilities for credit card loan delinquencies

Jonathan Crook

3 - Comparative Analysis of Dynamic Models Specification for Behavioral Scoring in a Microfinance Portfolio

Jose Pizarro, Cristian Bravo

4 - Dynamic affordability assessment

Katarzyna Bijak, Lyn Thomas

■ MC-21

Monday, 12:30-14:00

RB-2115

Financial Mathematics and OR 3

Chair: *Tansel Avkar*

Chair: *Gerhard-Wilhelm Weber*

1 - A Rank-based Approach to Cross-Sectional Analysis

Ludovic Cales, Monica Billio, Dominique Guegan

2 - Bayesian approach for stochastic models with conditional heteroscedasticity in the analysis of the return volatility of an agricultural commodity

Sandra Cristina Oliveira

3 - Solving Large Two-Stage Stochastic Optimization Problems with Portfolio Safeguard

Stan Uryasev

4 - Corporate Control with Cross-Ownership

Marc Levy, Ariane Szafarz

■ **MC-23 has moved to TA-23**

■ **MC-23 has moved from TA-23**

■ **MC-23**

Monday, 12:30-14:00

RB-Delta

Generalized Convexity and Optimization

Chair: *Alexander Kruger*

Chair: *Gerhard-Wilhelm Weber*

- 1 - **On the pseudoconvexity of a wide class of generalized fractional functions**
Laura Carosi, Laura Martein, Alberto Cambini
- 2 - **Continuous-time nonlinear programming under generalized type I invexity**
Andreea Madalina Stancu, Ioan Stancu-Minasian
- 3 - **Weak pseudo-invexity, generalized Fritz-John optimality and duality in non-linear programming**
Hachem Slimani, Mohammed Said Radjef

■ MC-24

Monday, 12:30-14:00

CC-A11

OR in Human Resources

Chair: *Majda Bastic*

Chair: *Irina Kazina*

1 - The influence of individual factors and work environment on creativity

Majda Bastic, Gabrijela Leskovar-?pacapan

2 - Functionality of self-assessment in 360 degree feedback method

Gözde Kubat, ?ükran Öktem, Hakan Turgut, ?smail Tokmak

3 - Research of control systems within the limits of the educational program

Irina Kazina, Rostislav Kopytov

4 - Is there a place for OR in the HR Metrics World?

Gregory Lee

■ MC-26

Monday, 12:30-14:00

CC-A24

OR in Agriculture I

Chair: *Sara Veronica Rodriguez-Sanchez*

1 - Surveillance systems in livestock production chains: An approach for quantitative economic optimization

Xuezheng Guo, G.D.H. (Frits) Claassen, Alfons Oude Lansink, Helmut Saatkamp

2 - A mixed integer linear programming model for production planning of supply chains in the Spanish pig industry

Lluís M Pla, Esteve Nadal

3 - How to improve profitability of the beef herd ? - the application of the multi-level hierarchic Markov method.

Anna Stygar, Anders Ringgaard Kristensen, Joanna M. Makulska

4 - Production planning in a Beef meat packing plant

Sara Veronica Rodriguez-Sanchez, Alysson M. Costa, Roger Z. Rios-Mercado

■ MC-27

Monday, 12:30-14:00

CC-A25

Decision Analysis and Group Decision Making

Chair: *Jeffrey Keisler*

1 - Decision analysis with function-valued variables

Jeffrey Keisler

2 - On the notion of dictatorship in group utility functions

Luis C. Dias, Paula Sarabando

3 - Individual heuristics and group decision effectiveness

Matthias Seifert, Manel Baucells

■ MC-28

Monday, 12:30-14:00

CC-A27

Nonsmooth Optimization I

Chair: *Dominik Dorsch*

- 1 - **Lower Level Chance Constraints in Robust Portfolio Optimization**
Marcel Sinske
- 2 - **Generalized derivatives of the projection onto the cone of positive semidefinite matrices**
Anna-Laura Wickström
- 3 - **Nonsmooth versions of Sard's theorem**
Tomas Bajbar, Vladimir Shikhman
- 4 - **Express Line Queues and Space-Time Geometry**
Eitan Bachmat

■ MC-29

Monday, 12:30-14:00

CC-A29

Algorithms and Methods for MINLP problems

Chair: *Sonia Cafieri*

Chair: *Claudia D'Ambrosio*

- 1 - **Mixed-integer programming under the presence of uncertainty: On the solution of multi-parametric MILP problems**
Martina Wittmann-Hohlbein, Efstratios Pistikopoulos
- 2 - **GloMIQO: Global Mixed-Integer Quadratic Optimizer**
Christodoulos Floudas, Ruth Misener
- 3 - **A new Branch and Bound algorithm for MIQPs**
Amélie Lambert, Alain Billionnet, Sourour Elloumi
- 4 - **Optimistically Approximating Non-linear Optimization Problems through MILP**
Claudia D'Ambrosio, Andrea Lodi, Silvano Martello, Riccardo Rovatti

■ MC-30

Monday, 12:30-14:00

CC-A31

Emerging Applications in Production Management

Chair: *Jakob Krarup*

1 - Assigning experts to tasks in a project

Stanislaw Walukiewicz, Jakob Krarup

2 - An inventory model with time dependent demand rate, trade credits and partial backlogging

Vikram jeet Singh

3 - Whole Life Costing (WLC) model in asset management

Wenjuan Zhang

■ MC-31

Monday, 12:30-14:00

CC-A33

Mathematical methods for decision support in energy and industrial sectors

Chair: *Elisabetta Allevi*

Chair: *Adriana Gnudi*

Chair: *Igor Konnov*

1 - The steel industry: a mathematical model under environmental regulations

Rossana Riccardi, Elisabetta Allevi, Adriana Gnudi, Francesca Bonenti, Claudia Avanzi

2 - Evaluating the Impacts of the EU-ETS on Prices, Investments and Profits of the Italian Electricity Market

Giorgia Oggioni, Francesca Bonenti, Elisabetta Allevi, Giacomo Marangoni

3 - Electricity markets under linear price/demand and quadratic costs: Equilibrium à la Cournot and Supply Function Equilibrium

Francesca Bonenti, Magali E. Zuanon

4 - Splitting Methods for Dynamic Auction Problems With Set Valued Mappings

Adriana Gnudi, Elisabetta Allevi, Igor Konnov

■ MC-32

Monday, 12:30-14:00

CC-A34

Understanding the Practice of Soft OR Interventions II

Chair: *Ashley Carreras*

1 - A Code of Best Practice for Soft Operational Analysis

Diederik J.D. Wijnmalen

2 - Planning Soft Workshops: getting the right people in the room

Sue Merchant

3 - Enhancing the Dimensions of Procedural Justice in Focus Group Workshops using Facilitated Group Decision Software

Parmjit Kaur, Ashley Carreras

4 - Mapping Collective Intentions

Ashley Carreras

■ MC-33

Monday, 12:30-14:00

CC-A37

Humanitarian Logistics and Disaster Management

Chair: *Begoña Vitoriano*

1 - Structured classification of disasters and emergencies

J. Tinguaro Rodriguez, Javier Montero, Begoña Vitoriano

2 - Uncertainty and Robustness in Humanitarian Supply Chains for Disaster Relief

Alistair Clark

3 - Decision Aid Models on Preparedness Operations on Disaster Management

Begoña Vitoriano, M. Teresa Ortuño, Federico Liberatore, Celeste Pizarro Romero, Clara Simon de Blas

4 - Model to validate the quality of data sources in a ubiquitous crowd-sourcing context

Jose Robledo, Laura Plazola Zamora

■ MC-34

Monday, 12:30-14:00

CC-A39

Topics in Cooperative Game Theory

Chair: *Manuel A. Pulido Cayuela*

Chair: *Josep Freixas*

- 1 - **Enumerations of voting systems: Fibonacci sequences and the gold number**
Josep Freixas, Sascha Kurz
- 2 - **Finding extremal voting systems via integer linear programming**
Sascha Kurz
- 3 - **Success and decisiveness on symmetric games**
Montserrat Pons, Josep Freixas
- 4 - **A model for players' tendencies when playing a cooperative game**
M. Albina Puente, Francesc Carreras

■ MC-35

Monday, 12:30-14:00

CC-A41

Engineering Optimization

Chair: *Wolfgang Achziger*

Chair: *Gerhard-Wilhelm Weber*

1 - Development of a multi-layer ANFIS model for the prediction of tertiary scale formation in the steel industry

Jonathan Kennedy

2 - Design of a RFID Based Real Time Warehouse Management System for Steel Industry

Ozgur Eski, Ceyhun Araz, Levent Bayoglu, Filiz Turan

3 - Damage characteristic of hybrid composite plaques in 2m/s speed impact

Levent Bozkurt

4 - Conjoint analysis for Concept Design of Commercial Diesel Engine

Jeasu Jeon, So Young Sohn

■ MC-36

Monday, 12:30-14:00

CC-A43

DEA and Performance Measurement: Applications 1

Chair: *Armando Zeferino Milioni*

- 1 - **Measuring the efficiency of a pharmacy chain by means of Advanced DEA**
Ludmila Neumann, Heinz Ahn
- 2 - **Benchmarking on Spanish University libraries**
Clara Simon de Blas, Jose Simon Martin, Alicia Arias
- 3 - **Service Benchmarking in the Portuguese Hospitals: An Application of Data Envelopment Analysis**
Ricardo A. S. Castro, Maria Portela, Ana Camanho
- 4 - **Using DEA to evaluate Brazilian Institutions of Higher Education**
Armando Zeferino Milioni, Diego Geraldo, Joyce Teixeira, Luciene Alves

■ MC-37

Monday, 12:30-14:00

CC-Act

Bioinformatics III

Chair: *Marta Szachniuk*

Chair: *Jacek Blazewicz*

1 - **An optimization framework for intensity modulated proton therapy treatment planning**

Gino Lim, Wenhua Cao, Xiaodong Zhang

2 - **On the selection of images and determining the age of acquisition of words for a recognition test using exploratory data analysis**

Gastão Gomes, Sergio Camiz, Christina Gomes, Fernanda Senna

3 - **Benchmarking and proposed improvements of the database of Clusters of Orthologous Genes (COG)**

Farzana Rahman, Mehedi Hassan, Tatiana Tatarinova, Alexander Bolshoy

■ MC-38

Monday, 12:30-14:00

HH-Colombus

Multicriteria Decision Support Systems in Industry

Chair: *Karl-Heinz Kuefer*

Chair: *Kai Plociennik*

1 - Efficient Approximation of Convex and Non-Convex Pareto-Frontiers with Application to Chemical Process-Optimization

Uwe Nowak, Michael Bortz, Karl-Heinz Küfer

2 - A multicriteria optimization approach for radiofrequency ablation (RFA) planning

Katrin Teichert, Philipp Süß, Karl-Heinz Kuefer

3 - Multicriterial decision support for photovoltaic power plant design

Kai Plociennik, Hendrik Ewe, Ingmar Schüle, Karl-Heinz Kuefer

4 - Multicriteria Rolling Wave Planning and Scheduling

Bastian Bludau, Sebastian Velten, Karl-Heinz Kuefer

■ MC-39

Monday, 12:30-14:00

HH-Cousteau

MADM Applications III

Chair: *Chin-Tsai Lin*

Chair: *Chie-bein Chen*

1 - Identifying Reasons of Customer Waiting

Chih-Chin Liang

2 - Identifying Hierarchical and Simultaneous Multi-player Game-solution for (Non-) cooperative Advertising in Manufacturers and Retailers Using MOPSO-CD or NSGA II

Chie-bein Chen, Jung-Ho Lu, Yuanchau Liour

3 - Application of Fuzzy Subsethood Measure as the Filter for Outliers in Likert's Questionnaire Analysis

Cheng-Chuang Hon, Ling-Lang Tang

4 - An Evaluation Model of Implementing RFID for 3PL's Service Agility and Value

Ling-Lang Tang, Cheng-Chuang Hon, Ming-Tsang Lu

■ MC-40

Monday, 12:30-14:00

HH-Livingstone

MADM Applications VII

Chair: *Chin-Tsai Lin*

Chair: *Chie-bein Chen*

1 - Efficiency and Productivity of Human Resources in Science and Technology in Innovation and Efficiency Driven Nations

Ying-Chyi Chou, Hsin-Yi Yen

2 - An Assessment of Taiwan's Solar Water Heater Subsidy Policy Using Logistic Diffusion Curves

Pao-Long Chang, Chiung-Wen Hsu

3 - Investigation of feature dimension reduction based GLCM/SVM for color filter defect classification

Yu-Min Chiang, Yao-Chang Lin, Jiang-Liang Hou, Shih-Ting Yang

Paper moved from session WD-26

4 - Environmental Fuzzy Multi-Attribute Decision-Making in Integrated Wastewater Management

Hojjat Mianabadi, Mehrdad Mirabi, Erik Mostert, Mohammad Bagher Sharifi

■ MC-41

Monday, 12:30-14:00

HH-Heyerdahl

AHP/ANP 2

Chair: *Tihomir Hunjak*

- 1 - **Combination of DEMATEL and ANP for the cargo shipping company selection problem**

Nilsen Kundakç?, Esra Aytaç, Ay?egül Tu? I??k

- 2 - **Analysis of course selection using ahp and discrete choice analysis**

Anamarija Jazbec

- 3 - **An AHP/DEA hybrid model for the evaluation of Croatian research institutes performances**

Tihomir Hunjak

Paper moved to session TA-41

Utilization of Multi-Criteria Decision Making Methods at the Phase of Compare and Contrasting of the Course of Actions within the Military Decision Making Process.

Erman Atak

■ MC-42

Monday, 12:30-14:00

BW-Amber

EEPA 2012 - 1

Chair: *Michel Bierlaire*

1 - Clearance Pricing Optimization at Zara

Felipe Caro, Jérémie Gallien

2 - Scheduling the German Basketball League

Stephan Westphal

3 - Optimization of advertisement revenue for the French TV group TF1

Thierry Benoist, Frédéric Gardi, Antoine Jeanjean

■ MC-43

Monday, 12:30-14:00

BW-Granite

Stochastic Programming: Applications to the energy sector

Chair: *Marida Bertocchi*

Chair: *Maria Teresa Vespucci*

- 1 - **Operating fully renewable power systems: biomass and wind case**
Ruth Dominguez, Miguel Carrión, Antonio J. Conejo
- 2 - **A multi-stage stochastic programming model for investments in natural gas infrastructure**
Asgeir Tomasgard
- 3 - **A multistage stochastic model for the electric power generation capacity expansion problem under different risk measures.**
Maria Teresa Vespucci, Marida Bertocchi, Laureano Fernando Escudero, Stefano Zigrino

■ **MC-44 has moved to TA-40**

■ **MC-44 has moved from WC-43**

■ **MC-44**

Monday, 12:30-14:00

BW-Marble

Incorporating uncertainty in Energy Management Optimization Problems: A long and winding road

Chair: *Sandrine Charousset-brignol*

Chair: *Wim van Ackooij*

1 - Incorporating uncertainty in large scale Energy Management Optimization Problems in practice.

Sandrine Charousset-brignol

2 - Towards a Multi-stage Robust Formulation for the Nuclear Reactor Outage Scheduling Problem

Nicolas Dupin, Marc Porcheron, Pascale Bendotti

3 - Modeling the residential electrical load curve: a stochastic algorithm for realistically starting the domestic appliances

Arnaud Grandjean

■ MC-45

Monday, 12:30-14:00

BW-Water

Management accounting and management control 1

Chair: *Stephan Leitner*

- 1 - **Agent-based simulation analysis of performance measurement systems considering uncertainties of a learning model**
Yusuke Goto, Shingo Takahashi
- 2 - **A computational tool for performing production and warehouse budgets in an environment with uncertainty and seasonality**
Jairo Coronado-Hernandez, José P. Garcia-Sabater
- 3 - **Simulation comparison of relative and absolute operators for the inference of criteria weights from discordance related information**
Andrej Bregar
- 4 - **Financial structure optimization by using an adapted goal programming method**
Tunjo Perić, Zoran Babic

■ MD-01

Monday, 14:30-16:00

RB-Alfa

Tutorial Lecture: Professor Kenneth Sörensen

Chair: *Marc Sevaux*

1 - **Metaheuristics - the metaphor exposed**

Kenneth Sörensen

■ MD-02

Monday, 14:30-16:00

RB-Beta

Scheduling models in Logistics

Chair: *Dirk Briskorn*

- 1 - **Determining crane areas for balancing workload among interfering and non-interfering cranes**
Nils Boysen, Malte Fliedner, Simon Emde
- 2 - **Packing chained items into bins with applications to container handling and project scheduling**
Malte Fliedner, Dirk Briskorn
- 3 - **A dynamic programming approach to the aircraft landing problem with aircraft classes**
Alexander Lieder, Raik Stolletz, Dirk Briskorn
- 4 - **Scheduling of the batch annealing process in a fastener company**
Ceyhun Araz, Ozgur Eski, Levent Bayoglu, Filiz Turan

■ MD-03

Monday, 14:30-16:00

RB-L1

Logistics, Transportation, Traffic - 1

Chair: *Thierry Benoist*

1 - Two-stage vehicle routing problem with dynamic selection of entrepots

Juraj Pekár, Ivan Brezina, Zuzana ?í?ková

2 - The Line Traveling Salesman with partial ordering

Thierry Benoist, Antoine Jeanjean, Vincent Jost

3 - Degrees of freedom in calculating inventory-carrying costs: a simulation study

Christoph Siepermann

Paper moved from session TD-04

4 - The Target Visitation Problem

Achim Hildenbrandt, Gerhard Reinelt

■ MD-04

Monday, 14:30-16:00

RB-L2

Optimal Control II

Chair: *Gernot Tragler*

- 1 - **Normality of the maximum principle for the Bolza problem under state and end point constraints**

Daniela Tonon, Helene Frankowska

- 2 - **Network based computing environment for solving optimal control problems**

Radoslaw Pytlak, Tomasz Tarnawski, Mariusz Kaleta, Tomasz Sliwinski

- 3 - **Dynamic Programming Approach to Optimal Control Problems with Pure State Constraints**

Daniel Hoehener, Giancarlo Facchi

- 4 - **Determining the optimal strategies for stochastic control problem with finite time horizon**

Dmitrii Lozovanu

■ MD-05

Monday, 14:30-16:00

RB-L3

Maritime Transportation 2

Chair: *Henrik Andersson*

1 - Heuristics for Stochastic and Dynamic Maritime Pickup and Delivery Problems

Lars Magnus Hvattum, Gregorio Tirado, Kjetil Fagerholt, Jean-François Cordeau

2 - Modeling ballast water in container stowage planning

Dario Pacino, Alberto Delgado, Rune Jensen

3 - Fleet deployment with speed optimization

Henrik Andersson, Kjetil Fagerholt, Kirsti Hobbesland

■ MD-06

Monday, 14:30-16:00

RB-Gamma

Vehicle routing problems

Chair: *Cédric Verbeeck*

- 1 - **A local search heuristic algorithm for the CVRP with open routes**
R. Aykut Arapoglu, Abdurrahman Yildiz
- 2 - **Comparing metaheuristics for the Time-Dependent Orienteering Problem**
Cédric Verbeeck, Pieter Vansteenwegen
- 3 - **A Tabu Search Method for a Cement Delivery Problem**
Marc Uldry, Alain Hertz, Marino Widmer
- 4 - **A multi-objective inventory routing problem for sustainable waste management under uncertainty**
Pamela Nolz, Nabil Absi, Dominique Feillet

■ MD-08

Monday, 14:30-16:00

RB-Epsilon

Network Optimization 4

Chair: *Axel Werner*

1 - Bundling Telecommunication Services with Network Costs

Juan Perez, Alejandro Jofre

2 - The effects of inaccurate information on the queue joining policy

David Raz

3 - Free Riding Solution for Hybrid P2P Networks

Amad Mourad, Djamil Aïssani, Moumen Hamouma

4 - Optimizing energy consumption of telecommunication networks

Axel Werner

■ MD-09

Monday, 14:30-16:00

RB-Zeta

Cutting and Packing 4

Chair: *Ozgur Kulak*

1 - Linearization of Non-oriented Polygonal Placement Optimization Problem

Marina Novozhilova, Igor Chub

2 - A Circle Covering approach to the Nesting problem

Pedro Rocha, Rui Rodrigues, A. Miguel Gomes

3 - Packing spherical caps in high dimensional spaces

Cristiano Torezzan, Sueli Costa

4 - A comparative study of 2D irregular object geometry modelling solutions for cutting and packing problems

Ozgur Kulak

■ MD-10

Monday, 14:30-16:00

RB-Theta

Inventory Management 1

Chair: *Amin Chaabane*

Chair: *Marthy Stivaliz García Alvarado*

1 - A Serial Inventory System with Information Exchange

Nima Yazdan Shenasi

2 - A single-period inventory placement problem for a supply system with the satisficing objective

Piotr Staliński, Chia-Shin Chung, James Flynn, Roelof Kuik

3 - An inventory model with partial backorders assuming uniform demand

Joaquín Sicilia, Valentín Pando, Luis A. San-José, Juan Garcia-Laguna

4 - Inventory Control Under The Carbon Emission Trading Scheme

Marthy Stivaliz García Alvarado, Marc Paquet, Amin Chaabane

■ MD-11

Monday, 14:30-16:00

RB-Iota

Traffic Management

Chair: *Livia Mannini*

1 - Traffic management and emissions estimation in a within day dynamic framework

Simone La Spada, Marialisa Nigro, Stefano Gori, Livia Mannini

2 - Implementation of variable speed systems in an access road (c 31 n) to barcelona

M. Antonia de los Santos, David Gallegos, Francisco Liesa

3 - Green timing and scheduling: an approach based on genetic algorithms

Giulio Erberto Cantarella, Roberta Di Pace

4 - Estimation of traffic flow conditions through data fusion techniques

Livia Mannini, Ernesto Cipriani, Stefano Gori

■ MD-12

Monday, 14:30-16:00

RB-Omicron

Decision-making and modelling under fuzziness

Chair: *Mario Fedrizzi*

- 1 - **Boundary properties of inconsistency indices in group preference relations**
Matteo Brunelli, Michele Fedrizzi
- 2 - **Error based decision making on approximation methods under fuzziness**
Svetlana Asmuss, Vecislavs Ruza
- 3 - **Indirect sociomapping**
Cyril Höschl, Radvan Bahbouh
- 4 - **Sociomapping of communication**
Radvan Bahbouh, Cyril Höschl

■ MD-13

Monday, 14:30-16:00

RB-Tau

Lot-sizing and Related Topics 4

Chair: *Luis Guimarães*

1 - The integrated lot sizing and scheduling problem in the brewery: model and MIP-based heuristic

Maristela Santos, Tamara Baldo, Reinaldo Morabito, Bernardo Almada-Lobo

2 - Dynamic lot sizing problem with minimum order quantities and remanufacturing option

Irena Okhrin, Knut Richter

3 - Simultaneous production-distribution planning to coordinate multi-plant supply chains

Luis Guimarães, Diego Klabjan, Bernardo Almada-Lobo

■ MD-14

Monday, 14:30-16:00

RB-Omega

Scheduling with variable parameters I

Chair: *Mikhail Y. Kovalyov*

Chair: *Adam Janiak*

- 1 - **Complexity analysis of an assignment problem with controllable assignment costs and its implications in scheduling**
Dvir Shabtay, Liron Yedidsion, Moshe Kaspri
- 2 - **Parallel machine scheduling with a variable common due window**
Mikhail Y. Kovalyov, Adam Janiak, Wladyslaw Janiak, Erhan Kozan, Erwin Pesch
- 3 - **Structural properties of time-dependent scheduling problems with the l_p norm objective**
Stanislaw Gawiejnowicz, Wieslaw Kurc
- 4 - **Scheduling jobs with values dependent on their completion times**
Tomasz Krysiak, Adam Janiak

■ MD-15

Monday, 14:30-16:00

RB-2101

Nonlinear Optimization and Applications 3

Chair: *Max Demenkov*

1 - Multistart Coupled with a Derivative-Free Filter Local Search for Locating Multiple Solutions

Florbela P. Fernandes, M. Fernanda P. Costa, Ana I. Pereira, Edite M.G.P. Fernandes

2 - Bilevel optimization in stability analysis of nonlinear dynamical systems

Max Demenkov

3 - Numerical solution of nonlinear optimal control problems, A comparative study

M. Navabi, E. Meshkinfam

4 - Performance Analysis of Partial Use of Local Optimisation Operator on Genetic Algorithm for TSP

Milan Djordjevic, Andrej Brodnik

■ MD-16

Monday, 14:30-16:00

RB-2103

Uncertainty Analysis in Energy and Water Resources

Chair: *John Boland*

1 - Reconciling rainfall modelling on differing time scales

John Boland, Julia Piantadosi

2 - Catching uncertainty of wind

Yulia Gel

3 - SVM Models and Auction Protocols in Electricity Markets

Carlo Lucheroni, Renato De Leone

4 - Mathematical methods for rainfall modelling

Julia Piantadosi

■ MD-17

Monday, 14:30-16:00

RB-2105

Further Applications of Location Analysis

Chair: *Mercedes Landete*

- 1 - **Assessing Optimal Routes in the Natural Park of Doñana (Spain)**
Eva Barrena, Francisco A. Ortega Riejos, Isabel Ternero, Miguel Angel Pozo
- 2 - **A polyhedral study on location models with knapsack constraints**
Roberto Javier Cañavate Bernal, Mercedes Landete
- 3 - **Delocation Models for Closing and Resizing Redundant Branches during Bank Restructuring**
Diego Ruiz-Hernandez, David Delgado-Gomez, Laureano Fernando Escudero, Joaquin Lopez-Pascual
- 4 - **Different ways of locating spanning trees in a network**
Mercedes Landete, Alfredo Marín

■ MD-18

Monday, 14:30-16:00

RB-2107

Analysis of Price Dynamics and Herd Behavior

Chair: *Frederik Druart*

1 - Stock price dynamics and distribution of returns — before, during and after the financial crisis

Tibor Kis, Marija Cileg, Gabriela Vicko

2 - Herding behavior of agents as a background of financial fluctuations

Aleksejus Kononovicius, Vygintas Gontis, Bronislovas Kaulakys

3 - Bayesian statistical analysis of herding behaviour: an application to the Spanish equity mutual funds

Pilar Gargallo, Laura Andreu, José Luis Sarto, Manuel Salvador

■ MD-19

Monday, 14:30-16:00

RB-2111

Financial Decision Making: Application of Mathematical Optimization

Chair: *Katsumasa Nishide*

- 1 - **Competition and the Bad News Principle in a Real Options Framework**
Katsumasa Nishide, Kyoko Yagi
- 2 - **Equilibrium in the Presence of Transaction Costs**
Masaaki Kijima
- 3 - **Optimal Life Insurance Coverage and Annuities with Borrowing and a Leverage Constraint**
Teruyoshi Suzuki
- 4 - **Robust Portfolio Optimization with Copulas**
Iakovos Kakouris, Berc Rustem

■ MD-20

Monday, 14:30-16:00

RB-2113

Energy consumption and price forecasting

Chair: *Richard Weber*

Paper moved to session TA-26

A hybrid model for forecasting the streamflow data

Alpaslan Yarar, Mustafa Onucyildiz, Hülya Yarar

■ MD-21

Monday, 14:30-16:00

RB-2115

Financial Mathematics and OR 4

Chair: *Tansel Avkar*

1 - A Parallel Procedure for Dynamic Multi-objective TSP

Wei qi Li

2 - Foreign Direct Investment Trends and Comparative Analysis for Chosen Transition Countries

Snjezana Pivac

3 - A mathematical solution to the Nigerian petroleum products supply crisis

Adewoye Olabode

4 - Stochastic Dominance in economic and financial context, overview and applications

Elena Almaraz Luengo, Eduardo Almaraz Luengo

■ MD-23

Monday, 14:30-16:00

RB-Delta

Various Advances in Generalized Differentiation and Optimization

Chair: *Gerhard-Wilhelm Weber*

Chair: *Alexander Kruger*

1 - Interior Epigraph Method for Nonsmooth and Nonconvex Optimization via Generalized Augmented Lagrangian Duality

Wilhelm Passarella Freire, Regina Burachik, C Yalcin Kaya

2 - A Novel Approach for Solving the Geometric Distance Problem

Helder Venceslau, Leonardo Nascimento, Adilson Elias Xavier, Gerhard-Wilhelm Weber

3 - Generalized Solutions and Optimal Investment in Infinite Horizon Control Problem in Capital Accumulation Model

Marta Kornafel

■ MD-24

Monday, 14:30-16:00

CC-A11

Pioneers in Operations Research

Chair: *Graham Rand*

- 1 - **Von Neumann and Vazsonyi: OR pioneers born in Budapest**
Graham Rand, Saul Gass
- 2 - **Steven Vajda, European OR pioneer**
Jakob Krarup
- 3 - **U.S. OR Pioneers: Engagements in European OR**
Arjang Assad

■ MD-25

Monday, 14:30-16:00

CC-A23

Renewable Energies

Chair: *Mario Ragwitz*

- 1 - **A new perturbing parameter for interior point methods applied to short term hydroelectric scheduling**
Aurelio Oliveira, Lilian Carvalho
- 2 - **Optimal Underground Pumped Hydroelectric Storage Design**
Amir José Daou Pulido, Hermann-Josef Wagner, Marco K. Koch, Eugen Perau, Ulrich Schreiber, André Niemann
- 3 - **Investment Incentives under the Influence of Capacity Aggregation in Regulated Industries**
Sabine Pallas
- 4 - **Pollution permits, Strategic Trading and Dynamic Technology Adoption**
Luca Taschini

■ MD-26

Monday, 14:30-16:00

CC-A24

OR in Forestry I

Chair: *Concepcion Maroto*

1 - A comparison of multiple criteria methods for group decision making in forest management

Concepcion Maroto, Marina Segura Maroto, Concepción Ginestar, Baldomero Segura, Juan Uriol

2 - Multi-criteria optimization method for designing a harvesting and cableway layout for a given road network for wood extraction

Leo Bont, Hans Rudolf Heinemann, Richard Church

3 - EcoForest — A fictive problem for teaching spatially-explicit, multi-objective optimization in forestry

Jochen Breschan

4 - Impact of carbon sequestration over the optimum forest rotation problem

Yavuz Gunalay, Erhun Kula

■ MD-27

Monday, 14:30-16:00

CC-A25

Agent-based Modeling of Diffusion Processes

Chair: *Christian Stummer*

- 1 - **The impact of customer dissatisfaction and negative word-of-mouth on the diffusion of innovations and the repurchasing behaviour: an agent based simulation**

Markus Günther, Jana Sonnberger

- 2 - **New product diffusion and supply chain production-sales policies: a comparative study**

Tina Wakolbinger, Mehdi Amini, Michael Racer, Mohammad G. Nejad

- 3 - **De-commoditization of a convenience product: an agent-based simulation of its market diffusion**

Christian Stummer, Elmar Kiesling, Markus Günther, Rudolf Vetschera, Lea M. Wakolbinger

■ MD-28

Monday, 14:30-16:00

CC-A27

Nonsmooth Optimization II

Chair: *Dominik Dorsch*

- 1 - **Equilibrium investments in a common value auction environment with endogenous signals**
Eleftherios Couzoudis, Markus Bürgi
- 2 - **Local models in equilibrium optimization**
Vladimir Shikhman, Hubertus Th. Jongen, Dominik Dorsch
- 3 - **On the structure of Nash equilibrium sets**
Dominik Dorsch, Hubertus Th. Jongen, Vladimir Shikhman
- 4 - **Existence of a pure strategy equilibrium in finite symmetric games where payoff functions are integrally concave**
Takahiro Watanabe, Takuya Iimura

■ MD-29

Monday, 14:30-16:00

CC-A29

Selected Topics on Mixed-Integer Non-Linear Programming

Chair: *Dennis Michaels*

1 - Minimizing convex functions over integer points

Michel Baes, Alberto Del Pia, Yurii Nesterov, Shmuel Onn, Robert Weismantel

2 - Solving MINLPs with SCIP

Stefan Vigerske

3 - RedNLP - Heuristic Approach to Large-Scale MINLPs in Gas Transportation

Ralf Gollmer, Rüdiger Schultz, Claudia Stangl

4 - Convex underestimation of edge-concave functions by a simultaneous convexification with multi-linear monomials

Dennis Michaels, Martin Ballerstein

■ MD-30

Monday, 14:30-16:00

CC-A31

Emerging Applications in Logistics

Chair: *Paul Trodden*

1 - Multiperiod Optimal Power Flow Using Cross Decomposition

Antonio Marmolejo

2 - Optimum Renewable Energy Portfolio for Regional Heating

Secil Ercan, Zeynep Bekta?, Gulgun Kayakutlu

3 - Strategic Capacity Planning in Knowledge Intensive Organizations

Manuel Mateo, Ernest Benedito, Rocio de la Torre, Amaia Lusa, Carme Martinez, Marta Mas

Paper moved to session TA-03

An MINLP approach to forming secure islands in electricity networks

Paul Trodden, Waqqas Ahmed Bukhsh, Andreas Grothey, Ken McKinnon

■ MD-32

Monday, 14:30-16:00

CC-A34

Theoretical developments in Soft OR

Chair: *Jose-Rodrigo Cordoba-Pachon*

1 - Comparing and Contrasting the formal modelling techniques from Soft Systems Methodology and JOURNEY Making

Giles Hindle

2 - Decision Structures in Project Management

Cathal Brugha

3 - Critical awareness of worldviews in organisational change

Mike Yearworth, Charlotte Dunford, Darren York, Patrick Godfrey

■ MD-33

Monday, 14:30-16:00

CC-A37

OR for Energy and Resource Development in Developing Countries

Chair: *Javier Cano*

Chair: *Angel Udias*

1 - Expanding the Hydroelectric Power Capacity of the Kwanza River

Javier Cano, Kiombo Jean Marie, David Rios-Insua

2 - Valorization of riverbanks in the urban area

Tomás Haná?ek

Paper moved to session WD-38

Role of carbon capture technologies in the Spanish industry in 2030 under a CO₂ reduction scenario using the TIMES-Spain energy optimisation model

Diego García, Helena Cabal, Machteld Van Den Broek, Yolanda Lechón, Antonio Alonso-Ayuso

4 - Export Diversification and Resource-based Industrialization: The Case of Natural Gas

Olivier Massol

Paper moved from session WD-38

5 - Multicriteria Decision Aid for Equitable Water Distribution Network

Jose Luis Castaño Cabrales, Angel Udias, David Rios-Insua, Javier Cano, Hocine Fellag

■ MD-34

Monday, 14:30-16:00

CC-A39

Assignment and multicriteria games

Chair: *Marina Nunez*

1 - Z-Equilibrium for a Mixed Strategic Multicriteria Game

Arezki Ferhat, Mohammed Said Radjef

2 - Bilateral assignment games with the Monge property

Javier Martinez-de-Albeniz, Carles Rafels

3 - A geometric characterization of the nucleolus of the assignment game

Marina Nunez, Francesc Llerena

■ MD-35

Monday, 14:30-16:00

CC-A41

DEA and Performance Measurement: Applications 10

Chair: *Paula Guimaraes*

- 1 - **The Efficiency Measure Over Time with Undesirable Outputs: A Case of Auto and Auto Component Industry in Taiwan**

Yi-Chiuan Lai, Chin-Min Hsu

- 2 - **An application of canonical correlation analysis for the econometric estimation of the stochastic production frontier**

João Silveira, Attus Moreira

- 3 - **Evaluation of the efficiency of investments in the host cities of the Olympic Games using Data Envelopment Analysis (DEA)**

Paula Guimaraes, Nissia Bergiante

Paper moved from session WB-32

- 4 - **A holistic approach for assessing the performance of maternity and newborn services**

Olga Li, Sérgio Santos, Carla Amado

Paper moved to session WD-32

- Efficiency evaluation and analysis of Third Party Logistics in Brazil**

Mariana Almeida, Luis Oliveira

■ MD-36

Monday, 14:30-16:00

CC-A43

DEA and Performance Measurement: Applications 2

Chair: *Luis C. Dias*

1 - The assessment of livability in European cities

Andreia Zanella, Ana Camanho, Teresa Galvão Dias

2 - Towards sustainability in construction: a DEA assessment at an urban level

Isabel Horta, Ana Camanho, Teresa Galvão Dias

3 - An Application of Categorical Models of Data Envelopment Analysis

Luka Neralic, Dubravko Hunjet, Richard E. Wendell

4 - Benchmarking in maintenance and repairing in electricity distribution networks using an additive DEA model with incorporation of preferences

Maria Gouveia, Luis C. Dias, Carlos Henggeler Antunes

■ MD-37

Monday, 14:30-16:00

CC-Act

Bioinformatics IV

Chair: *Piotr Lukasiak*

1 - Protein structure quality assessment and modeling support framework

Maciej Antczak, Piotr Lukasiak, Jacek Blazewicz, Krzysztof Fidelis

2 - OR applications for protein structure modelling and docking

Maciej Milostan

3 - Quality assessment methodologies in analysis of structural models

Piotr Lukasiak

4 - Rule extraction for pre-eclampsia based on Genetic Algorithm

Shohreh Alimohammadi, Amene Alimohammadi, Mahdi Ashrafi

■ MD-38

Monday, 14:30-16:00

HH-Colombus

Combinatorial Multiobjective Optimization

Chair: *Martin Josef Geiger*

1 - Pareto Set Approximation for the Multiobjective Set Covering Problem

Margaret Wiecek

2 - Multiobjective combinatorial optimization for selecting treatment regimes in forestry

Dmitry Podkopaev, Artti Juutinen, Kaisa Miettinen, Mikko Monkkonen, Pasi Reunanen, Olli-Pekka Tikkanen

3 - A bi-objective approach to reschedule new jobs in a one machine model

Jacques Teghem, Daniel Tuyttens

4 - Immune Algorithm for Multi-Objective Schedule Optimization in Railway Transport

Anatoly Levchenkov, Ivars Alps, Mikhail Gorobetz

■ MD-39

Monday, 14:30-16:00

HH-Cousteau

MADM Applications IV

Chair: *Chin-Tsai Lin*

Chair: *Chie-bein Chen*

1 - The study of the university students consumer behavior tea-shops as example

Yuan-Du Hsiao, Jen-Chia Chang, Mu-Hui Lai, Liang-Yuan Hsiung

2 - The Study on Teachers' Willingness to Adopt Computer-Aided Instruction in Public Vocational High Schools

Jen-Chia Chang, Yuan-Du Hsiao, Mu-Hui Lai, Liang-Yuan Hsiung

3 - A study on relationship model among travel motivation, travel type, travel involvement, and travel benefit of Facebook users: A case of Taiwan domestic tourism

Pei-Ting Chen, Tang-Chung Kan, Kuo Tzu-hsuan

4 - Multi-Criteria Comparison of Catering Service Companies Using Grey Relational Analysis: The Case of Turkey

Alper Hamzadayi, Simge Yelkenci Kose, Sener Akpinar, Atabak Elmi, Hanifi Okan Isguder

■ MD-40

Monday, 14:30-16:00

HH-Livingstone

MADM Applications VIII

Chair: *Chin-Tsai Lin*

Chair: *Chie-bein Chen*

1 - A Radial Basis Function Neural Network (RBFNN) Approach for Multi-label Text Categorization Problems

Tai-Yue Wang, Hui-Min Chaing

2 - Fuzzy MCDM technique for planning the wetland environment

Vivien Y.C. Chen, Kuo Tzu-hsuan, Tang-Chung Kan

3 - Improving the quality of leisure and tourism for Theme Parks with a MCDM Model

Gwo-Hshiung Tzeng, Vivien Y.C. Chen

4 - Using F-PROMETHEE for evaluating and ranking constructive projects contractors (A Case Study of Mehr Housing Project of Hashtgerd New City - Iran)

Mahdi Nasrollahi

■ MD-41

Monday, 14:30-16:00

HH-Heyerdahl

AHP/ANP 3

Chair: *William Wedley*

- 1 - **Correct Derivation Of Ratio Scale Preference Values From Pairwise Comparison Matrices**
Eng Choo, William Wedley
- 2 - **Using Analytic Network Process (ANP) in Four Links Model**
Ihsan Yüksel, Erdem Aksakal, Metin Dagdeviren
- 3 - **A hybrid MCDM approach to assess the sustainability of students' preferences for university selection**
Kabak Mehmet, Metin Dagdeviren
- 4 - **Ahp matrix convergence — a unit interpretation**
William Wedley, Eng Choo

■ MD-42

Monday, 14:30-16:00

BW-Amber

EEPA 2012 - 2

Chair: *Michel Bierlaire*

1 - SPRINT: Optimization of Staff Management for Desk Customer Relations Services

Daniele Vigo, Claudio Caremi, Angelo Gordini, Sandro Bosso, Giuseppe D'Aleo, Beatrice Belggia

2 - Logistic planning using DSS FlowOpt

Mikael Rönnqvist, Patrik Flisberg, Mikael Frisk

3 - Flood Prevention by Optimal Dike Heightening

Kees Roos, Dick den Hertog, Ruud Brekelmans, Carel Eijgenraam

■ MD-43

Monday, 14:30-16:00

BW-Granite

Probabilistic Programming

Chair: *Tamas Szantai*

Chair: *Andras Prekopa*

- 1 - **A probabilistic constrained stochastic programming problem, where the technology coefficients in the stochastic constraints are normally distributed random variables**

Andras Prekopa, Tamas Szantai

- 2 - **Solution of probabilistic constrained stochastic programming problems with discrete random variables and mixed decision variables**

Kunikazu Yoda, Andras Prekopa

- 3 - **Single commodity network design under probabilistic constraint with continuous random variables**

Olga Myndyuk, Andras Prekopa

- 4 - **Parallelisation of the so-called Cluster Benders Decomposition algorithm for solving two-stage stochastic linear problems**

Francesc Solsona, Lluís M Pla, Josep Lluís Lerida, Jordi Mateo

■ MD-44

Monday, 14:30-16:00

BW-Marble

Topics in Revenue Management

Chair: *Fredrik Odegaard*

- 1 - **Illustrating the need to integrate pricing and supply chain decision-making**
Peter Bell
- 2 - **Optimal pricing and production decision in the presence of substitution**
Sang Won Kim, Peter Bell
- 3 - **New results concerning probability distributions with increasing generalized failure rates**
Mihai Banciu, Prakash Mirchandani
- 4 - **Retail Selling with All-Pay Auctions**
Fredrik Odegaard, Chris Anderson

■ MD-45

Monday, 14:30-16:00

BW-Water

Management accounting and management control 2

Chair: *Stephan Leitner*

1 - Dynamic pricing & seat control problem with cancellation and refund policy in airlines

Moon-Gil Yoon, Hwi Young Lee

2 - Product cost distortions in full cost accounting - A Monte Carlo simulation-based analysis

Catherine Grisar, Matthias Meyer

3 - Interactions among biases in costing systems: A simulation approach

Stephan Leitner

■ ME-01

Monday, 16:30-17:30

Opera

Plenary Lecture: Professor Finn Kydland

Chair: *Marielle Christiansen*

1 - Dynamic Programming and Economics

Finn Kydland

■ TA-01

Tuesday, 8:30-10:00

RB-Alfa

Tutorial Lecture: Professor Anita Schöbel

Chair: *Gerhard Wäscher*

1 - Lines, Timetables, Delays: Models and Trends in Optimization of Public Transport

Anita Schöbel

■ TA-02

Tuesday, 8:30-10:00

RB-Beta

Graph Models in Logistics and Scheduling

Chair: *Maksim Barketau*

1 - Minimizing maximal weight of subsets in a bipartite graph

Maksim Barketau, Erwin Pesch, Yakov Shafransky

2 - Batch scheduling and transfer line design problems

Alexandre Dolgui, Sergey Kovalev, Mikhail Y. Kovalyov, Jenny Nossack, Erwin Pesch

3 - Periodic Scheduling for Wireless Access Networks to the Internet

Celia Glass

4 - New Bounds and Constraint Propagation Techniques for the Clique Partitioning Problem

Erwin Pesch, Florian Jaehn

■ TA-03

Tuesday, 8:30-10:00

RB-L1

Logistics, Transportation, Traffic - 2

Chair: *Erwin van der Laan*

- 1 - **The efficiency improving of traction drive test bench with supercapacitor energy storage system**

Genadijs Zaleskis, Viesturs Brazis

- 2 - **How to place products in a warehouse to minimize forklifts worktime — a simple data mining based algorithm**

Grzegorz Tarczyński

- 3 - **How the NPV and average cost criterion lead to different decisions in the vending machine problem**

Erwin van der Laan

Paper moved from session MD-30

- 4 - **An MINLP approach to forming secure islands in electricity networks**

Paul Trodden, Waqqas Ahmed Bukhsh, Andreas Grothey, Ken McKinnon

■ TA-04

Tuesday, 8:30-10:00

RB-L2

Air Transportation and Propagation

Chair: *Claus Gwiggner*

1 - Optimizing the Staff Schedule for Airport Immigration

Phi Doan

2 - Improvement of Static Runway Assignment Using Queueing Model

Ryota Mori

3 - Sequencing and Swapping Probabilities for Traffic Synchronization

Sakae Nagaoka, Claus Gwiggner, Yutaka Fukuda

Paper moved from session WB-12

4 - Analysis of the variability of travel conditions and flows along a transit line

Vincent Benezech, Fabien Leurent

■ TA-05

Tuesday, 8:30-10:00

RB-L3

Maritime Transportation in Offshore Industry

Chair: *Irina Gribkovskaia*

- 1 - **A simulation study of the fleet sizing problem for offshore supply vessels**
Yauhen Maisiuk, Irina Gribkovskaia
- 2 - **Routing and scheduling of offshore supply vessels with fuel consumption minimization through determining the best discrete value of sailing speed on each leg**
Tatsiana Barysavets, Irina Gribkovskaia, Mikalai Mikhailau
- 3 - **Routing of supply vessels to offshore installations with deliveries and pickups of multiple commodities**
Eugen Sopot, Irina Gribkovskaia, Gilbert Laporte
- 4 - **Speed strategies for green supply vessel planning**
Ellen Karoline Norlund, Irina Gribkovskaia

■ TA-06

Tuesday, 8:30-10:00

RB-Gamma

Engineering and Hybrid search

Chair: *Säïd Hanafi*

- 1 - **Local search methods for conflict-free routing in a multi-processor system on chip**
Marc Sevaux, Boureïma Zerbo, André Rossi, Jean-Charles Creput
- 2 - **A PSO-based Heuristic for energy-aware scheduling of Workflow applications on cloud computing**
Sonia Yassa, Rachid Chelouah, Hubert Kadima, Bertrand Granado
- 3 - **Software Interfaces for Heuristic Solvers and the Future of Hyflex**
Andrew J. Parkes, Matthew Hyde, Gabriela Ochoa, Ender Özcan
- 4 - **An Application of Electromagnetic Meta-Heuristic Method for Solving System of Nonlinear Fredholm Integral Equations**
Hassan Taheri

■ TA-07

Tuesday, 8:30-10:00

RB-Eta

Vehicle routing in practical settings

Chair: *Jorge E. Mendoza*

Chair: *Victor Pillac*

- 1 - **Solving an Industrial Waste Collection Problem using a Hybrid Column Generation Algorithm**
Jesper Larsen, Kristian Milo Hauge
- 2 - **Multi-stage, multi-period distribution planning with inventory and routing considerations**
Dmitry Ivanov, Boris Sokolov, Alexander Pavlov
- 3 - **Extending the Periodic Vehicle Routing Problem: A Case Study in Beverage Logistics**
Dominik Pfeiffer, Bernd Hellgrath
- 4 - **A real-life Inventory Routing Problem**
Benoît Tricoire, Eric Pinson

■ TA-08

Tuesday, 8:30-10:00

RB-Epsilon

Supply Chain Design

Chair: *Alparslan Serhat Demir*

1 - Use of decomposition method in forest fuel supply chain

Amirhossein Sadoghi, Helene Lidestam

2 - Modular Supply Chain Optimization in the Construction Industry: An Application

Pedro Rijo, Amílcar Arantes

3 - Robust Supply Chain Network Design by Considering Different Risk Mitigation Strategies

Faeghe Mohamad Doost, Shabnam Rezapour

4 - Determining Multiple Warehouse Locations and Customers to be Served by Using Genetic Algorithm

Alparslan Serhat Demir

■ TA-09

Tuesday, 8:30-10:00

RB-Zeta

Cutting and Packing 5

Chair: *José Fernando Gonçalves*

1 - A Comparison of Approaches for Solving the 3D Container Ship Loading Planning Problem by Representation by Rules

Anibal Azevedo, Cassilda Ribeiro, Galeno Sena, Antônio Chaves, Luiz Salles Neto, Antônio Moretti

2 - A global optimization approach for three dimensional rectangular packing problems

Pei-Chun Wang

3 - Constraint programming approaches, search strategies and bounds in problems of orthogonal packing.

Marat Mesyagutov, Gleb Belov, Guntram Scheithauer

4 - A biased random key genetic algorithm for the 2D and 3D bin packing problem

José Fernando Gonçalves

■ TA-10

Tuesday, 8:30-10:00

RB-Theta

Inventory Management 2

Chair: *Farouk Yalaoui*

Chair: *Christian Larsen*

1 - Dynamic supply chain inventory management: a generic mathematical programming approach

Joaquim Jorge Vicente, Susana Relvas, Ana Paula Barbósa-Póvoa

2 - The relationship between purchasing strategy, manufacturing performance and financial performance

Ahmed Attia

3 - Spare parts sharing with joint optimization of maintenance and inventory policies

Christian Larsen, Hartanto Wong, Lars Relund Nielsen

■ TA-11

Tuesday, 8:30-10:00

RB-Iota

Transport Networks

Chair: *Anna Sciomachen*

1 - Feeder bus network design problem: a new solving procedure and real size applications

Francesco Ciaffi, Ernesto Cipriani, Marco Petrelli

2 - Delivery splitting problem with multiple origins

Tomas Subrt

3 - Freight terminal location in multimodal networks

Anna Sciomachen, Daniela Ambrosino

■ TA-13

Tuesday, 8:30-10:00

RB-Tau

Semiconductor and Pharmaceuticals Production

Chair: *Lars Moench*

- 1 - **Stochastic Programming for New Product Introduction in the Pharmaceutical Industry**
Klaus Reinholdt Nyhuus Hansen, Martin Grunow
- 2 - **Enhancing standard mid-term planning in semiconductor manufacturing**
Phillip Kriett, Martin Grunow
- 3 - **Order release planning by iterative linear programming and simulation: An analysis of the underlying coordination mechanism**
Hubert Missbauer
- 4 - **A Scheduling Approach for Complex Job Shops with Transportation**
Lars Moench, Rene Driessel

■ TA-14

Tuesday, 8:30-10:00

RB-Omega

Scheduling with variable parameters II

Chair: *Yakov Shafransky*

Chair: *Stanislaw Gawiejnowicz*

- 1 - **Minimizing Maximum Lateness for Single Machine under Uncertain Due Dates and Precedence Constraints**
Dzmitry Sledneu, Yakov Shafransky
- 2 - **Scheduling precedence-constrained jobs with mixed processing times and maximum cost criterion**
Marek Dębczyński, Stanislaw Gawiejnowicz
- 3 - **Scheduling jobs on unrelated parallel machines with general positional deterioration to minimize the total processing cost**
Yakov Shafransky
- 4 - **Multicriteria optimisation of construction project schedules**
Grzegorz Ginda, Mirosław Dytczak, Tomasz Wojtkiewicz

■ TA-15

Tuesday, 8:30-10:00

RB-2101

Semi-infinite methods and applications

Chair: *Ana I. Pereira*

1 - Strong duality in robust linear semi-infinite programming

Miguel Goberna

2 - General semi-infinite programming

Vladimir Shikhman, Hubertus Th. Jongen

3 - Reduction method with multistart technique for semi-infinite programming problems

Ana I. Pereira, Florbela P. Fernandes, M. Fernanda P. Costa, Edite M.G.P. Fernandes

4 - Study of optimization problems with analytic constraint functions

Tatiana Tchemisova, Olga Kostyukova

■ TA-16

Tuesday, 8:30-10:00

RB-2103

Asset management applied to energy and the environment

Chair: *Thomas Archibald*

1 - Long-term asset maintenance optimization at Scottish Water

Travis Poole, Thomas Archibald, Robert Murray

2 - Practical Issues in Asset Management within UK Water Industry

Jake Ansell

3 - Modelling Asset Deterioration using Structured Expert Judgement

Graeme Blair, Deborah Gee, Matthew Revie, Lesley Walls

■ TA-17

Tuesday, 8:30-10:00

RB-2105

Covering Models

Chair: *Ioannis Giannikos*

- 1 - **Multi-criteria covering-based location of volunteer fire departments**
Brigitte Werners, Dirk Degel
- 2 - **Non-full coverage facility location problems**
Maria Cortinhal
- 3 - **Locating Undesirable Facilities**
H.a. Eiselt, Vladimir Marianov
- 4 - **Using Clustering Heuristics to Solve a Family of Demand Covering Models**
Ioannis Giannikos, Basilis Boutsinas, Antiopi Panteli

■ TA-18

Tuesday, 8:30-10:00

RB-2107

Advances in Location Modeling

Chair: *Dmitry Krass*

- 1 - **Prepositioning of Supplies in Preparation for a Hurricane with Forecast Information Updates**
Rajan Batta, Gina Galindo
- 2 - **Organization of a public service through the solution of a Districting Problem**
Carmela Piccolo, Giuseppe Bruno
- 3 - **Inventory Location and Transshipment Problem**
Dmitry Krass, Oded Berman, Alex Shlakter

■ TA-19

Tuesday, 8:30-10:00

RB-2111

Pension Funds

Chair: *Elena Vigna*

- 1 - **A risk-based premium: What does it mean for DB plan sponsors?**
An Chen, Filip Uzelac
- 2 - **Mean-variance optimization in DC plan with stochastic interest rate**
Elena Vigna, Francesco Menoncin
- 3 - **Optimal consumption, investment and life insurance with surrender option guarantee**
Morten Tolver Kronborg
- 4 - **Allowing for Tail Risk, and Aversion to Tail Risk, in Optimal Portfolios for Long-Horizon Investors**
Iqbal Owadally, Zinoviy Landsman

■ TA-20

Tuesday, 8:30-10:00

RB-2113

Multicriteria Analysis for Investment Decision Making

Chair: *Luiz F. Autran M. Gomes*

- 1 - **Frameworks of Strategic Decision Behavior on Investment and Risk Management**
Mei-Chen Lo
- 2 - **An Approach to Multicriteria Sorting within the Verbal Decision Analysis Paradigm**
Eugenia Furems
- 3 - **Comparing decisional maps**
Valérie Brison, Marc Pirlot
- 4 - **Using the Choquet-extended TODIM method for a multicriteria analysis of improvements in a major road in the Southeastern Region of Brazil: the Paraty-Cunha Highway**
Luiz F. Autran M. Gomes, Maria Augusta Machado

■ TA-21

Tuesday, 8:30-10:00

RB-2115

Financial Mathematics and OR 5

Chair: *Tansel Avkar*

- 1 - **Using the coverage data structure to solve a bi-criteria constructive model aiding to identify non-dominated portfolios**
Javier Pereira, Fernando Paredes
- 2 - **An EPQ Model for Deterioration Items and Exponential Demand Rate Taking into Account the Time Value of Money**
Vikram jeet Singh
- 3 - **Pricing fx forwards in OTC markets - new evidence for the pricing mechanism when faced with counterparty risk**
Stefan Stöckl, Alexander Leonhardt, Andreas Rathgeber, Johannes Stadler
- 4 - **Qualitative multi-attribute model for evaluating companies' interoperability**
Borka Jerman Blazic, Vladislav Rajkovic, Ar?nas Bareisis, Ausra Kentrait?

■ TA-22

Tuesday, 8:30-10:00

RB-2117

Institutional and Technological Changes in Market and Transitional Economies

Chair: *Jean-Francois Emmenegger*

Chair: *Ludmilla Koshlai*

1 - DSS for technological planning

Oleksandr Pylypovskyi, Ludmilla Koshlai, Petro Stetsyuk

2 - Modeling the Returns of Securities on the Financial Markets

Jean-Francois Emmenegger

3 - Forecasting Ukrainian cargo transport system indicators

Elena Pervukhina, Jean-Francois Emmenegger, Victoria Golikova

4 - Peculiarities of Labour Market in a Transition Economy

Ludmilla Koshlai

■ **TA-23 has moved to MC-23**

■ **TA-23 has moved from MC-23**
■ **TA-23**

Tuesday, 8:30-10:00

RB-Delta

Regularity in Nonsmooth Analysis

Chair: *Alexander Kruger*

Chair: *Marco A. López-Cerdá*

- 1 - **An inverse function result and some applications to sensitivity of generalized equations**
Gabor Kassay
- 2 - **Extensions of Metric Regularity**
Alexander Kruger, Andrei Dmitruk
- 3 - **Frechet and proximal Regularity of perturbed distance functions at points in the target set in Banach spaces**
Messaoud Bounkhel
- 4 - **Some recent contributions to convex calculus**
Marco A. López-Cerdá

■ TA-24

Tuesday, 8:30-10:00

CC-A11

Demand Forecasting

Chair: *Aris Syntetos*

1 - Grouping seasonality and the formation of groups

Aris Syntetos, John Boylan, Mona Mohammadipour

2 - Forecasting in production planning by adaptive exponential smoothing methods

Frank Herrmann

3 - Forecasting Intermittent Demand by Hyperbolic-Exponential Smoothing

Armagan Tarim, Steven Prestwich, Roberto Rossi, Brahim Hnich

4 - Stochastic models for time-dependent intermittent demand

Clint Pennings, Jan van Dalen, Erwin van der Laan

■ TA-25

Tuesday, 8:30-10:00

CC-A23

Modelling Markets with Imperfections

Chair: *Christoph Weber*

1 - Cartelization in the natural gas industry, a model-based analysis

Albert Banal Estanol, Steven Gabriel, Olivier Massol

2 - Expectation Formation on Future Markets and Boom-and-Bust Cycles in Electricity Markets: Evidence from an Agent-Based Simulation

Daniel Ziegler

3 - Decision problems including limited liquidity in energy markets

Oliver Woll, Christoph Weber

4 - Planning of Energy Supply Chains based on Domestic Energy microgeneration

Georgios Kopanos, Michael Georgiadis, Efstratios Pistikopoulos

■ TA-26

Tuesday, 8:30-10:00

CC-A24

Optimization in Design of Water Systems

Chair: *Elcin Kentel*

Chair: *Halil Önder*

1 - An improved decomposition-based heuristic for the pressurized water irrigation network design problem

Margarida Pato, Graça Gonçalves, Luis Gouveia

2 - Use of spreadsheet optimization for management in groundwater engineering

Halil Önder

3 - Estimation of aquifer parameters in groundwater management using spreadsheet optimization as an inverse problem

Elcin Kentel, Halil Önder, Cüneyt Ta?kan

Paper moved to session WA-27

A multicriteria decision scheme for water pipe replacement prioritization

Youssef Tlili, Amir Nafi

Paper moved from session MD-20

5 - A hybrid model for forecasting the streamflow data

Alpaslan Yazar, Mustafa Onucyildiz, Hülya Yazar

■ TA-27

Tuesday, 8:30-10:00

CC-A25

Inequality Averse Decisions

Chair: *Alec Morton*

Chair: *Nikolaos Argyris*

- 1 - **Combining equity and utilitarianism in a mathematical programming model**
Hilary Paul Williams, John N. Hooker
- 2 - **Equitable preferences: representation and use in practical problems**
Nikolaos Argyris
- 3 - **Incorporating preference information in multicriteria problems with equity concerns**
Ozlem Karsu, Alec Morton
- 4 - **Aversion to health inequalities in healthcare prioritisation: a multiobjective mathematical programming perspective**
Alec Morton

■ TA-28

Tuesday, 8:30-10:00

CC-A27

Hierarchical Optimization

Chair: *Eleftherios Couzoudis*

- 1 - **A poisson input queueing system for threshold policy of machine repair problem with degraded failure**

Rekha Choudhary

- 2 - **Expansion Planning of Storage Technologies in Renewable Generation Systems**

Christian Kraemer, Andreas Schäfer, Manuel Jäkel, Albert Moser

Paper added to session

- 3 - **The Optimality Antisymmetrical rank function in poset**

Zahra Yahi, Sadek Bouroubi

In studying the optimality rank function, several results are given. A sufficient condition is given by Alexiv. The optimality of the rank function depends also on the type of the poset; e.g., for the rank function about a distributive poset, a normal poset is optimal. Our objective are studies of optimality of the Antisymmetrical rank function in a particular poset. We give some sufficient condition of the Antisymmetrical rank function and some results in relation with the optimality of the rank function in poset.

■ TA-29

Tuesday, 8:30-10:00

CC-A29

MINLP in Airline and Air Traffic Management applications

Chair: *Claudia D'Ambrosio*

Chair: *Sonia Cafieri*

- 1 - **On solving the collision avoidance problem for ATM by solving a Mixed 0-1 nonlinear optimization model heuristically**
Laureano Fernando Escudero, Antonio Alonso-Ayuso, F. Javier Martin-Campo
- 2 - **Conflict resolution by minor speed adjustments**
David Rey, Christophe Rapine, Rémy Fondacci, Nour-Eddin El Faouzi
- 3 - **Airline tail assignment optimization: the impact of aircraft heterogeneity**
Patrícia Ribeiro, Susana Relvas, Nuno Leal
- 4 - **Aircraft conflict avoidance: a mixed-integer nonlinear optimization approach**
Sonia Cafieri

■ TA-30

Tuesday, 8:30-10:00

CC-A31

Modeling Approaches and Solution Algorithms

Chair: *Christoph Schwindt*

1 - Heuristic decomposition and LP-based scheduling in make-and-pack production

Norbert Trautmann, Philipp Baumann

2 - Modeling Formulation and Solution Approach for a Continuous Process Problem

Krystsina Bakhrankova, Truls Flatberg

3 - Planning of a continuous production process in the printing industry

Philipp Baumann, Norbert Trautmann

4 - Comparing models for operational production planning and scheduling in single-stage continuous processes: Process Systems Engineering vs. Operations Research

Ana Paula Barbósa-Póvoa, Pedro Amorim, Bernardo Almada-Lobo, Tânia Pinto_Varela

■ TA-31

Tuesday, 8:30-10:00

CC-A33

Data Mining: Web and Social-Oriented Applications

Chair: *Takashi Onoda*

Chair: *Anastasia Motrenko*

- 1 - **An evaluation of the Generalized Additive Neural Network spam filtering approach**
Tiny Du Toit, Hennie Kruger
- 2 - **Applying hybrid models to analyze the adoption intention of mobile applications**
Yang-Chieh Chin, Chiao-Chen Chang
- 3 - **Semantic Web services composition with query rewriting under constraints**
Khaled Sellami, Mohamed Ahmed-Nacer, Rachid Chelouah, Hubert Kadima, Nadia Halfoune
- 4 - **Logical analysis of data for a study of proverbs**
Jorge Santos, Luís Cavique, Armando Mendes

■ TA-32

Tuesday, 8:30-10:00

CC-A34

Soft OR case studies

Chair: *Giles Hindle*

1 - Extending WASAN — Case Study of a UK Police Force

Chris Smith, Duncan Shaw

2 - The secret's in the mix: using OR to inform learning and teaching developments

Jo Smedley

3 - A conceptual modelling framework for Public Health economic modelling

Hazel Squires, Jim Chilcott, Ron Akehurst, Jennifer Burr

4 - Participatory Decision Processes in Rural Communities in Tanzania

Joe Kakeneno, Cathal Brugha

■ TA-33

Tuesday, 8:30-10:00

CC-A37

OR and Transportation: Applications in Developing Countries

Chair: *Youssef Masmoudi*

Chair: *Habib Chabchoub*

- 1 - **Static multiclass truck assignment model: an application to Nigeria**
Precious Ikem, Michael Bell
- 2 - **New approach to the Single Track Railway Scheduling Problem**
Maya Laskova, Alexander Lazarev, Elena Musatova
- 3 - **Humanitarian Operations Research in Southern Africa**
Hildah Mashira

■ TA-34

Tuesday, 8:30-10:00

CC-A39

Environment and Sustainable Development - Green Teachers

Chair: *Azizah Hanim Nasution*

- 1 - **A Markov-based model in managing coordination relationship of school communities to achieve environmental behaviour**

Azizah Hanim Nasution, Herman Mawengkang

- 2 - **A decision analysis approach model to maximize students' cognition of environmental problems**

Hidayati Hidayati, Azizah Hanim Nasution

- 3 - **A Stochastic Programming model for Sustainable Production Planning of Crude Palm Oil Industry**

Hendaru Sadyadharma, Herman Mawengkang

Paper moved from session WA-17

- 4 - **Fish Processed Production Planning Under Uncertainty Considering Quality**

Tutiarny Naibaho

■ TA-35

Tuesday, 8:30-10:00

CC-A41

Pricing and Supply Chain Management

Chair: *Kathryn E. Stecke*

1 - Impact of Returns Policies on Retail Assortment and Pricing Decisions

Alex Grasas, Aydin Alptekinoglu

2 - Dynamic Pricing of Fashion Products: The Effects of Demand Learning and Strategic Consumer Behavior

Yossi Aviv

3 - The study of a time-dependent Freight Transportation Problem

Xiang Song

4 - An Integrated Approach to Green Product and Supply Chain Design

Cornelia Schoen

■ TA-36

Tuesday, 8:30-10:00

CC-A43

DEA and Performance Measurement: Applications 3

Chair: *Emmanuel Thanassoulis*

1 - Prioritizing project activities via DEA methodology

Yossi Hadad, Baruch Keren, Lea Friedman

2 - Cognitive Effects of DEA on Performance Assessment

Nadia Vazquez Novoa, Heinz Ahn

3 - More New Features of Data Envelopment Analysis Online Software (DEAOS)

Mohammad-Reza Alirezaee, Ali Niknejad, Nassrin Alirezaee

4 - Data Envelopment Analysis software for the advanced users

Ali Emrouznejad, Emmanuel Thanassoulis

■ TA-37

Tuesday, 8:30-10:00

CC-Act

OR in Health & Life Sciences 1

Chair: *Abraham Seidmann*

- 1 - **Utility of quantitative methods in strategy — making process for blood donation system — logistics approach**
Sebastian Twaróg, Anna Ojrzyńska, Grażyna Trzpiot, Jacek Szotysek
- 2 - **A simulation-based optimization tool for patient allocation to clinical studies**
Stephan Tiesler, Johannes Ruhland
- 3 - **Using decision analytic modeling for the optimal dichotomization of diagnostics**
Gimon de Graaf, Douwe Postmus
- 4 - **Custom contract and the role of Group Purchasing Organizations (GPOs) as information intermediaries**
Vera Tilson, Abraham Seidmann, Rajib Saha

■ TA-38

Tuesday, 8:30-10:00

HH-Colombus

Interactive Multiobjective Optimization: Methods and Applications

Chair: *Kaisa Miettinen*

Chair: *Jussi Hakanen*

- 1 - **Interactive Gradient Projection and Reference Point Approach for Multiobjective Performance Planning**
Dong-Ling Xu, Jian-Bo Yang
- 2 - **Decision making in a multi-objective paper mill design problem**
Ingrida Steponavice, Sauli Ruuska, Kaisa Miettinen
- 3 - **Consistent parametric representation of Pareto optimal solutions via geometric criteria**
Alberto Lovison, Markus Hartikainen
- 4 - **Parameterized achievement scalarizing functions based approach to solve multicriteria median location problem**
Olga Karelkina

■ TA-39

Tuesday, 8:30-10:00

HH-Cousteau

MCDAs: New Approaches and Applications in Financial Markets

Chair: *Gabriela Fernández Barberis*

1 - Multiple Criteria Decision Aid Methods with New Generalized Criteria: an application to the financial markets

Gabriela Fernández Barberis, María del Carmen Escribano Ródenas, María Del Carmen García Centeno

2 - Towards a new classification of Spanish Saving Banks: application of multicriteria decision aid methods

Milagros Gutiérrez Fernández, Gabriela Fernández Barberis, Ricardo Palomo Zurdo

■ **TA-40 has moved from MC-44**
■ **TA-40**

Tuesday, 8:30-10:00

HH-Livingstone

Dynamic Pricing

Chair: *Mikhail Nediak*

- 1 - **Revenue Management with Lifetime Value Considerations: Balancing Customer Acquisition and Retention Spending for Firms with Limited Capacity**
Anton Ovchinnikov
- 2 - **Use of exact algorithms for Partially Observable Markov Decision Processes in solving a Dynamic Pricing problem**
Shahin Abbaszadeh
- 3 - **Name-Your-Own-Price sales channels: Can strategic consumers improve their performance with information exchange or collaboration?**
Mikhail Nediak, Tatsiana Levina, Yuri Levin, Jeff McGill

■ TA-41

Tuesday, 8:30-10:00

HH-Heyerdahl

AHP/ANP 4

Chair: *Y. Ilker Topcu*

1 - Applying ANP to Select Strategic Alliances for International Tourist Hotels in Taiwan

Su-Chuan Shih

2 - An Integrated Multi-Criteria Approach for the Evaluation and Control of Strategic Options

Ralf Kaspar

3 - A Multi-Criteria Based Evaluation of 'Innovation Strategy Selection'

Ozge Surer, Sezi Cevik Onar, Y. Ilker Topcu

Paper moved from session MC-41

4 - Utilization of Multi-Criteria Decision Making Methods at the Phase of Compare and Contrasting of the Course of Actions within the Military Decision Making Process.

Erman Atak

■ **TA-42 has moved to WB-42**

■ **TA-42 has moved from WB-42**

■ **TA-42**

Tuesday, 8:30-10:00

BW-Amber

Simulation Models and Decision Analysis

Chair: *Erik Kropat*

Chair: *Silja Meyer-Nieberg*

Chair: *Sonia De Cosmis*

- 1 - **Modelling a Distribution Operation Using Discrete Event-Based Simulation**
Amílcar Arantes
- 2 - **Generation of EPC based Simulation Models**
Christian Mueller
- 3 - **Rare-Event Estimation for Density Dependent Models**
Adam Grace
- 4 - **Adding adaptability to Discrete Event Simulation through parameterisation**
Francesco Aggogeri, Gian Mauro Maneia, Marco Mazzola, Angelo Merlo

■ TA-43

Tuesday, 8:30-10:00

BW-Granite

Stochastic programming in energy

Chair: *Asgeir Tomasgard*

- 1 - **The value of storage at household level: A smart grid perspective**
Stein W. Wallace
- 2 - **Gas Network Topology Extension for Multiple Scenarios**
Jonas Schweiger
- 3 - **A Bilevel Programming Approach to Modeling of Transmission Capacity Planning**
Paolo Pisciella, Marida Bertocchi, Maria Teresa Vespucci
- 4 - **Long-term expansion of the European Power System Under Various Emission Mitigation Scenarios**
Christian Skar, Asgeir Tomasgard, Gerard Doorman

■ TA-44

Tuesday, 8:30-10:00

BW-Marble

Computer vision (1)

Chair: *Ivan Reyer*

Chair: *Fei Yan*

Chair: *Teofilo deCampos*

1 - Anomaly detection in machine perception systems

Josef Kittler

2 - Learning Optimal Semantically Relevant Visual Dictionary using Evolutionary Algorithms

Ashish Gupta

3 - Transductive Transfer Learning for Action Recognition

Teofilo deCampos, Nazli FarajiDavar

■ TA-45

Tuesday, 8:30-10:00

BW-Water

Stochastic Logistical Networks

Chair: *Derek Verleye*

Chair: *El-Houssaine Aghezzaf*

- 1 - **An Approximate Scenario-based Approach to Design Robust Supply Chain Networks under Uncertainty**
Walid Klibi, Alain Martel
- 2 - **On a strict solution algorithm for a stock replenishment policy with fill-rate constraints in the two-step supply chain**
Takashi Hasuike, Koji Okuhara, Nobuyuki Ueno
- 3 - **Stochastic and dynamic patient transportation**
Jakob Puchinger, Ulrike Ritzinger, Richard Hartl
- 4 - **Supply chain coordination with capacity reservation and emergency option**
Guillaume Amand, Yasemin Arda

■ TB-01

Tuesday, 10:30-12h00

RB-Alfa

Tutorial Lecture: Professor Guy Desaulniers

Chair: *Marc Sevaux*

- 1 - **20 years of column generation for the vehicle routing problem with time windows**

Guy Desaulniers

■ TB-02

Tuesday, 10:30-12h00

RB-Beta

Scheduling and Logistics

Chair: *Vitaly Strusevich*

1 - Adding an Extra Machine to a Shop Parallel Identical Machines

Vitaly Strusevich, Kabir Rustogi

2 - Approximation Schemes for Scheduling on a Single Machine Subject to Cumulative Deterioration and Maintenance

Kabir Rustogi, Vitaly Strusevich, Hans Kellerer

3 - Supply Chain Scheduling in a Competitive Environment

Miguel Zamarripa, Antonio Espuña

4 - Scheduling of coupled tasks with high multiplicity

Michaël Gabay, Gerd Finke, Nadia Brauner

■ TB-03

Tuesday, 10:30-12h00

RB-L1

Logistics, Transportation, Traffic - 3

Chair: *Markus Bohlin*

- 1 - **A heuristic solution approach for a real-size hierarchical hub location problem**
Julia Sender, Uwe Clausen
- 2 - **Auto-Carrier Distribution Problem with Highly Variable Daily Demand at Dealers**
Tsung-Sheng Chang, Hao-Ping Jiang
- 3 - **Monte Carlo Simulation Techniques with Parallel Heuristics applied to solve the Capacitated Vehicle Routing Problem**
Thiago Guimaraes, Luis Gustavo Pereira, Wesley José Nogueira Medeiros
- 4 - **Shunting with car mixing using column generation**
Markus Bohlin, Florian Dahms, Holger Flier, Matus Mihalak

■ TB-04

Tuesday, 10:30-12h00

RB-L2

Approaches for Integer Programming

Chair: *Juan José Salazar González*

Chair: *Martine Labbé*

1 - Optimal interval scheduling with a resource constraint

Carlo Filippi, Enrico Angelelli, Nicola Bianchessi

2 - Capacitated Network Design with Facility Location

Ivana Ljubic, Bernard Gendron, Stefan Gollowitzer

3 - A Branch-Cut-and-Price algorithm for the Piecewise Linear Network Flow Problem

Tue Christensen, Martine Labbé

■ TB-05

Tuesday, 10:30-12h00

RB-L3

Problems on graphs I

Chair: *Nair Abreu*

- 1 - **On rational approximation of geometric graph**
Vladimir Benediktovich
- 2 - **New spectral upper bounds on the size of k-regular induced subgraphs**
Domingos Cardoso, Sofia Pinheiro
- 3 - **Graph spectra and combinatorial optimization**
Nair Abreu, Claudia Justel, Domingos Cardoso

■ TB-06

Tuesday, 10:30-12h00

RB-Gamma

Performance evaluation and new metaheuristics

Chair: *Cristina C. Vieira*

1 - Using a multicriteria function to evaluate metaheuristics performance

Paulo Oswaldo Boaventura-Netto, Valdir Melo

2 - Performance Assessment of Electromagnetism-like Algorithm

Alkin Yurtkuran, Erdal Emel

3 - From constructive search to local search

Cristina C. Vieira, Carlos M. Fonseca

4 - Algorithm of inspired by virus and bacterium attack: A meta-heuristic approach as an optimization tool

Mahdi Bashiri, Masoud Bagheri, Zeinab Rasoolinezhad

Title change:

■ **TB-07** ■ **TB-07**

Tuesday, 10:30-12h00

RB-Eta

Vehicle Routing and Logistics Optimization

Chair: *Erdener Özçetin*

1 - A Parallel Procedure for Dynamic Multi-objective TSP

Weiqi Li

2 - Solving the vehicle routing problem with time windows by an interior point branch-price-and-cut framework

Pedro Munari, Jacek Gondzio

3 - A Parallel Algorithm for Vehicle Routing Problem on GPUs

Erdener Özçetin, Gurkan Ozturk

Paper added to session

4 - Solving Vehicle Routing Problems with Equipment Allocation

Philip Kilby, Fabien Tricoire

We look at a routing problem where some tasks require particular equipment (and may require more than one type of equipment). The equipment allocated to a vehicle is a decision variable, and restricts the vehicles that can perform each task.

We look at two methods for solving the combined equipment allocation and vehicle routing problem. One method uses a standard vehicle routing solver, modified in a modular way to incorporate the additional functionality. We also describe a method based on column generation.

■ TB-08

Tuesday, 10:30-12h00

RB-Epsilon

VMI and Delivery

Chair: *Marcel Turkensteen*

- 1 - **Shipment consolidation by collaborative planning between industrial suppliers under VMI policy**
Waldemar Kaczmarczyk
- 2 - **An Improved Robust Particle Swarm Optimization Algorithm to the Uncertain Inventory Routing Problem**
Isa Nakhai Kamalabadi, Ali Hossein Mirzaei
- 3 - **A vendor managed inventory model with transportation to geographically dispersed retailers**
Marcel Turkensteen, Christian Larsen

■ TB-09

Tuesday, 10:30-12h00

RB-Zeta

Cutting and Packing 6

Chair: *Andreas Bortfeldt*

1 - Optimal cutting of the raw materials

Jaroslav Hanzel, Ladislav Jurisica, Anton Vitko, Marian Klucik, Peter Paszto

2 - Different criteria to sort the list of pieces in 2D-Orthogonal Strip Packing Problem

Fernando Garcia-Perez, Joaquin Aranda Almansa, Miguel Delgado Pineda

3 - Generation of Two-dimensional Guillotine Cutting Patterns by Genetic Algorithms and Fit-Heuristics

Lilian Caroline Xavier Candido, Thiago Guimaraes

4 - Algorithms Based on Particle Swarm Optimization for the Two-dimensional Knapsack Problem

David Álvarez, Ruben Romero

■ TB-10

Tuesday, 10:30-12h00

RB-Theta

Inventory Management 3

Chair: *Hicham Chehade*

Chair: *Harry Groenevelt*

1 - An Inventory Model to Determine The Optimal Mix of Owned and Rented Items

Leonardo Epstein, Eduardo González-Császár

2 - Analysis of Supply Contracts with Total Minimum Quantity Commitment and Fixed Order Costs

Frank Y Chen

3 - Heuristics for the (Q,R,S) inventory policy

Harry Groenevelt

■ TB-11

Tuesday, 10:30-12h00

RB-Iota

Transportation and Logistics

Chair: *Sadegh Niroomand*

- 1 - Developing a sustainable model for city transportation networks**
Narges Shahraki, Metin Turkey, Ali Fattahi
- 2 - Inventory and Transport Planning of Raw Materials for Steel Enterprises**
Hua-An Lu
- 3 - Experimenting a Metaheuristics for a Flexible Transport Service**
Pasquale Carotenuto, Daniele Monacelli, Marco Turco
- 4 - Optimal Supermarket Layout**
Sadegh Niroomand, Bela Vizvari

■ TB-12

Tuesday, 10:30-12h00

RB-Omicron

Robustness in Public Transportation

Chair: *Marie Schmidt*

1 - Robust Lockmaster's Problems

Christina Büsing, Elisabeth Günther

2 - Robustness in Periodic and Aperiodic Timetabling

Marc Goerigk, Anita Schöbel

3 - On the improvement of robustness in railway station areas

Thijs Dewilde, Peter Sels, Dirk Cattrysse, Pieter Vansteenwegen

4 - Robust bicriteria paths

Marie Schmidt, Kenneth Kuhn, Andrea Raith, Anita Schöbel

■ TB-13

Tuesday, 10:30-12h00

RB-Tau

Geometric Clustering

Chair: *Andreas Brieden*

Chair: *Peter Gritzmann*

1 - On the Diameter of Partition Polytopes

Steffen Borgwardt

2 - A New Algorithmic Approach in Mitigating Supply Chain Risk

Michael Öllinger, Andreas Brieden, Peter Gritzmann

3 - Forecasting risk by means of geometric clustering

Andreas Brieden, Peter Gritzmann

4 - On optimal weighted balanced clusterings and power diagrams

Peter Gritzmann, Andreas Brieden

■ TB-14

Tuesday, 10:30-12h00

RB-Omega

New models in batch scheduling

Chair: *Mikhail Y. Kovalyov*

Chair: *Ammar Oulamara*

1 - Scheduling a hybrid flowshop with a serial batch machine: application to chemotherapy production

Ameur Soukhal, Jean-Charles Billaut, Yannick Kergosien, Christophe Lenté, Jean-François Tournamille

2 - Scheduling an unbounded batching machine with job processing time compatibilities

Adam Janiak, Adrien Bellanger, Mikhail Y. Kovalyov, Ammar Oulamara

3 - An optimal algorithm to schedule jobs on two identical parallel machines with an operator

Djamal Rebaine, Mohammed Zouba, Pierre Baptiste

■ TB-15

Tuesday, 10:30-12h00

RB-2101

Algorithms for Semi-Infinite Optimization

Chair: *Margarita Rodríguez Álvarez*

- 1 - **Numerical methods for solving semi-infinite programs with infinitely many conic constraints**
Takayuki Okuno, Shunsuke Hayashi, Masao Fukushima
- 2 - **Zimmermann-cutting plane algorithm for solving non-symmetric fuzzy semi-infinite linear programming problems**
Somayeh Khosravi, Alireza Fakharzadeh
- 3 - **The alpha-BB based cutting plane method for semi-infinite program with multi-dimensional index set**
Shunsuke Hayashi, Kensuke Goumoto
- 4 - **Weighted Voronoi cells via quadratic systems**
Margarita Rodríguez Álvarez, Miguel Goberna, Virginia N. Vera de Serio

■ TB-16

Tuesday, 10:30-12h00

RB-2103

Theory and Applications of Constrained Equilibria

Chair: *Jacek Krawczyk*

- 1 - **Global emission ceiling versus international cap and trade: a comparison based on normalized Nash equilibria**
Jacqueline Morgan, Fabien Prieur
- 2 - **Robust Nash Equilibrium in a Class of Multi-Leader-Follower Games**
Masao Fukushima
- 3 - **Regulation of pollution in a Cournot equilibrium**
Lars Mathiesen
- 4 - **Economics of collective monitoring: a study of environmentally constrained electricity generators**
Jacek Krawczyk, Javier Contreras, James Zuccollo

■ TB-17

Tuesday, 10:30-12h00

RB-2105

Hub Location I

Chair: *Ivan Contreras*

- 1 - **P-HUB approach for the optimal park-and-ride facility location problem**
Vladimir Marianov, Felipe Aros-Vera
- 2 - **Hub location under uncertainty**
Francisco Saldanha-da-Gama, Sibel A. Alumur, Stefan Nickel
- 3 - **Hub and Spoke Network Design with Single-assignment, Capacity Decisions and Balancing Requirements**
Stefan Nickel, Isabel Correia, Francisco Saldanha-da-Gama
- 4 - **Supermodular Properties in Hub Location**
Ivan Contreras, Elena Fernandez

■ TB-18

Tuesday, 10:30-12h00

RB-2107

Location Analysis: Advanced Optimization Tools

Chair: *Víctor Blanco*

1 - Expanding Search for a Hider on a Network

Steve Alpern, Thomas Lidbetter

2 - Solving the franchisor-franchisee bi-objective optimization problem

Pilar M. Ortigosa, Juana López-Redondo, Jose Fernandez, Aranzazu Gila Arrondo, Carmen G. Escamilla, Victoria Plaza Leiva

3 - Optimal Timings of Project Control Points using Facility Location Model and Simulation

Narjes Sabeghi, Hamed Reza Tareghian, Hassan Taheri, Mohammad Amini

4 - A hierarchy of SDP-relaxations for multifacility ordered median problems

Víctor Blanco, Justo Puerto, Safae EL Haj Ben Ali

■ TB-19

Tuesday, 10:30-12h00

RB-2111

Quantitative Models for Risk Management in Insurance

Chair: *Montserrat Guillen*

Chair: *Ana Maria Perez-Marin*

1 - Selecting prospects for cross-selling financial products using multivariate credibility

Fredrik Thuring, Jens Perch Nielsen, Catalina Bolance

2 - A logistic regression approach to estimating customer profit loss due to lapses in insurance

Ana Maria Perez-Marin, Montserrat Guillen, Manuela Alcañiz

■ TB-20

Tuesday, 10:30-12h00

RB-2113

Financial Modeling and Optimization

Chair: *Hüseyin Tatlidil*

1 - Portfolio optimization with a new quantile-based risk measure

Cristinca Fulga

2 - Probability distribution models for european stock index returns

Chris Katris, Sophia Daskalaki

3 - A Query for Statistical Arbitrage in Fixed Income Markets for Developing Countries

Sait Satiroglu, Emrah Sener, Emrah Ahi

4 - The Performance of Value at Risk and Expected Shortfall Under Subfamilies of Generalized Hyperbolic Distributions: Evidence from ISE-30

Ali Sabri Taylan, Hüseyin Tatlidil

■ TB-21

Tuesday, 10:30-12h00

RB-2115

Financial Mathematics and OR 6

Chair: *Tatiana Zolotova*

Chair: *Tansel Avkar*

1 - The general approach to the modeling of the risk management procedures and its specification for investment problems

Tatiana Zolotova

2 - Stochastic Hybrid Dynamical Financial Systems and Their Optimization

Gerhard-Wilhelm Weber, Büsra Temocin, Azar Karimov, Erdem Kilic, Yeliz Yolcu Okur

3 - Parameter Estimation for Stochastic Differential Equations

Tansel Avkar, Gerhard-Wilhelm Weber

4 - A Surrogate Constraint Approach for a Scenario-based Capital Budgeting Model

José Paixão, Anabela Costa

■ TB-22

Tuesday, 10:30-12h00

RB-2117

Mathematical Models in Macro- and Microeconomics 1

Chair: *Marta Kostrzewska*

1 - Efficiency-Indices for revealed preference tests: Complexity results and algorithms

Bart Smeulders, Frits Spieksma

2 - Who's Number One? Asymmetric Production Costs as a Determinant of Quality Rankings

Mihkel Tombak, Sergio Meza

3 - Time-varying regression model of gross domestic product

Damir Atygayev, Vadim Mottl

4 - Games in the network flows

Marta Kostrzewska, Leslaw Socha

■ TB-23

Tuesday, 10:30-12h00

RB-Delta

Mathematical Programming and Regulatory - Ecological Systems

Chair: *Erik Kropat*

Chair: *Gerhard-Wilhelm Weber*

Chair: *Joanna M. Makulska*

1 - Robust Optimization in Spline Regression Models for Target-Environment Networks

Ayse Özmen, Erik Kropat, Gerhard-Wilhelm Weber

2 - Optimal parameters region for Pulse Width - Pulse Frequency and Pseudo-Rate modulators

M. Navabi, Hamed Rangraz

3 - Economically optimal days open and days dry in high milking cows

Joanna M. Makulska, Andrzej W?glarz, Anna Stygar

■ TB-24

Tuesday, 10:30-12h00

CC-A11

Financial Forecasting and Risk Analysis

Chair: *Patricia Xufre*

1 - Are the tails different from the body?

Jose Faias

2 - Investment models with a VaR constraint

Patricia Xufre, Antonio Rodrigues

3 - Recursive quantile estimation vs. quantiles from recursive density estimation

Jose Luis Carmo, Antonio Rodrigues

4 - How the stochastic problem drives the Brazilian electric sector

Reinaldo Souza, Pedro Ferreira, Fernando Luiz Cyrino Oliveira

■ TB-25

Tuesday, 10:30-12h00

CC-A23

Sustainable Supply Chains

Chair: *Mehmet Soysal*

1 - Carbon-Optimal and Carbon-Neutral Supply Chains

Charles Corbett, Felipe Caro, Tarkan Tan, Rob Zuidwijk

2 - An application of Revenue Management in remanufacturing: the case of a third party remanufacturer

Joao Quariguasi, Andy Reade, Azadeh Dindarian

3 - Robust design of production networks for second generation synthetic bio-fuel

Grit Walther, Thomas Spengler, Anne Schatka, Laura Hombach

4 - An integrated model for sustainable food logistics management

Mehmet Soysal, Jacqueline Bloemhof, Jack van der Vorst

■ TB-27

Tuesday, 10:30-12h00

CC-A25

Decision Analysis in Practice

Chair: *Mara Airoidi*

1 - Assessing the value for money of UK public services

Tom McBride

2 - Disinvestments in practice

Mara Airoidi

3 - Tackling uncertainties in multi-criteria decision support for sustainable water infrastructure planning

Lisa Scholten, Judit Lienert

Paper moved from session WD-13

4 - A Proposal of Diagnosis Procedure for BTO Products

Yuji Sato

■ TB-28

Tuesday, 10:30-12h00

CC-A27

Optimization Modeling

Chair: *Marcel Sinske*

- 1 - **Taxonomy of concepts and terms in administration, OR and management**
Erwin Reizes
- 2 - **Measuring the Performance of TV Campaigns based on DEA: an Empirical Study**
Katsuaki Tanaka, Yoshinori Matano
- 3 - **Double and One Sided Moral Hazard in the Three-tier hierarchical Organization of the Venture Capital Finance**
Ayi Gavirel Ayayi

■ TB-29

Tuesday, 10:30-12h00

CC-A29

MINLP and Nonlinear Network Flows in Gas Transport I

Chair: *Benjamin Hiller*

1 - Checking Feasibility in Stationary Models of Gas Transportation

Claudia Stangl, Rüdiger Schultz

2 - The Gas Network Nomination Validation Problem - An MIP Approach

Bjoern Geissler, Alexander Martin, Antonio Morsi, Lars Schewe

3 - Gas Network Topology Optimization

Jesco Humpola, Thorsten Koch, Thomas Lehmann, Jonas Schweiger

4 - Modeling flow in gas transmission networks using shape-constrained expectile regression

Fabian Sobotka, Radoslava Mirkov, Werner Römisch, Thomas Kneib

■ TB-30

Tuesday, 10:30-12h00

CC-A31

Applications and Decision Support Systems

Chair: *Jim Everett*

1 - A decision-support tool for designing cost-effective biopharmaceutical manufacturing processes

Sofia Simaria, Richard Allmendinger, Suzanne Farid

2 - Optimal Supply Chain Planning: Service Levels and Profitability Scores

Ana Amaro, Ana Paula Barbósa-Póvoa

3 - Joint lot sizing and routing problem of perishable goods

Márcio Antônio Ferreira Belo Filho, Pedro Amorim, Franklina Toledo, Christian Almeder, Bernardo Almada-Lobo

■ TB-31

Tuesday, 10:30-12h00

CC-A33

Data Analysis and Its Applications

Chair: *Irina Yatskiv*

- 1 - **Extending Learning Vector Quantization for mixed-type data classification**
Chung-Chian Hsu, Jiang-Shan Wang, Hung-Yi Tsai, JongChen Chen
- 2 - **Continuous predictor modality multinomial correlated interpretation**
Andrew Yatsko, Andrew Stranieri, Adil Bagirov, Herbert Jelinek
- 3 - **Assessing Bayesian Network classifiers for software defect prediction**
Karel Dejaeger, Thomas Verbraken, Bart Baesens
- 4 - **A decision support system for ERP implementation in small and medium sized enterprise**
Ying Xie

■ TB-32

Tuesday, 10:30-12h00

CC-A34

Developing Methodology in Soft OR

Chair: *Amanda Gregory*

1 - Evaluating interventions using a lean systems methodology

Gavin Betts

2 - The use of the CAQDAS (Computer Aided Qualitative Data Analysis Software) to structuring problems in Operations Research

William Vianna, Eduardo Hoji, Edilson Giffhorn

3 - Exploring the use of Collaboration Engineering approaches within the practice of Soft Systems Methodology

Aida Azadegan, Giles Hindle

4 - It looks like a PSM and it does what a PSM does but is it a PSM?

Amanda Gregory, Jonathan Atkins

■ TB-33

Tuesday, 10:30-12h00

CC-A37

Logistic and Development

Chair: *Youssef Masmoudi*

Chair: *Habib Chabchoub*

Chair: *Gerhard-Wilhelm Weber*

1 - Time Dependant Intermodal Transportation in the Region of Marmara

Giray Resat, Metin Turkey

2 - 3D Container Ship Loading Planning Problem with multiple scenarios

Luiz Salles Neto, Anibal Azevedo, Antônio Moretti, Antônio Chaves

3 - Graph Theoretic Properties and Algorithms with Application in Disaster Response

Reza Zanjirani Farahani, Hannaneh Rashidi Bajgan

Paper moved from session WD-12

4 - Knowledge Management of Macro and Micro Seaport Repositories using Data Mining Techniques

Ana Halabi Echeverry, Deborah Richards, Ayse Bilgin, Jairo Montoya-Torres

■ TB-34

Tuesday, 10:30-12h00

CC-A39

Optimization for Sustainable Development 1

Chair: *Herman Mawengkang*

1 - A Chance-constrained Optimization Model for a Water Distribution Network Problem

Asrin Lubis, Herman Mawengkang

2 - Land use management problems under uncertainty

Siti Rusdiana

3 - How to Determine Optimum Promotions through CLV Maximization?: A Case Study in a Turkish Bank

Fusun Ulengin, Yeliz Ekinci, Nimet Uray

4 - A stochastic optimization model for multi-product fish production planning problem under uncertainty in raw resources and demand

Intan Syahrini, Herman Mawengkang

■ TB-35

Tuesday, 10:30-12h00

CC-A41

Electric Mobility

Chair: *Patrick Jochem*

1 - A framework for modelling the electricity demand by plug-in electric vehicles

Rashid Waraich

2 - Technical and Economical Aspects of Integrating Plug-in Electric Vehicles in Large Scale Power Systems

Miguel Carrión, Luis Sanchez-rodriguez

3 - Integrating Electric Vehicles into the Germany Electricity Grid — an Interdisciplinary Analysis

Patrick Jochem, Thomas Kaschub, Alexandra-Gwyn Paetz, Wolf Fichtner

■ TB-36

Tuesday, 10:30-12h00

CC-A43

DEA and Performance Measurement: Applications 4

Chair: *Zilla Sinuany-Stern*

- 1 - Analysing the Research and Teaching Quality Achievement Frontier**
David Mayston
- 2 - Benchmarking the implementation path to efficiency: The case of small regional airports**
Ekaterina Yazhensky, Nicole Adler, Tolga Ülkü
- 3 - Performance assessment of wind farms**
Clara Vaz
- 4 - Hospitals efficiency in Israel: 1999-2009**
Zilla Sinuany-Stern, Dov Chernichovsky, Lea Friedman

■ TB-37

Tuesday, 10:30-12h00

CC-Act

OR in Health & Life Sciences 2

Chair: *Leanne Smith*

Chair: *Paul Harper*

1 - A Takt time based resource optimization technique to minimize patient wait time in hospitals

Jyoti R. Munavalli, Frits van Merode, Srinivas A

2 - Optimizing the emergency distribution network in the case of epidemic outbreaks response

Tom Dasaklis, Nikolaos Rachaniotis, Costas Pappis

3 - Modelling ambulance location and deployment in Wales

Leanne Smith, Paul Harper, Vincent Knight, Israel Vieira, Janet Williams

4 - MetSim: a simulation support tool using meteorological information to improve the planning and management of hospital services

Paul Harper, R John Minty

■ TB-38

Tuesday, 10:30-12h00

HH-Colombus

Hybrid Evolutionary Multiobjective Optimization Algorithms

Chair: *Karthik Sindhya*

- 1 - **A Preference-based Evolutionary Algorithm for Multiobjective Optimization: The Weighting Achievement Scalarizing Function Genetic Algorithm**
Ana Belen Ruiz, Rubén Saborido Infantes, Mariano Luque
- 2 - **Preference-based Evolutionary Algorithm for Multiobjective Bilevel Optimization**
Pekka Malo
- 3 - **A Hybrid Evolutionary Multi-objective Optimization Algorithm for Enhanced Convergence and Diversity**
Karthik Sindhya, Kaisa Miettinen, Kalyanmoy Deb

■ TB-39

Tuesday, 10:30-12h00

HH-Cousteau

MCDA: New Approaches and Applications 1

Chair: *Gerhard-Wilhelm Weber*

Chair: *Yves De Smet*

1 - Monotonicity and minimax biproportional apportionments

Paolo Serafini

2 - Multi attribute regional market location problem based on the clustering approach

Mahdi Bashiri, Mohsen Yahyayi

3 - A Careful Look at Criterion Importance and Weights

Pekka Korhonen, Jyrki Wallenius, Anssi Oorni

4 - Rank reversal in the PROMETHEE I and II rankings: a summary of recent investigations

Yves De Smet, Céline Verly, Julien Roland

■ TB-40

Tuesday, 10:30-12h00

HH-Livingstone

Preference Learning 1

Chair: *Willem Waegeman*

Chair: *Krzysztof Dembczynski*

1 - Active learning for preference learning

Nir Ailon

2 - Optimal recommendation sets

Paolo Viappiani

3 - Large-scale training of linear ranking support vector machines

Antti Airola

Paper added to session

4 - Preference Modelling and Market Price Forecasting with Causal-Retro-Causal Neural Networks

Hans Georg Zimmermann, Ralph Grothmann, Christoph Tietz

Forecasting of market prices is a basis of rational decision making. Recurrent neural networks offer a framework for modelling temporal developments. Causality explains the present state of a system by features, which are prior to the current state. Looking for alternatives, we remember that markets are human made dynamical systems. In microeconomics we describe human behaviour with utility functions. If we know the human reward function, we could describe the behaviour of the market participants and thus the market by retro causal equations. This approach improves the forecasting accuracy.

■ TB-41

Tuesday, 10:30-12h00

HH-Heyerdahl

AHP/ANP 5

Chair: *Eizo Kinoshita*

1 - Super Pairwise Comparison Matrix in MDAHP

Takao Ohya, Eizo Kinoshita

2 - Research on the comparison of electronic monetary value in the information society

Shunei Norikumo

3 - An Application of Energy Alternative Selection: A Fuzzy AHP-ELECTRE Methodology

Abit Balin, Özge Nalan Alp Bilişik, Hayri Baraçlı

4 - Dominant AHP as Measuring Method of Service Value

Eizo Kinoshita

■ TB-42

Tuesday, 10:30-12h00

BW-Amber

Networks under Uncertainty

Chair: *Sandra Rauscher*

Chair: *Erik Kropat*

Chair: *Selis Onel*

- 1 - **Research of the methods of stochastic approximation and genetic algorithms for the transport system microscopic simulation models calibration**
Elena Yurshevich
- 2 - **Simulation Metamodeling using Bayesian Networks**
Kai Virtanen
- 3 - **On the Peter Principle: An Agent Based Investigation into the Consequential Effects of Social Networks and Behavioural Factors**
Angelico Fetta, Paul Harper, Vincent Knight, Israel Vieira, Janet Williams
- 4 - **Hybrid lateral transshipments in multi-item inventory networks**
Sandra Rauscher, Kevin Glazebrook, Colin Paterson, Thomas Archibald

■ TB-43

Tuesday, 10:30-12h00

BW-Granite

Recent Applications of Probabilistic Programming

Chair: *Milos Kopa*

- 1 - **Robustness in stochastic programs with the first order stochastic dominance and/or probabilistic constraints**
Milos Kopa, Jitka Dupacova
- 2 - **Chance constrained problems: reformulation using penalty functions and sample approximation technique**
Martin Branda
- 3 - **Robust Pricing of Monopolistic Cloud Computing Services with Service Level Agreements**
Vladimir Roitch, Daniel Kuhn, Yike Guo
- 4 - **Tractable Dynamic Model of Price and Volume Given Uninformed Market Maker**
Martin Smid

■ TB-44

Tuesday, 10:30-12h00

BW-Marble

Computer Vision (2) and Machine Learning

Chair: *Teofilo deCampos*

Chair: *Fei Yan*

Chair: *Ivan Reyer*

1 - Efficient Large Scale Scene Understanding

Ramin Zabih, Philip Torr

2 - Skeleton Base and Scalable Boundary-Skeletal Shape Model

Ivan Reyer, Ksenia Zhukova

3 - Structured Output Learning for Automatic Analysis of Court Games

Fei Yan, Josef Kittler

■ TB-45

Tuesday, 10:30-12h00

BW-Water

Logistics and stochastics 1

Chair: *Birger Raa*

Chair: *Wout Dullaert*

1 - The effect of capacitated replenishments on periodic review inventory systems

Wout Dullaert, Birger Raa

2 - A stochastic model for controlling the deterioration of a two machines production system: Extensions to remanufacturing

Pierre Dejax, Annie Francie Kouedeu, Jean-Pierre Kenne, Victor Songmene

3 - A stochastic formulation of the disassembly line balancing problem

Mohand Lounes Bentaha, Olga Battaïa, Alexandre Dolgui, Frédéric Grimaud

4 - Quantification of value of flexibility in a hybrid MTO and MTS system

Beyazıt Ocaktan, Ufuk Kula

■ TC-01

Tuesday, 12:30-14:00

RB-Alfa

Keynote Lecture: Professor Bjorn Jorgensen

Chair: *Peter Letmathe*

1 - **Accounting**

Bjorn Jorgensen

■ TC-02

Tuesday, 12:30-14:00

RB-Beta

Scheduling in Robotics and Manufacturing

Chair: *Seda Hezer*

1 - The Job Shop with Blocking and a Rail-Bound Transfer System

Reinhard Bürgy, Heinz Gröflin

2 - A special case of the minimization of tool switches problem

Horacio Yanasse

3 - Two sided disassembly line balancing problem

Seda Hezer, Yakup Kara

4 - Scheduling activities in a research centre to minimize the total energy consumption

Maciej Lichtenstein, Adam Janiak, Tomasz Krysiak, Mateusz Gorczyca

■ TC-03

Tuesday, 12:30-14:00

RB-L1

Sustainable Network Design and Railway/Sea Transport

Chair: *Joachim R. Daduna*

1 - Road-Rail-Sea hub location-allocation with sustainability considerations

Ali Fattahi, Metin Turkey

2 - Green supplier network design based on customer segmentation

Leyla Ozgur, Semih Coskun, Askiner Gungor, Olcay Polat

3 - Designing efficient transportation processes for sustainable city logistics

Joachim R. Daduna

■ TC-04

Tuesday, 12:30-14:00

RB-L2

Optimization problems on graphs and networks

Chair: *Ivana Ljubic*

1 - Minimum Spanning Trees with Generalized Degree Constraints

Pedro Moura, Luis Gouveia, Amaro de Sousa

2 - Layered Graph Approaches for the Hop Constrained Steiner Tree Problem with multiple Root Nodes

Markus Leitner, Luis Gouveia, Ivana Ljubic

3 - On a time-dependent formulation for the travelling salesman problem

Luis Gouveia, Maria Teresa Godinho, Pierre Pesneau

4 - The Recoverable Robust Two-Level Network Design Problem

Eduardo Álvarez-Miranda, Ivana Ljubic, S. Raghavan, Paolo Toth

■ TC-05

Tuesday, 12:30-14:00

RB-L3

Problems on graphs II

Chair: *Victor Lepin*

- 1 - **Extremal graphs for the randic index when minimum, maximum degree and order of graphs are odd**
Ljiljana Pavlovic, Tomica Divnic
- 2 - **Disjoint Path Problem in Mixed Acyclic Graphs**
Cong Zhang, Hiroshi Nagamochi
- 3 - **Full cycle extendability of $K(1,4)$ -restricted locally connected graphs**
Pavel Irzhavski, Yury Orlovich
- 4 - **Biclique partition for graphs with special blocks**
Victor Lepin, Oleg Duginov

■ TC-06

Tuesday, 12:30-14:00

RB-Gamma

Rich vehicle routing problems

Chair: *Jose Brandao*

1 - The Pickup and Delivery Problem with Cross-Docking Opportunities

Hanne Petersen, Stefan Ropke

2 - Metaheuristics for the vehicle routing problem with backhauls and soft time windows

Jose Brandao

3 - A Multi-Objective Algorithm for Open Vehicle Routing Problems. A Real Case Study for a Spanish Company with time constraints

Ana Dolores López Sánchez, Alfredo G. Hernandez-Diaz, Julian Molina, Rafael Caballero, Macarena Tejada

4 - Tabu Search and Genetic Algorithms for the solution of the Capacitated Vehicle Routing Problem with Time Windows

Arthur Gomez, Cristiano Galafassi, Leonardo Chiwiacowsky

■ TC-07

Tuesday, 12:30-14:00

RB-Eta

Warehouse Operations Optimization

Chair: *Hasan Akyer*

- 1 - **Development of a systematic method to evaluate packaging areas**
Judith Weiblen, Dominik Berbig, Kai Furmans
- 2 - **Optimal number of vehicles and paths of movement in GridFlow systems with AGVs**
Melanie Schwab
- 3 - **Optimization of the order-picking processes in the warehouse**
Michal Jakubiak
- 4 - **A novel heuristic approach for the joint order batching and picker routing problems in warehouses**
Hasan Akyer, Osman Kulak, Mustafa Egemen Taner

■ TC-08

Tuesday, 12:30-14:00

RB-Epsilon

Applications

Chair: *Mikael Rönnqvist*

- 1 - **Mathematical programming models for master planning in ceramic tile supply chains. Evaluation and comparison of distributed and centralised scenarios.**

David Pérez Perales, Mareva Alemany

- 2 - **A Mixed Integer Programming Model for Shelf Life Integrated Planning, Scheduling and Distribution in Yoghurt Production**

Çağrı Sel, Bilge Bilgen

- 3 - **A production-inventory problem in pharmaceutical supply chain — mixed integer approach**

Pawel Hanczar

- 4 - **Use of Lagrangian decomposition in coordination of refinery production and sales planning**

Jiehong Kong, Mikael Rönnqvist

■ TC-09

Tuesday, 12:30-14:00

RB-Zeta

Colourings, Independence and Assignment

Chair: *Reinhardt Euler*

- 1 - **Lessons for finding Mutually Orthogonal Latin Squares (MOLS) for $n=10$ from new and old proofs for infeasibility of $n=6$**
Gautam Appa, Reinhardt Euler, Anastasia Kouvela, Dimitris Magos, Yiannis Mourtos
- 2 - **On the recognition of 2-row orthogonal Latin rectangle circuits**
Anastasia Kouvela, Gautam Appa, Reinhardt Euler, Dimitris Magos, Yiannis Mourtos
- 3 - **Polyhedral aspects of cardinality constraints**
Yiannis Mourtos
- 4 - **Approximating the multi-level bottleneck assignment problem**
Frits Spieksma, Trivikram Dokka, Anastasia Kouvela

■ TC-10

Tuesday, 12:30-14:00

RB-Theta

Pricing and Applications

Chair: *M. Güray Güler*

1 - A pricing problem in a two-ends model under uncertainty

Alberto A. Álvarez-López, Inmaculada Rodríguez-Puerta

2 - Integrated Pricing and Scheduling for Order Outsourcing in a Supply Network

Woldemar Wedel, Yike Hu, Oliver Wendt

3 - On Coordination under Random Yield and Random Demand

M. Güray Güler, Taner Bilgic

4 - Layout Planning and Shelf Space Allocation in Retail Store: A Case Study for Chain Markets in Turkey

Yelda Cansu Adali, Rifat Gürcan Özdemir, Kayhan Karaman

■ TC-11

Tuesday, 12:30-14:00

RB-Iota

Exact Methods for Arc Routing Problems

Chair: *Claudia Bode*

1 - Mixed Capacitated General Routing Problem: Exact and Heuristic Methods

Francesca Vocaturo, Adamo Bosco, Demetrio Laganà, Roberto Musmanno

2 - Modeling the Rural Postman Problem with Time Windows

Ingrid Marcela Monroy Licht, Ciro Alberto Amaya, André Langevin

3 - Analysis of Pricing Problem Relaxations for the Capacitated Arc Routing Problem

Claudia Bode, Stefan Irnich

■ TC-12

Tuesday, 12:30-14:00

RB-Omicron

Capacity and Infrastructure

Chair: *Rob Goverde*

1 - OR in shunt planning

Joel van 't Wout

2 - A model for balancing price, capacity and crowdedness in public transport

Paul Bouman

**3 - Improving railway infrastructure utilization through pricing mechanisms -
Modelling train flows**

Michal Kaut, Adrian Werner, Arnt-Gunnar Lium, Truls Flatberg, Teodor Gabriel Crainic, Teodor Gabriel Crainic

4 - Computing capacity consumption of railway lines and networks

Rob Goverde

■ TC-13

Tuesday, 12:30-14:00

RB-Tau

Assembly systems and automotive production

Chair: *Rüdiger Berndt*

1 - Job rotation in assembly lines with disabled workers

Alysson M. Costa, Mayron César Oliveira Moreira

2 - Improving ergonomics by OR methods applied in the planning process: The example of the automobile industry

Alena Otto

3 - Precompiled Configuration Spaces for the Verification of Consistency in Production Planning Processes

Rüdiger Berndt, Peter Bazan, Kai-Steffen Hielscher

Paper added to session

4 - Queue Optimization in Deterministic Linear Manufacturing Systems

Zuzana N?mcová, Martin Gavalec

The contribution describes cost optimization in deterministic linear queuing systems. A manufacturing system is linear if it consists of a series of servers. Knowledge of the development of the queue lengths during the run of the system is useful for controlling the total costs. The method of finding the optimal setup of service capacities of the servers in each time period in which the service times stay unchanged is suggested. It helps the manager of the system in deciding when and how the service times of the servers should be changed. This results in significant cost savings.

■ TC-14

Tuesday, 12:30-14:00

RB-Omega

Nurses Scheduling

Chair: *Geetha Baskaran*

- 1 - **Agent-based Cooperative Meta-heuristic search for Fairness in Nurse Rostering**
Simon Martin, Pieter Smet, Djamila Ouelhadj, Ender Özcan, Greet Vanden Berghe
- 2 - **Multi-level Decision Support in Rostering and Staffing**
Patrick De Causmaecker, Stefaan Haspeslagh
- 3 - **The Nurse Scheduling Problem: Modelling the Nurses' Preferences in a Hospital in Turkey**
Alejandra Duenas, G.yazgi TütÜncÜ
- 4 - **From Simplified to Detailed Solutions To The Nurse Rostering Problem**
Geetha Baskaran, Andrzej Bargiela, Rong Qu

■ TC-15

Tuesday, 12:30-14:00

RB-2101

Vector and Set-Valued Optimization I

Chair: *Vicente Novo*

Chair: *Beatriz Hernández-Jiménez*

1 - Variational-like inequality problems and vectorial optimization problems in Banach spaces

Gabriel Ruiz-Garzón, Lucelina Batista dos Santos, Antonio Rufián-Lizana, Rafaela Osuna-Gómez

2 - Efficiency in multiobjective variational problem under generalized convexity

Manuel Arana-Jiménez, Antonio Rufián-Lizana, Rafaela Osuna-Gómez, Gracia M. Nieto-Gallardo

3 - The exact l1 penalty function method for vector optimization problems

Tadeusz Antczak

4 - Characterization of weakly efficient solutions for non-regular vector optimization problems with conic constraints

Beatriz Hernández-Jiménez, Rafaela Osuna-Gómez, Marko A. Rojas-Medar

■ TC-16

Tuesday, 12:30-14:00

RB-2103

Perturbation and sensitivity in Markov control problems and games

Chair: *Konstantin Avrachenkov*

Chair: *Yi Zhang*

1 - Markov decision processes with unknown transition matrices

Masayuki Horiguchi

2 - Detecting non-Hamiltonicity in cubic graphs using linear feasibility problems

Jerzy Filar, Michael Haythorpe, Serguei Rossomakhine

3 - Transformation method for discounted continuous-time Markov decision processes with unbounded rates

Yi Zhang, Alexei Piunovskiy

4 - The expected total cost criterion for Markov decision processes under constraints: a convex analytic approach

Francois Dufour, Masayuki Horiguchi, Alexei Piunovskiy

■ TC-17

Tuesday, 12:30-14:00

RB-2105

Hub Location II

Chair: *Barbaros Tansel*

- 1 - **A new approach to economies of scales in hub location problems**
Martin Baumung
- 2 - **The ring star hub location problem: A Benders decomposition approach**
Ricardo Camargo, Gilberto Miranda, Henrique Luna, Elisangela Martins de Sá
- 3 - **The p-Hub Median Problem on Incomplete Transportation Networks**
Barbaros Tansel, ?brahim Akgün

■ TC-18

Tuesday, 12:30-14:00

RB-2107

Competitive Location.

Chair: *Blas Pelegrin*

1 - Solving a Huff-type location model on networks

Rafael Blanquero, Emilio Carrizosa, Amaya Nogales, Frank Plastria

2 - Location models and GIS tools for franchise distribution

Rafael Suarez-Vega, Dolores R. Santos-Peñate, Pablo Dorta-González

3 - On a biobjective location model for firm expansion with binary customer behaviour

Algirdas Lanžinskas, Julius Zilinskas, Blas Pelegrin, Pascual Fernandez

■ TC-19

Tuesday, 12:30-14:00

RB-2111

Risk Modeling and Risk Measures

Chair: *David Wozabal*

1 - Modeling the ATM Cash Delivery Problem as a Vehicle Dispatch Problem and Solving It via a New Hybrid Heuristic Algorithm

Kübra Fenerci, Ilhan Or, Ekrem Duman

2 - "Jumping Assets", "Timing Effect" and "Systemic Risk" in Portfolio Selection Problems

Sergio Ortobelli, Enrico Angelelli

3 - Robustifying Convex Risk Measures: A Non-Parametric Approach

David Wozabal

Paper added to session

4 - A hybrid model for optimal asset allocation in defined contribution pension plans

Agnieszka Karolina Konicz

We consider optimal asset allocation of a pension saver with uncertain lifetime. The objective is to maximize the expected utility of the retirement savings. The model accounts for characteristics of a pension saver given by her mortality risk, risk attitude, type of retirement contract, trading costs, taxes, current wealth and uncertain labor income. The problem is solved using a combination of a multi-stage stochastic linear programming (SLP) model and stochastic optimal control, such that the practical application is emphasized. Both solutions are integrated into the SLP formulation.

■ TC-20

Tuesday, 12:30-14:00

RB-2113

Risk Assessment in the Financial Sector

Chair: *Tara Keshar Nanda Baidya*

- 1 - **A Study on Quantitative Evaluation of the Model for the Piano Fingering**
Keisuke Hotta
- 2 - **On distributional robust probability functions and their computations**
Man Hong Wong, Shuzhong Zhang
- 3 - **Recent Features of UK Income Protection Claim Durations**
Isabel Cordeiro
- 4 - **Valuation of employee Stock Option with stochastic exercise price for a Brazilian Firm**
Tara Keshar Nanda Baidya, Fernando Visser

■ TC-21

Tuesday, 12:30-14:00

RB-2115

Asset Pricing

Chair: *Andreas Loeffler*

1 - Optimal Stopping for Portfolio Management

Alexandra Spachis, Eleni Hadjiconstantinou, Nicos Christofides

2 - Misperceptions of Long-Term Investment Performance: Insights From An Experiment

Michael Stutzer, Susan Jung Grant

3 - A Note On Estimating CAPM-Betas

Andreas Loeffler, Thomas Burkhardt

■ TC-22

Tuesday, 12:30-14:00

RB-2117

Mathematical Models in Macro- and Microeconomics 2

Chair: *Ludmilla Koshlai*

Chair: *Gerhard-Wilhelm Weber*

Chair: *Jean-Francois Emmenegger*

1 - An empirical assessment of customer lifetime value models

Abdulkadir Hiziroglu, Serkan Sengul

2 - On one nonlinear optimization problem for Leontief models

Petro Stetsyuk

3 - Upper bounds for optimization problem of intersectoral planning of structural and technological changes

Tamara Bardadym, Oleg Berezovskyi

Paper moved from session WC-42

4 - Optimal Control Formulation of Query Model for Authentication Systems

Devin Sezer, Ferruh Ozbudak, Yildirim Ustun

■ TC-23

Tuesday, 12:30-14:00

RB-Delta

Complementarity Problems, Variational Inequalities and Equilibrium

Chair: *Sandor Zoltan Nemeth*

Chair: *Song Wang*

1 - The Influence of Technical, Market and Legislative Factors on E-Waste Flows

Thomas Nowak, Fuminori Toyasaki, Tina Wakolbinger, Anna Nagurney

2 - Power penalty methods for nonlinear complementarity problems

Song Wang

3 - Necessary conditions for variational relation problems

Anulekha Dhara

■ TC-24

Tuesday, 12:30-14:00

CC-A11

Judgmental Forecasting

Chair: *Zoe Theocharis*

1 - Why do people damp trends when using their judgment to make forecasts from time series?

Nigel Harvey, Stian Reimers

2 - Judgmental interval forecasts: The effects of assessment order and trend direction

Mustafa Sinan Gonul, Mary Thomson, Dilek Önköl-Atay

3 - An exploration of judgmental forecasting biases using dynamic task environments

Zoe Theocharis, Nigel Harvey

4 - Change detection training improves time series forecasting

Matt Twyman, Nigel Harvey

■ TC-25

Tuesday, 12:30-14:00

CC-A23

Measurement of Sustainability

Chair: *Jutta Geldermann*

- 1 - **Developing the data envelopment analysis model with incorporating the carbon footprint to measure the business operational efficiency**

Li-Ting Yeh, Dong Shang Chang, Wenrong Liu

- 2 - **Strategic and operational implications of climate change for supply chain management**

Costas Pappis, Cristobal Miralles, Tom Dasaklis, Nikos Karacapilidis

- 3 - **Resource efficiency in supply chains: a review of network design and operational planning**

Gábor Herczeg

- 4 - **The varied contexts of environmental multicriteria decision support processes**

Jutta Geldermann, Meike Schmehl, Katharina Amann

■ TC-26

Tuesday, 12:30-14:00

CC-A24

OR in Forestry II

Chair: *Patrick Hirsch*

1 - On the optimal land allocation

Jussi Uusivuori

2 - Scheduling sawmill operations using robust optimization

Sergio Maturana, Mauricio Varas, Jorge Vera

3 - Vehicle routing for transporting forest fuel and combined mobile chipper scheduling

Jan Zazgornik, Manfred Gronalt

4 - Environmental impacts versus driving times - The routing of log-trucks with a new near-exact solution approach

Marco Oberscheider, Jan Zazgornik, Manfred Gronalt, Patrick Hirsch

■ TC-27

Tuesday, 12:30-14:00

CC-A25

Policy Analytics

Chair: *Alexis Tsoukiàs*

Chair: *Vivien Kana Zeumo*

1 - Policy analytics: what it is and how to distinguish it

Valerie Belton, Alexis Tsoukiàs

2 - An ANP-based approach for addressing sustainability in urban transformation projects

Valentina Ferretti, Marta Bottero, Andrea Di Maggio, Silvia Pomarico, Marco Valle

3 - Poverty measurement: a decision aiding perspective

Vivien Kana Zeumo, Alexis Tsoukiàs

4 - InViTo: an integrate approach for supporting the evaluation of transport scenarios

Isabella Lami, Francesca Abastante, Stefano Pensa, Marta Bottero, Elena Masala

■ TC-28

Tuesday, 12:30-14:00

CC-A27

Boundaries and Interfaces

Chair: *Susie Vrobel*

- 1 - **Cold-blooded loneliness: Social exclusion leads to lower skin temperatures**
Hans IJzerman
- 2 - **Are Free Association Clusters Ad-Hoc Humanoid Agents ?**
Antal Borbely
- 3 - **Toward a 'rationality' tuned with human life**
Marina Alfano, Rosolino Buccheri
- 4 - **Dimensions of trust involved in human actions against climate change**
Annette Hohenberger

■ TC-29

Tuesday, 12:30-14:00

CC-A29

MINLP and Nonlinear Network Flows in Gas Transport II

Chair: *Jesco Humpola*

1 - An automated method for the booking validation problem

Benjamin Hiller

2 - Heuristic Long-term Planning of Natural Gas Transportation Networks

Daniel Heuberger, Albert Moser

3 - Design of Hydrogen Transmission Pipe Networks for France

Daniel De Wolf

4 - Stochastic nonconvex MINLP models and global optimization for natural gas production network design under uncertainty

Xiang Li, Asgeir Tomasgard, Paul I. Barton

■ TC-30

Tuesday, 12:30-14:00

CC-A31

Data confidentiality 1

Chair: *Robert Garfinkel*

1 - Solving L1-CTA in 3D tables by an interior-point method for block-angular problems

Jordi Cuesta, Jordi Castro

2 - Optimal Data-Independent Noise for Differential Privacy

Josep Domingo-Ferrer, Jordi Soria-Comas

3 - Solving L2-CTA by perspective reformulations

Jordi Castro, Claudio Gentile, Antonio Frangioni

4 - On Generating a Secure, Representative Sample from a Database

Robert Garfinkel

■ TC-31

Tuesday, 12:30-14:00

CC-A33

Applications of the Neural Networks

Chair: *Yoshifumi Kusunoki*

Chair: *Anastasia Motrenko*

- 1 - **Supplier's performance measurement using intelligent clustering**
Meltem Gulserin, Mine Isik, Gulgun Kayakutlu
- 2 - **Modelling the behaviour of masonry walls under out of plan loading by ANN**
M. Sami Donduren
- 3 - **Estimating the behaviors of reinforced concrete columns under axial load effect by ANN**
M.Tolga Cogurcu
- 4 - **Modelling the flexural behaviour of beams by ANN**
Mehmet Kamanli

■ TC-32

Tuesday, 12:30-14:00

CC-A34

Risk and Uncertainty in Energy Models

Chair: *Dominik Möst*

- 1 - **An Electricity Market Model with Generation Capacity Investment under Uncertainty**
Andreas Schröder
- 2 - **Wind power in Europe: Modeling of wind feed-in time series with an hourly resolution**
Alexander von Selasinsky, Michael Zipf
- 3 - **Power Transmission Grid Expansion using Benders Decomposition**
David Gunkel, Friedrich Kunz
- 4 - **Valuation of Pumped Hydro Storages with respect to the Electricity Spot and Reserve Power Markets**
Oliver Woll, Bastian Felix, Christoph Weber

■ TC-33

Tuesday, 12:30-14:00

CC-A37

Understanding, Modeling and Implementation of OR for Sustainable Development

Chair: *Alexander Makarenko*

- 1 - **A two-stage approach for distribution network design problem in cosmetic & cleaning industry**
Rifat Gürçan Özdemir, Zeki Aya?, Ufuk Kula
- 2 - **Foreign Direct Investment Trends and Comparative Analysis for Chosen Transition Countries**
Snjezana Pivac
- 3 - **Panel data analysis of institutional variables in attracting foreign direct investment in countries of central and south- eastern Europe**
Elza Jurun, Mario Pecaric, Tino Kusanovic
- 4 - **General Sustainable Development Problems and OR**
Alexander Makarenko

■ TC-34

Tuesday, 12:30-14:00

CC-A39

Optimization for Sustainable Development 2

Chair: *Herman Mawengkang*

Chair: *Gerhard-Wilhelm Weber*

- 1 - **Multi objective stochastic programming model for waste management in crude palm oil industry**
Meslin Silalahi, Hendaru Sadyadharma, Herman Mawengkang
- 2 - **Optimization approach for measuring the ecological suitability of product packaging**
Zoran Rakicevic, Jovana Kojic
- 3 - **Modeling the spread of infectious disease based on dynamic social network**
Firmansyah Firmansyah, Herman Mawengkang
- 4 - **Decomposition-based optimization of a large-scale mesh-structured drinking water supply network**
Derek Verleye, El-Houssaine Aghezzaf

■ TC-35

Tuesday, 12:30-14:00

CC-A41

Innovation in Logistics

Chair: *Belarmino Adenso-Diaz*

Chair: *Ben Lev*

- 1 - **Company-wide Production Planning Using a Multiple Technology DEA approach**
Sebastián Lozano
- 2 - **Bicriteria model for designing a container depots logistic network**
Belarmino Adenso-Diaz, Antonio Palacio, Salvador Furió, Sebastián Lozano
- 3 - **A mathematical model to design an inland network of intermodal terminals**
Carlos Andres, Salvador Furió, Julien Maheut

■ TC-36

Tuesday, 12:30-14:00

CC-A43

QMPD Session1

Chair: *Markus Siegle*

- 1 - **Memory-efficient bounding algorithm for the two-terminal reliability problem**
Minh Lê
- 2 - **An enhanced two-phase MAP fitting method**
András Mészáros, Miklós Telek
- 3 - **Time-parallel simulation for stochastic automata networks**
Jean-Michel Fourneau, Franck Quessette, Thu Ha Dao Thi
- 4 - **M/G/c/c state dependent travel time models and properties**
J. MacGregor Smith, F. R. B. Cruz

■ TC-37

Tuesday, 12:30-14:00

CC-Act

OR in Health & Life Sciences 3

Chair: *Yw Chen*

1 - Planning in a regional blood distribution network

Jose Luis Andrade, Pedro L. Gonzalez-R

2 - A cloud service to allocate emergent patients by affinity set

Yuh-Wen Chen

3 - A business model for synchronized and patient-centered Tele-health service

Jiun-Yu Yu, Kwei-Long Huang

■ TC-38

Tuesday, 12:30-14:00

HH-Colombus

Theory of Set-valued Optimization and Applications

Chair: *Tamaki Tanaka*

Chair: *Gue Myung Lee*

- 1 - **On Nonsmooth Optimality Theorems for Robust Multiobjective Optimization Problems**
Gue Myung Lee
- 2 - **On DC set optimization problems**
Daishi Kuroiwa
- 3 - **Unified scalarization for sets and Ekeland's variational principle for set-valued maps**
Tamaki Tanaka

■ TC-39

Tuesday, 12:30-14:00

HH-Cousteau

Latest advances on MCDA software

Chair: *Bertrand Mareschal*

1 - On Multi-Criteria Clustering

Alexandru-Liviu Olteanu, Patrick Meyer, Raymond Bisdorff

2 - A new web service for the stable sorting of a set of alternatives

Thomas Veneziano, Patrick Meyer, Raymond Bisdorff

3 - Visual PROMETHEE - A New Multicriteria Decision Aid Software

Bertrand Mareschal

■ TC-40

Tuesday, 12:30-14:00

HH-Livingstone

Preference Learning 2

Chair: *Krzysztof Dembczynski*

1 - Efficient algorithms for robust ordinal regression

Tommi Tervonen, Remy Spliet

2 - Multicriteria sorting functions using valued assignment examples

Olivier Cailloux, Brice Mayag, Vincent Mousseau, Luis C. Dias

3 - On the estimation of the parameters of Electre Tri model in multi criteria ordinal sorting problem: a proposal of new approach in two phases

Valentina Minnetti

4 - A ranking approach based on outranking relations using mathematical programming

Selin Ozpeynirci, Ozgur Ozpeynirci, Yigit Kazancoglu

■ TC-41

Tuesday, 12:30-14:00

HH-Heyerdahl

AHP/ANP 6

Chair: *Pekka Korhonen*

1 - R&D Personnel Selection with Fuzzy Analytic Hierarchy

Erhan Berk

2 - Determining effective criteria of Customers' satisfaction in kitchen work-tops by using AHP

Majid Azizi, Vahid Nabavi, Mehdi Faezipour

Paper added to session

3 - Using AHP and TOPSIS under fuzzy environment for having best quality poison in agriculture - A case study for the pear trees in Iran

Reza Eslamipoor

Multi Criteria Decision Making is extending in each of knowledge areas. Although considering different criteria for solving a problem makes it difficult, but better solutions will be generated. Pests attack most of the gardens each year and they lead to lots of losses. So, poison selection for killing these pests is so important. For the first time, a new approach by synthesizing AHP and fuzzy TOPSIS methods was investigated in this study. This method was applied in attacked pear trees. Results show the effectiveness of this method in comparison with traditional decision making procedure.

4 - Analysing numerically three different methods to estimate a priority vector from inconsistent pairwise comparison matrices in AHP

Attila Poesz, Pekka Korhonen

■ TC-42

Tuesday, 12:30-14:00

BW-Amber

Queueing Systems I

Chair: *Erik Kropat*

Chair: *Büsra Temocin*

Chair: *Devin Sezer*

- 1 - The Availability and Separability of Unreliable Networks**
Yat-wah Wan
- 2 - Inequality of Stability in the M2/M2/1 Queue with Preemptive Priority**
Hamadouche Naima
- 3 - Transient queues with correlated arrivals. Algorithmic approach**
Claus Gwiggner, Sakae Nagaoka
- 4 - Optimal control by unreliable queueing systems with broadcasting service**
Alexander Dudin, Bin Sun

■ TC-43

Tuesday, 12:30-14:00

BW-Granite

Stochastic programming in industry II

Chair: *Achim Koberstein*

Chair: *Csaba I. Fabian*

- 1 - **On integrating financial hedging decisions into a model for global production network design**
Achim Koberstein, Elmar Lukas, Marc Naumann
- 2 - **A Stochastic Second Order Cone Model for a Stochastic Capacitated Traveling Salesmen Location Problem with Recourse**
Francesca Maggioni
- 3 - **Optimal timing and capacity choice for pumped hydropower storage**
Ane Marte Heggedal, Emily Fertig, Gerard Doorman, Jay Apt
- 4 - **Mathematical Optimization of an Industrial-Scale Engineering System**
Selis Onel

■ TC-44

Tuesday, 12:30-14:00

BW-Marble

Ensemble Learning and Artificial Neural Networks

Chair: *Sureyya Ozogur-Akyuz*

Chair: *Terry Windeatt*

- 1 - **New Considerations on Bias-variance Decomposition in Ensemble Classifier Fusion**
David Windridge
- 2 - **Ensemble Pruning via DC Programming**
Sureyya Ozogur-Akyuz, Terry Windeatt, Raymond Smith
- 3 - **Short-term forecasting of light rail passenger demand by artificial neural networks**
Gökhan Sürmeli, Dilay Çelebi, Demet Bayraktar
- 4 - **Optimizing the Backpropagation Algorithm for Training Artificial Neural Networks**
Geraldo Miguez, Nelson Maculan, Adilson Elias Xavier

■ TC-45

Tuesday, 12:30-14:00

BW-Water

Logistics and stochastics 2

Chair: *Dieter Fiems*

Chair: *Eline De Cuypere*

1 - Estimating Repair Effects in Failing Systems

Ernie Love

2 - Confidence-based Optimization for the Newsvendor Problem

Roberto Rossi, Steven Prestwich, Armagan Tarim, Brahim Hnich

3 - Economic order quantity of an inventory control system with order backlog

Eline De Cuypere, Koen De Turck, Dieter Fiems

4 - Two Modified Preventive Maintenance Models in a Finite Time Span with Failure Rate Reduction

Chun-Yuan Cheng, Min Wang, Mei-Ling Liu

■ TD-01

Tuesday, 14:30-16:00

RB-Alfa

Tutorial Lecture: Professor Jitka Dupacova

Chair: *Stein W. Wallace*

- 1 - **Stochastic programming - a flexible tool for decision making under uncertainty**

Jitka Dupacova

■ TD-02

Tuesday, 14:30-16:00

RB-Beta

Scheduling in Transport

Chair: *Jose M. Framinan*

- 1 - **The problem of minimization maximum weighted lateness of orders for two railway stations/**
Dmitry Arkhipov, Alexander Lazarev
- 2 - **Public transport system route reliability estimation using macromodelling**
Irina Pticina, Irina Yatskiv
- 3 - **Scheduling interfering jobs in a permutation flowshop**
Paz Perez Gonzalez, Jose M. Framinan
- 4 - **A Variable Neighbourhood Search (VNS) algorithm for solving Read Mix Concrete Production and Delivery Scheduling Problem (RMCPDSP)**
Anna M. Coves, M. Antonia de los Santos

■ TD-03

Tuesday, 14:30-16:00

RB-L1

Sustainable Road Transport and Vehicle Routing

Chair: *U.Mahir Yildirim*

- 1 - **Minimum cost VRP with time-varying speed data and congestion charge**
Richard Eglese, Liang Wen
- 2 - **Analysis of optimal vehicle speed: from supersonic wave devices to GPS transceivers**
Hiroyuki Kawano
- 3 - **A bi-objective Pollution-Routing Problem: trade-offs between fuel consumption and driving time**
Emrah Demir, Tolga Bektas, Gilbert Laporte
- 4 - **Greenest paths in time-dependent transportation networks**
U.Mahir Yildirim, Bülent Çatay

■ TD-04

Tuesday, 14:30-16:00

RB-L2

Routing problems

Chair: *Eleni Hadjiconstantinou*

Chair: *Vladimir Ejev*

1 - An Adaptive Memetic Algorithm using Large Neighbourhood Search for the Multi-Depot Pickup and Delivery Problem

Pairoj Chaichiratikul, Eleni Hadjiconstantinou

2 - The capacitated minimum spanning tree problem with time windows

Manolis Kritikos, George Ioannou

3 - "Snakes and Ladders" heuristic algorithm (SLH) for the Hamiltonian cycles problem.

Vladimir Ejev, Serguei Rossomakhine

Paper moved to session MD-03

The Target Visitation Problem

Achim Hildenbrandt, Gerhard Reinelt

■ TD-05

Tuesday, 14:30-16:00

RB-L3

Problems on graphs III

Chair: *Peter Recht*

1 - A Coloring Algorithm for Triangle-Free Graphs

Mohammad Jamall

2 - An Efficient Algorithm for Stopping on a Sink in a Directed Acyclic Graph

Grzegorz Kubicki, Wayne Goddard, Ewa Kubicka

3 - On the Cubic Dimension of certain Classes of Balanced Binary Trees into Hypercube

Kamal Kaby, Abdelhafid Berrachedi

4 - A "min-max-theorem" for the cycle packing problem in Euler graphs

Peter Recht, Eva-Maria Sprengel

■ TD-06

Tuesday, 14:30-16:00

RB-Gamma

Relaxation Adaptive Memory Programming

Chair: *Dorabela Gamboa*

1 - A RAMP Algorithm for Generalized Assignments

Cesar Rego, Lutfu Sagbansua

2 - RAMP for the Capacitated Facility Location Problem

Telmo Matos, Dorabela Gamboa, Cesar Rego

3 - A PD-RAMP Algorithm for the UFLP

Dorabela Gamboa, Telmo Matos, Fábio Maia, Cesar Rego

4 - A Parallel RAMP Algorithm for the Set Covering Problem

Tabitha James, Cesar Rego, José Humberto Ablanedo Rosas

■ TD-07

Tuesday, 14:30-16:00

RB-Eta

Manufacturing Issues

Chair: *Ignacio Eguia*

- 1 - **Transportation scheduling in assembly lines under storage constraints: A case study of the automobile industry**
Masood Fathi, María Jesús Alvarez, Victoria Rodríguez
- 2 - **Modelling machine loading problem in reconfigurable manufacturing systems**
Ignacio Eguia, Jesus Racero, Fernando Guerrero
- 3 - **Manufacturing process flexibility and capacity expansion using Robust Optimization features in AIMMS**
Ovidiu Listes, Frédéric Babonneau, Christian Van Delft, Jean-Philippe Vial
- 4 - **Multi-objective synchronized planning in dynamic collaborative manufacturing networks**
Enay Sadıç, Jorge Pinho de Sousa, José Crispim

■ TD-08

Tuesday, 14:30-16:00

RB-Epsilon

Graph cut algorithms in Computer Vision

Chair: *Ramin Zabih*

1 - Graph Cuts for Scene Understanding

Philip Torr

2 - Proposal selection in higher-order graph cuts

Hiroshi Ishikawa

3 - Submodular Relaxations for Pseudo-Boolean Optimization

Fredrik Kahl, Petter Strandmark

■ TD-09

Tuesday, 14:30-16:00

RB-Zeta

EURO/ROADEF Challenge Session 1

Chair: *Christian Artigues*

Chair: *H. Murat Afsar*

Chair: *Ender Özcan*

Chair: *Emmanuel Guere*

Chair: *Eric Bourreau*

Chair: *Kedad-Sidhoum Safia*

Chair: *Marc Sevaux*

1 - ROADEF/EURO Challenge 2012 : Machine Reassignment

Eric Bourreau, H. Murat Afsar, Christian Artigues, Emmanuel Guere, Ender Özcan, Kedad-Sidhoum Safia

2 - Attacking Google's machine reassignment problem using mathematical programming, metaheuristics and heuristics.

Christos Gogos, Christos Valouxis, Panayiotis Alefragis, Efthymios Housos

3 - Hybrid Method for Machine Reassignment Problem

Saïd Hanafi, Hideki Hashimoto, Koji Nonobe, Michel Vasquez, Yannick Vimont, Mutsunori Yagiura

■ TD-10

Tuesday, 14:30-16:00

RB-Theta

Cutting and Packing 7

Chair: *Silvio de Araujo*

1 - How to deal with alternative cutting lengths in a one-dimensional cutting stock problem

Markus Siepermann, Richard Lackes, Torsten Noll

2 - A pseudo-polynomial time algorithm for a subclass of the Variable-Sized BPP with Conflicts

Mohamed Maiza, Mohammed Said Radjef, Sais Lakhdar

3 - Multiobjective genetic algorithms to the one-dimensional cutting stock problem

Silvio de Araujo, Helenice Florentino, Kelly Poldi

4 - Optimization of the outbound boxes dimensions of mobile phones in a factory located in the Industrial Park of Manaus in Amazon State, Northern of Brazil.

Fabricio Costa

■ TD-11

Tuesday, 14:30-16:00

RB-Iota

Heuristic Methods for Arc Routing Problems

Chair: *Ana Catarina Nunes*

1 - Metaheuristics for household refuse collection

Ana Catarina Nunes, Maria Cortinhal, Cândida Mourão

2 - Solving a location-arc routing problem using a TS-VNS approach

Rui Borges Lopes, Carlos Ferreira, Beatriz Sousa Santos

Paper moved from session TD-41

3 - Taxonomy of concepts and terms in administration

Erwin Reizes

■ TD-12

Tuesday, 14:30-16:00

RB-Omicron

Rescheduling

Chair: *Leo Kroon*

Chair: *Anita Schöbel*

1 - Recovery from disruptions with recovery length controlled

Luis Cadarso, Ángel Marín, Gabor Maroti

2 - Robustness in crew re-scheduling

Dennis Huisman, Lucas Veelenturf, Daniel Potthoff, Leo Kroon, Gabor Maroti, Albert Wagelmans

3 - A geometric approach for rescheduling railway timetables by considering passenger transfers in the system

Francisco A. Ortega Riejos, Juan A. Mesa, Miguel Angel Pozo, Justo Puerto

4 - Railway crew rescheduling on ultra-short term

Pieter Fioole

■ TD-13

Tuesday, 14:30-16:00

RB-Tau

Logistics and Manufacturing & Warehousing

Chair: *Luca Bertazzi*

- 1 - **Stochastic Dynamic Programming Algorithms for an Integrated Logistic System with Outsourced Transportation**
Demetrio Laganà, Adamo Bosco, Luca Bertazzi
- 2 - **A modelisation for multimodal network design: application to the hinterland of a port**
Arnaud Knippel, Sophie Michel, Ibrahima Diarrassouba, Cédric Joncour
- 3 - **Approximated neighborhood evaluation for complex logistics support design problems**
Emanuele Manni, Abdallah Alalawin, Gianpaolo Ghiani, Chefi Triki
- 4 - **Combinatorial optimization techniques for the design of reconfigurable machines**
Olga Battaïa, Alexandre Dolgui, Nikolai Guschinsky, Genrikh Levin

■ TD-14

Tuesday, 14:30-16:00

RB-Omega

Workforce Scheduling I

Chair: *Jan Lange*

1 - Ants for the Integrated Vehicle and Crew Scheduling Problem

David Pash, Andrej Brodnik

2 - A Model for the Vessel Crew Scheduling Problem

Alexander Leggate, Tibor Illés, Robert Van der Meer, Kerem Akartunali

3 - Heuristic Solution Approaches for Check-in Counters' Workforce Scheduling with Heterogeneous Skills

Emilio Zamorano de Acha, Raik Stolletz

4 - Scheduling Preventive Maintenances for Semiconductor Manufacturing Using CP

Jan Lange

■ TD-15

Tuesday, 14:30-16:00

RB-2101

Vector and Set-Valued Optimization II

Chair: *Vicente Novo*

Chair: *Enrico Miglierina*

1 - Lower and upper Ginchev derivatives of vector functions and their applications to multiobjective optimization

Marcin Studniarski, El-Desouky Rahmo

2 - Saddle point results for approximate proper efficiency in vector optimization problems

Lidia Huerga, César Gutiérrez, Vicente Novo

3 - Global optimization in R^n with box constraints and applications

Miguel Delgado Pineda

4 - A notion of condition number in multiobjective optimization

Enrico Miglierina, Monica Bianchi, Elena Molho, Rita Pini

■ TD-16

Tuesday, 14:30-16:00

RB-2103

Statistical, Games and Optimization Analysis in Climate Meta-Models

Chair: *Alain Haurie*

Chair: *Frédéric Babonneau*

1 - Computational Analysis of a Stochastic Climate Game Model

Alain Haurie, Olivier Bahn, Roland Malhamé, Julien Thénié

2 - Modeling Climate Negotiations as a Game Design Problem

Guillaume Jean Tarel, Alain Haurie, Frédéric Babonneau, Marc Vielle

3 - Meta-modelling of coupled climate-economic dynamics

Frédéric Babonneau, Neil Edwards, Phil Holden, Amit Kanudia, Maryse Labriet

4 - Climate Statistics for Energy Meteorology

John Boland

■ TD-17

Tuesday, 14:30-16:00

RB-2105

Global Optimization 1

Chair: *Herman Mawengkang*

- 1 - **On solving non-convex mixed-integer nonlinear programming problems using active constraint strategy**
Hardi Tambunan, Herman Mawengkang
- 2 - **Developing an integrated model for river water quality to estimate wastewater removal efficiencies**
Syafari Syafari, Herman Mawengkang
- 3 - **Modeling the dynamic interaction of social networks**
Maya Silvi Lydia, Herman Mawengkang
- 4 - **Comparison of Novel Optimization Algorithms on Intelligent Well Production Performance**
Morteza Hassanabadi, Ali MirHassani, Mahdi Nadri Pari, Seyyed Mahdia Motahhari

■ TD-18

Tuesday, 14:30-16:00

RB-2107

Location Analysis

Chair: *Burak Boyac?*

1 - Operational Research connecting Statistics and Cartography

José L. Pino, M^a Teresa Cáceres

2 - A parametric analysis on optimal locations for an entering firm under delivered price competition

Blas Pelegrin, Pascual Fernandez, María D. García

3 - Extended Hypercube Queueing Models for Stochastic Facility Location Problems

Burak Boyac?, Nikolas Geroliminis

■ **TD-19 has moved from MA-15**
■ **TD-19**

Tuesday, 14:30-16:00

RB-2111

Heuristics

Chair: *Edite M.G.P. Fernandes*

- 1 - **Using neural networks to map beam angles into intensity objective function values in IMRT optimization problems**

Joana Matos Dias, Humberto Rocha

- 2 - **A study of derivative-free optimization techniques for handling the sampling aspect in automated algorithm configuration**

Zhi Yuan, Thomas Stützle

- 3 - **Solving Quadratic 0-1 Knapsack Problem Using an Artificial Fish Swarm Algorithm**

Edite M.G.P. Fernandes, Md. Abul Kalam Azad, Ana Maria A.C. Rocha

■ TD-20

Tuesday, 14:30-16:00

RB-2113

Decision Theory and Analysis

Chair: *Tina Comes*

- 1 - **Assessing the Impact of Stock Volatility on the Efficiency of Listed Commercial Banks: A Conditional Nonparametric Approach**
Anamaria Aldea, Luiza Badin, Carmen Lipara
- 2 - **Explaining Results and Uncertainties of a Robust Scenario-Based Multi-Criteria Decision Support System: Generation of Natural Language Reports**
Tina Comes, Frank Schultmann
- 3 - **Implausible alternatives in the elicitation of multi-attribute value functions**
Rudolf Vetschera, Elisabeth Wolfsteiner, Wolfgang Weitzl
- 4 - **Modified BIPOLAR Method for Multi-criteria Decision Analyses under Risk**
Olena Sobotka, Ewa Konarzewska-Gubala

■ TD-21

Tuesday, 14:30-16:00

RB-2115

Risk Management

Chair: *Ulla Hofmann*

- 1 - **The general approach to the modeling of the risk management procedures and its specification for investment problems**
Tatiana Zolotova
- 2 - **Growth Optimal Portfolio Insurance — does it pay**
Ursula Walther
- 3 - **Analysis of Measurement Methods of the Utility Function in context of Prospect Theory**
Ulla Hofmann, Thomas Burkhardt
- 4 - **Long-term Investment Behaviour Considering Financial Constraints — An Analysis in the Context of Information Technology**
Stefan Pfosser, Vasko Isakovic

■ TD-22

Tuesday, 14:30-16:00

RB-2117

Experimental Economics and Game Theory

Chair: *Ulrike Leopold-Wildburger*

Chair: *Gerhard-Wilhelm Weber*

Paper moved from session WD-43

1 - An Alternative Approach for Exponential Smoothing Method

Ali Sabri Taylan, Güçkan Yapar

2 - Reputation of arbitrators in bargaining models

Vladimir Mazalov, Julia Tokareva

3 - The effects of honesty and social preferences on reporting behavior

Ulrike Leopold-Wildburger, Arleta Mietek

4 - Finding a fair cost allocation mechanism in flexible horizontal supply chains

Christine Vanovermeire, Kenneth Sörensen

■ TD-23

Tuesday, 14:30-16:00

RB-Delta

Recent Advances of Mathematical Programming in Supply Chain Management

Chair: *Turan Paksoy*

Chair: *Eren Ozceylan*

Chair: *Gerhard-Wilhelm Weber*

1 - An exact algorithm for the green vehicle routing problem

Çağrı Koç, İsmail Karaoglan, Sevgi Erdogan

2 - Artificial Bee Colony Algorithm for Solving Uncapacitated Facility Location Problems

Mustafa Servet Kalkan, Eren Ozceylan, Turan Paksoy

3 - Comparisons of Different Fuzzy Mathematical Programming Approaches on Supply Chain Network Design Problem

Nimet Yapıcı Pehlivan, Eren Ozceylan, Turan Paksoy

4 - Integration of Reverse Supply Chain Optimization and Disassembly Line Balancing

Eren Ozceylan, Turan Paksoy

■ TD-24

Tuesday, 14:30-16:00

CC-A11

Forecasting methods

Chair: *Aris Syntetos*

1 - Boot.EXPOS:Strength and sensibility

Clara Cordeiro, Manuela Neves

2 - Complexity of exponential smoothing models and its influence on forecast quality in retail

Johannes Püster, Axel Winkelmann, Justus Holler, Jörg Becker

3 - Estimating autoregressive models in the presence of missing data and non-normally distributed error terms

Korneel Bernaert, An Peeters

4 - Neural networks for streamflow series forecasting: A comparative study between echo state networks and MLP's

Hugo Siqueira, Levy Boccato, Romis Attux, Christiano Lyra

■ TD-25

Tuesday, 14:30-16:00

CC-A23

Pathways toward low carbon transport

Chair: *Sandrine Selosse*

1 - GHG emissions cap impact on French biofuel mix using MARKAL/TIMES Model

Paul Hugues, Edi Assoumou, Nadia Maïzi

Paper moved from session WA-25

2 - Impact of a carbon tax on french transports sector: A TIMES model for mobility.

Jean-Michel Cayla

3 - The option value of electrified vehicles from a welfare perspective

Adrien Vogt-Schilb, Manon Solignac, Céline Guivarch

4 - Technology and social factors in passenger transport: a comparative assessment of different leverages

François Briens, Edi Assoumou

Paper moved to session WA-25

An evaluation of the European CCS potential

Olivia Ricci, Sandrine Selosse

■ TD-26

Tuesday, 14:30-16:00

CC-A24

OR in Agriculture, Forestry and Fisheries

Chair: *Marcela Gonzalez-Araya*

1 - Multiple criteria and group decision methods to valuate ecosystem services

Marina Segura Maroto, Concepcion Maroto, Baldomero Segura

2 - Optimal control models for sustainable fishery management

Joao Lauro D. Faco'

3 - A mixed integer linear model for planning harvest applied to apple orchards

Marcela Gonzalez-Araya, Wladimir Soto-Silva

Paper added to session

4 - Sustainability of agriculture - only a dream considering the world population growth?

Joern Hamann

Sustainability of agriculture tries to meet mankind's needs of the present without compromising the future. The agricultural sector - cornerstone of food security - has to provide food for almost 35 % more people globally by mid-century. Without doubt, this can and will be reached. However, the question is whether it is possible with a sustainable agriculture. In any case, a lot of money must be spent on agricultural innovations in order to reach the goal of sufficient food for all especially without any further impairment of biological systems.

■ TD-27

Tuesday, 14:30-16:00

CC-A25

Uncertainties in Decision Processes

Chair: *Ahti Salo*

- 1 - **Sources and management of uncertainty in investment appraisals influenced by corporate social responsibility**
Aron Larsson, Sara Vickman, Leif Olsson
- 2 - **Bayesian evaluation and selection strategies in portfolio decision analysis**
Eeva Vilkkumaa, Juuso Liesiö, Ahti Salo
- 3 - **Uncertain mine clearance quality and how it affects the decision to perform quality control in humanitarian demining**
Tobias Fasth, Aron Larsson, Love Ekenberg
- 4 - **Action Research for assessing the impact of scenario-based multi-criteria interventions on the strategic decision-making process**
Camelia Ram

■ TD-28

Tuesday, 14:30-16:00

CC-A27

Anticipation and Synchronization

Chair: *Susie Vrobel*

1 - Trust as Embodied Anticipation

Susie Vrobel

2 - Distortions of spatial phase and temporal-synchronism disorders in amblyopia

Uwe Kämpf

3 - Effects of accuracy feedback on fractal characteristics of time estimation

Sebastian Wallot, Nikita Kuznetsov

■ TD-29

Tuesday, 14:30-16:00

CC-A29

DEA and Performance Measurement: Methodology 3

Chair: *Chris Tofallis*

- 1 - **Constructing rankings in DEA - a goal programming approach**
Paulo Morais, Ana Camanho
- 2 - **On the Environmental Variables Analysis in Two Stages DEA**
Rafael C Leme, Anderson Paulo Paiva, Pedro Paulo Balestrassi, Paulo Eduardo Steele Santos
- 3 - **Value Efficiency for the FDH model**
Merja Halme, Pekka Korhonen, Juha Eskelinen
- 4 - **Economic efficiency of european air traffic control systems**
Kenneth Button, Rui Neiva

■ TD-30

Tuesday, 14:30-16:00

CC-A31

Data confidentiality 2

Chair: *José Antonio González Alastrué*

1 - A Fix and Relax Heuristic for Controlled Tabular Adjustment

Daniel Baena Mirabete, Jordi Castro

2 - Potential Breaches of Confidentiality in Statistical Tables containing Magnitude Data

Martin Serpell, Jim Smith, Alistair Clark

3 - On data protection for graphs: application to social networks

Vicenc Torra, Klara Stokes

4 - Improving the solution of CTA through valid inequalities

José Antonio González Alastrué, Jordi Castro

■ TD-31

Tuesday, 14:30-16:00

CC-A33

Data Mining in Economics and Ecology

Chair: *Ivan Reyer*

Chair: *Renato Bruni*

- 1 - **Predicting the customer churn in Social Network games based on multiple criteria decision making models**
Chiao-Chen Chang, Yang-Chieh Chin
- 2 - **Modeling partial customer churn: on the value of first product-category purchase sequences**
Vera Miguéis, Dirk Van den Poel, Ana Camanho, João Cunha
- 3 - **Predicting the fundamental value of financial assets by ridge regression**
Michael Kamp, Mario Boley, Thomas Gaertner
- 4 - **Electricity consumption and economic growth causality in OECD countries: a panel cointegration approach**
Kasirga Yildirak, Ali Sabri Taylan, Cumhuri Ekinci

■ TD-32

Tuesday, 14:30-16:00

CC-A34

National Integrated Assessment Models

Chair: *Magnus Fröhling*

- 1 - **Environmental assessment of energy scenarios for the deployment of carbon capture and storage (CCS) on coal fired power plants in the UK**
Konstantinos Tzanidakis, Tim Oxley, Helen ApSimon
- 2 - **A simulation-based approach for a national integrated assessment model for Germany**
Patrick Breun, Rebecca Ilse, Magnus Fröhling, Frank Schultmann
- 3 - **Managing without Growth: Italian Scenarios**
Simone D'Alessandro, Giorgio Gallo, Giovanni Bernardo
- 4 - **Computer modeling of urban air quality and related health effects**
Piotr Holnicki, Zbigniew Nahorski, Marko Tainio

■ TD-33

Tuesday, 14:30-16:00

CC-A37

OR for Education and Sustainable Development

Chair: *Alexander Makarenko*

Chair: *Gerhard-Wilhelm Weber*

- 1 - **Self-organization processes in the European Higher Education Area**
Marek Frankowicz
- 2 - **Industrial heritage as an educational polygon for development strategies**
Vladimir Hain, Eva Kralova
- 3 - **A hybrid MCDM approach to assess the sustainability of students' preferences for university selection**
Metin Dagdeviren, Kabak Mehmet
- 4 - **Competitive market vs. central planning economy and long-run growth**
Kenji Miyazaki

■ TD-34

Tuesday, 14:30-16:00

CC-A39

OR for Sustainable Living and Development

Chair: *Pedamallu Chandra Sekhar*

Chair: *Theodor Stewart*

Chair: *Gerhard-Wilhelm Weber*

1 - Healthy housing environment in small towns in Southeastern Poland

Justyna Kobylarczyk

2 - Combined multicriteria and scenario analysis as aid to sustainable development

Theodor Stewart

3 - The effect of organizational communication in intrapreneurship and business performance

Ükran Öktem, Hakan Turgut, ?smaíl Tokmak, Gözde Kubat

Paper moved to session MB-18

The Antecedents and the Benefits of Partnership in PEF (Private Equity Fund) of South Korean Industries: The Sustainability Perspective

Hansuk Lee, Seongtae Hong, In-Young Lee

■ TD-35

Tuesday, 14:30-16:00

CC-A41

Robust logistic applications

Chair: *Tobias Winkelkotte*

1 - Robust Model for Dynamic Multilevel Capacitated Facility Location under uncertainty

Vincenzo De Rosa, Marina Gebhard, Jens Wollenweber

2 - Scheduling Long Distance Transports in a Postal Distribution Network

Tobias Winkelkotte, Li Sun

3 - New approach to The Single Track Railway Scheduling Problem

Maya Laskova, Alexander Lazarev, Elena Musatova

■ TD-36

Tuesday, 14:30-16:00

CC-A43

QMPD Session2

Chair: *Markus Siegle*

- 1 - **Queuing model of hop-by-hop overload control in SIP signaling network**
Yuliya Gaidamaka, Pavel Abaev, Konstantin Samouylov, Alexandr Pechinkin, Sergey Shorgin
- 2 - **Dependability assessment of large railway systems**
Grégory Buchheit, Olaf Malassé, Nicolae Brânzei
- 3 - **Colored Petri Nets based modeling and simulation of bandwidth allocation**
Julija Asmuss, Gunars Lauks, Viktors Zagorskis
- 4 - **SFERA: A Simulation Framework for the Performance Evaluation of Restart Algorithms in service-oriented systems**
Alexandra Danilkina, Philipp Reinecke, Katinka Wolter

■ TD-37

Tuesday, 14:30-16:00

CC-Act

OR in Health & Life Sciences 4

Chair: *Fabricio Sperandio*

- 1 - **Optimal timing of joint replacement using mathematical programming and stochastic programming models**
Baruch Keren, Joseph Pliskin, Yossi Hadad
- 2 - **Probabilistic Risk Assessment methods application for medical device reliability**
Robertas Alzbutas, Darius Naujokaitis, Vytautas Janilionis, Giedr? Alzbutien?
- 3 - **Integrating probability distribution elicitation with Markov decision modeling: a case study in the treatment of patients with heart failure**
Qi Cao, Douwe Postmus, Hans Hillege, Erik Buskens
- 4 - **Robust surgery scheduling via simulation optimization**
Fabricio Sperandio, Bernardo Almada-Lobo, José Borges

■ TD-38

Tuesday, 14:30-16:00

HH-Colombus

Multiobjective Optimization for Decision Support

Chair: *Heinz Roland Weistroffer*

- 1 - **IND-NIMBUS Framework for Interactive Multiobjective Optimization**
Vesa Ojalehto, Jussi Hakanen, Kaisa Miettinen
- 2 - **State of Multiobjective Optimization Software**
Heinz Roland Weistroffer, Yan Li
- 3 - **On Developing User Interface for Interactive Multiobjective Optimization**
Jussi Hakanen, Kaisa Miettinen, Suvi Tarkkanen, Hannakaisa Isomaki
- 4 - **Laplacian Regular Multiple Criteria Linear Programming for Semi-supervised Classification**
Zhiquan Qi

■ TD-39

Tuesday, 14:30-16:00

HH-Cousteau

MCDA software for real-world MCDA problems

Chair: *Brian Reddy*

- 1 - **a MCDA tool for evaluating the overall comfort onboard the French high speed trains (TGV)**
Mohamed, Lounes Mammeri
- 2 - **Eliciting ElectreTri category limits for a group of decision makers**
Vincent Mousseau, Olivier Cailloux, Patrick Meyer
- 3 - **Investigating mcda approaches for the national institute for health and clinical excellence**
Brian Reddy

■ TD-40

Tuesday, 14:30-16:00

HH-Livingstone

Preference Learning 3

Chair: *Krzysztof Dembczynski*

1 - Improving ranking performance with cost-sensitive ordinal classification via regression

Hsuan-Tien Lin, Yu-Xun Ruan, Ming-Feng Tsai

2 - A new rule-based method for label ranking

Massimo Gurrieri, Xavier Siebert, Philippe Fortemps

3 - Learning preference relations with Kronecker kernels: Some theoretical and algorithmic results

Tapio Pahikkala

4 - Efficient information retrieval in bioinformatics with conditional ranking algorithms

Willem Waegeman

■ TD-41

Tuesday, 14:30-16:00

HH-Heyerdahl

Dynamical Systems and Mathematical Modelling in OR

Chair: *Selma Belen*

Chair: *Gerhard-Wilhelm Weber*

1 - Fractional partial differential equations driven by fractional Gaussian noise

Mahmoud El-Borai, Khairia El-Said El-Nadi

2 - A discrete system simulating an e-shop built bottom up from customer behavior

Peter Vojtas, Ladislav Peska

3 - A Hybrid Modelling Approach for Physical Network Design under Demand Uncertainty

Sutthipong Meeyai

Paper moved to session TD-11

Taxonomy of concepts and terms in administration

Erwin Reizes

■ TD-42

Tuesday, 14:30-16:00

BW-Amber

Advances in Stochastic Modeling and Simulation

Chair: *Basak Tanyeri*

- 1 - **A Comparison of Artificial Neural Network and Multinomial Logit Models in Predicting Mergers**
Nilgun Fescioglu-Unver, Basak Tanyeri
- 2 - **A survey analysis on the investment attitudes of individual investors**
Belma Ozturkkal
- 3 - **Stochastic interventions: Methods to model uncertainty**
Shweta Agarwal, Gilberto Montibeller
- 4 - **Records Properties of Nonstationary Time Series**
Ana Elizabeth García Sipols, Clara Simon de Blas, M. Teresa Santos Martin

■ TD-43

Tuesday, 14:30-16:00

BW-Granite

Stochastic and robust optimization

Chair: *Abdel Lisser*

1 - Solving SCOPF problems by a new structure-exploiting method

Naiyuan Chiang

2 - A Second-Order Cone Programming approach for Linear programs with joint probabilistic constraints

Abdel Lisser

3 - Robust portfolio optimization - impact of copula and estimation choice

Justyna Majewska, Grażyna Trzpiot

4 - On reduction of quantile optimization problems with discrete distributions to mixed integer programming problems

Vladimir Norkin, Andrey Kibzun, Andrey Naumov

■ TD-44

Tuesday, 14:30-16:00

BW-Marble

Model Generation and Model Selection

Chair: *Michael Khachay*

Chair: *Vadim Strijov*

1 - Search for Optimal Composite Indicators

Miroslav Klucik

2 - Nonlinear regression model generation and graph transformations

Roman Sologub

3 - Multiclass classification of cardio-vascular disease patients with sample size estimation

Anastasia Motrenko

4 - Mixture models in the financial time series forecasting

Vadim Strijov

■ TD-45

Tuesday, 14:30-16:00

BW-Water

Quantitative Approaches in Managerial and Financial Accounting

Chair: *Matthias Amen*

1 - Optimizing continuous inventory

Matthias Amen

2 - Meta Managerial Accounting — quantitative approaches for designing managerial accounting systems

Markus Puetz

3 - Corporate taxes, capital structure and valuation: Combining Modigliani/ Miller and Miles/ Ezzell

Ulrich Schäfer, Stefan Dierkes

4 - Electronic transfer of financial data to banks - reasons for refusal and possible improvements

Karina Sopp

■ TE-01

Tuesday, 16:30-17:30

Opera

Celebration of EURO and its Presidents

Chair: *Gerhard Wäscher*

Chair: *M. Grazia Speranza*

1 - 40 Years of EURO: History, Applications, Future Potentials

Hans-Jürgen Zimmermann

2 - Celebration of the EURO Presidents

M. Grazia Speranza, Gerhard Wäscher

■ **WA-01**

Wednesday, 8:30-10:00

RB-Alfa

Keynote Lecture: Professor Boris Polyak

Chair: *Leonidas Sakalauskas*

1 - Robust eigenvector problem and its application to PageRank

Boris Polyak

■ WA-02

Wednesday, 8:30-10:00

RB-Beta

New Models for Project Scheduling

Chair: *Christian Artigues*

1 - An integrated solution procedure for project staffing

Broos Maenhout, Mario Vanhoucke

2 - Variable resource consumption and dynamic activity duration in the resource-constrained project scheduling problem

Torben Schramme, Leena Suhl, Stefan Bunte

3 - Integer programming and constraint propagation for scheduling under energy constraints

Christian Artigues, Pierre Lopez, David Rivreau

Paper moved from session WD-02

4 - A preprocessing procedure to improve recent exact algorithms for the resource-constrained project scheduling problem

Alexander Schnell, Richard Hartl

■ WA-03

Wednesday, 8:30-10:00

RB-L1

EURO/ROADEF Challenge Session 2

Chair: *H. Murat Afsar*

Chair: *Christian Artigues*

Chair: *Ender Özcan*

Chair: *Eric Bourreau*

Chair: *Emmanuel Guere*

Chair: *Kedad-Sidhoum Safia*

Chair: *Marc Sevaux*

- 1 - **Constraint-based large neighborhood search for machine reassignment**
Jochen Speck, Felix Brandt, Markus Völker
- 2 - **Constraint-based large neighborhood search approach based on constraint programming for the machine reassignment problem**
Deepak Mehta, Barry OSullivan, Helmut Simonis
- 3 - **Combining VNS, Simulated Annealing, and a Greedy Heuristic for the ROADEF/EURO 2012 Challenge**
Frederic Roupin, Laurent Alfandari, Franck Butelle, Camille Coti, Lucian Finta, Gérard Plateau, Antoine Rozenknop
- 4 - **A GRASP approach for the machine reassignment problem**
Michaël Gabay, Sofia Zaourar

■ **WA-04**

Wednesday, 8:30-10:00

RB-L2

Combinatorial Optimization: Applications

Chair: *Stephan Visagie*

- 1 - **Selecting subsets of foods to measure nutrient exposure: the max_r method**
Hannelie Nel, Martin Kidd
- 2 - **A pallet arrangement algorithm for legal loads**
Neil Jacobs
- 3 - **An algorithm for the bi-objective integer minimum cost flow problem**
Salima Nait Belkacem
- 4 - **On the optimization of a unidirectional picking line in a DC.**
Jason Matthews, Stephan Visagie

■ **WA-05**

Wednesday, 8:30-10:00

RB-L3

Topics in combinatorial optimization I

Chair: *Eric Bourreau*

1 - A column generation model for Eternity 2

Eric Bourreau

2 - Optimization of a Nonlinear Workload Balancing Problem

Stefan Emet

3 - Efficient Parallel Algorithm for Solving UNSAT 3-SAT and Similar Instances Via Static Decomposition

Emir Demirović, Haris Gavranović

4 - Clique-Forest partitions of P-4-tidy graphs

Sulamita Klein, Loana Nogueira, Raquel Bravo, Fabio Protti

■ WA-06

Wednesday, 8:30-10:00

RB-Gamma

Variable Neighborhood Search and hybrid metaheuristics

Chair: *Dauwe Vercamer*

1 - Variable neighborhood search for Unit commitment problem

Raca Todosijevic, Igor Crevits, Saïd Hanafi, Marko Mladenovic, Nenad Mladenovic

2 - A VNS for the Real-Life Asymmetric Large-Scale MTSP with Stochastic Customers

Dauwe Vercamer, Dirk Van den Poel, Birger Raa

3 - Environmental unit commitment problem with CO2 taxes

Marko Mladenovic, Igor Crevits, Saïd Hanafi, Nenad Mladenovic, Raca Todosijevic

Paper added to session

4 - A system based on ontologies, agents and metaheuristics applied to the multimedia service of the brazilian digital television system

Toni Wickert, Arthur Gomez

With the advent of the Brazilian Digital Television System the users will be able to have an interactive channel. Thus, will be possible to access the multimedia application server, i.e., to send or to receive emails, to access interactive applications, among others. This paper proposes the development and the implementation of an architecture that includes a module that suggests the content to the user according to his profile and another module to optimize the content that will be transmitted. The implementation was developed using ontologies, software agents and metaheuristics.

■ WA-07

Wednesday, 8:30-10:00

RB-Eta

Logistics and Vehicle Routing

Chair: *Juan José Salazar González*

Chair: *Hipólito Hernández-Pérez*

1 - **One stage approximation algorithm to solve the 2LCVRP**

Javier Faulin, Angel, A. Juan, Alba Agustín, Oscar Domínguez

2 - **Large Neighborhood Search for solving the Newspaper Delivery Problem**

Belma Turan, Karl Doerner, Richard Hartl, Verena Schmid

3 - **A multi-commodity Pickup-and-Delivery Problem**

Hipólito Hernández-Pérez, Juan José Salazar González

Paper added to session

4 - **The Robust Vehicle Routing Problem with Stochastic Demand**

Remy Spliet, Adriana F. Gabor, Rommert Dekker

We consider a vehicle routing problem where a schedule has to be designed before demand is known. Next, demand is revealed and we are allowed to adjust the original schedule to ensure capacity constraints are satisfied. However, it is not allowed to differ too much from the original schedule. Difference is measured by counting arcs that are used in the original schedule, but not in the adjusted schedule. We encountered this problem at Dutch retail chains. Too many adjustments, distorts operations beyond what managers think is acceptable. We develop a heuristic based on the classical Cluster-First Route-Second principle for the (Capacitated) Vehicle Routing Problem.

■ **WA-08**

Wednesday, 8:30-10:00

RB-Epsilon

Satisfiability and Hypergraphs

Chair: *Stefan Porschen*

1 - Euler walks in uniform hypergraphs

Zbigniew Lonc, Pawel Naroski

2 - Generalized Complexity of Subsumption

Arne Meier

3 - A satisfiability-based approach for generalized tanglegrams on level graphs

Andreas Wotzlaw, Ewald Speckenmeyer, Stefan Porschen

4 - Satisfiability thresholds beyond k-XORSAT

Andreas Goerdt, Lutz Falke

■ **WA-09**

Wednesday, 8:30-10:00

RB-Zeta

Graphs and networks I

Chair: *Nicolas Bourgeois*

- 1 - **On tightness in the analysis of Branch and Bound algorithms.**
Nicolas Bourgeois
- 2 - **Moderately exponential approximation for Feedback Vertex Set.**
Emeric Tourniaire
- 3 - **Fast algorithms for finding specific subgraphs in Biology**
Marc Bailly-Bechet
- 4 - **Bipartite finite Toeplitz Graphs**
Sara Nicoloso, Ugo Pietropaoli

■ WA-10

Wednesday, 8:30-10:00

RB-Theta

Non-deterministic models 3

Chair: *Ernest Benedito*

Chair: *Frédéric Dugardin*

1 - Performance analysis through stochastic OEE simulation

Werner Schroeder, Markus Gram

2 - A Two Stage Solution Procedure of Stochastic Programming Problem for Production Planning with Advance Demand Information

Nobuyuki Ueno, Koji Okuhara, Takashi Hasuike

3 - Stochastic bi-level programming of production planning in a reconfigurable aircraft fuselage assembly

Yohanes Kristianto

4 - Strategic capacity planning in a single-site production system considering renewal, maintenance, inventory and cash-flow management under uncertainty

Ernest Benedito

■ WA-11

Wednesday, 8:30-10:00

RB-Iota

Scheduling problems with additional constraints

Chair: *Roman Capek*

- 1 - **New heuristics for the permutation flowshop problem with flowtime minimization**
Ruben Ruiz, Quan-Ke Pan
- 2 - **A soft computing based approach to integrated process planning and scheduling with setup and machine capacity considerations**
Filiz ?enyüzlüler, Adil Baykaso?lu, Turkey Dereli
- 3 - **Blocking hybrid flow shop robotic cell scheduling problem with unrelated parallel machines, machine eligibility constraints and multiple part types**
Seyda Topaloglu, Atabak Elmi
- 4 - **Resource constrained project scheduling problem with alternative process plans and total changeover cost minimization**
Roman Capek

■ **WA-12**

Wednesday, 8:30-10:00

RB-Omicron

Railway Optimization I

Chair: *Gabrio Curzio Caimi*

Chair: *Marco Laumanns*

1 - A decomposition approach to real-time train rescheduling

Leonardo Lamorgese

2 - Opportunities and challenges with new railway planning approach in Sweden

Malin Forsgren, Martin Aronsson, Sara Gestrelus, Hans Dahlberg

3 - A Rapid Branching method for the Vehicle Rotation Planning Problem

Markus Reuther, Ralf Borndörfer, Thomas Schlechte, Steffen Weider

4 - Railway transportation planning optimization

Jean Damay, Francis Sourd

■ **WA-13**

Wednesday, 8:30-10:00

RB-Tau

Uncertainty in Inventory Management

Chair: *Mario Guajardo*

1 - Forest biomass planning under uncertainty

Mikael Rönnqvist, Patrik Flisberg, Mikael Frisk

2 - Safety Stock Placement in Multi-Echelon Inventory Systems - A Comparison of the Stochastic-Service and Guaranteed-Service Approaches

Thomas Wensing

3 - Inventory management and pooling of spare parts in an energy company

Mario Guajardo, Mikael Rönnqvist

■ **WA-14**

Wednesday, 8:30-10:00

RB-Omega

Workforce scheduling II

Chair: *Lakhdar Djeffal*

1 - Solving the Integrated Physician and Surgery Scheduling Problem Under Stochastic Demand

Christophe Van Huele, Mario Vanhoucke

2 - An Optimisation Model for Staff Planning in a Home Care Organisation

Pablo Andrés Maya Duque, Marco Castro, Kenneth Sörensen, Peter Goos

3 - A Branch and Bound Algorithm for Pharmacy Duty Scheduling Problem

Ozgur Ozpeynirci

4 - A Mixed Integer Linear Program for Scheduling Problem

Lakhdar Djeffal

■ **WA-15**

Wednesday, 8:30-10:00

RB-2101

Vector and Set-Valued Optimization III

Chair: *Vicente Novo*

Chair: *Elena Molho*

1 - Accuracy functions and robustness tolerances in vector discrete optimization

Yury Nikulin, Marko M. Mäkelä, Olga Karelkina

2 - On generalized well-posedness for vector optimization

Ruben Lopez

3 - A notion of well-posedness in set-valued optimization

Elena Molho, César Gutiérrez, Enrico Miglierina, Vicente Novo

■ **WA-16**

Wednesday, 8:30-10:00

RB-2103

Conic Optimization: Algorithms and Applications

Chair: *Knut Haase*

- 1 - **Speeding up the spectral bundle method by solving the quadratic semidefinite subproblems with a PSQMR approach**
Christoph Helmberg, Kim-Chuan Toh
- 2 - **New results in copositive optimization**
Mirjam Duer
- 3 - **A Semidefinite Optimization Approach to Multi-Row Facility Layout**
Philipp Hungerländer, Miguel Anjos
- 4 - **A Branch-and-Price Approach for Sales Force Deployment**
Knut Haase, Sven Müller

■ WA-17

Wednesday, 8:30-10:00

RB-2105

Global Optimization 2

Chair: *Herman Mawengkang*

Chair: *Dmitry Krushinsky*

Chair: *Gerhard-Wilhelm Weber*

1 - Modeling Super-flexibility Sustainable Distribution Centre of a Supply Chain

Ronsen Purba

2 - On multi-objective black box optimization of expensive objectives

Vytautas Jancauskas, Antanas Zilinskas, Panos Pardalos

3 - Optimality and multiobjectiveness of cell formation in group technology

Dmitry Krushinsky, Boris Goldengorin, Jannes Slomp

Paper moved to session TA-34

Fish Processed Production Planning Under Uncertainty Considering Quality

Tutiarny Naibaho

■ **WA-20**

Wednesday, 8:30-10:00

RB-2113

Portfolio Decision Analysis

Chair: *Marius Radulescu*

1 - Absolutely optimal portfolios

Gheorghita Zbaganu, Marius Radulescu

2 - Structured Portfolio Management under Ambiguity

Jean-luc Prigent, Hachmi Ben Ameur

3 - Determination of the Optimal Weights in a Currency Portfolio with Sharpe Ratio Maximizing Approach

Celal Barkan Güran, Oktay Ta?

4 - Applications of portfolio theory to production planning for fish farms

Marius Radulescu, Constanta Zoie Radulescu, Sorin Radulescu

■ **WA-21**

Wednesday, 8:30-10:00

RB-2115

Financial Service Management

Chair: *Heinz Eckart Klingelhöfer*

1 - Long-term Simulation of Investment Strategies

Geraldine Tchegho, Thorsten Poddig

2 - Investments into Services

Heinz Eckart Klingelhöfer

3 - When to cut a tree

Fritz Helmedag

4 - When to cut a tree given sustainability constraints

Thomas Burkhardt

■ **WA-23**

Wednesday, 8:30-10:00

RB-Delta

Optimization in Machine Learning

Chair: *Ronny Luss*

Chair: *Vadim Strijov*

1 - Application of cutting plane methods in machine learning

Vojtech Franc

2 - Sparse Rank-One Matrix Approximations: Convex Relaxations, Direct Approaches, and Applications to Text Data

Ronny Luss, Marc Teboulle

3 - Optimizing support vector regression parameters by using global search algorithm

Alexey Polovinkin, Konstantin Barkalov, Nikolai Zolotykh, Iosif Meyerov, Sergey Sidorov

■ **WA-24**

Wednesday, 8:30-10:00

CC-A11

Data Mining and Decision Making

Chair: *Benjamin Gotthardt*

- 1 - **Development of Traffic Accidents Prediction Model with Neural Networks**
Muhammed Yasin Çodur, Ahmet Tortum
- 2 - **Multi product Newsvendor-problem - solution with NCP and a non-trivial effect**
Benjamin Gotthardt, Marc Reimann
- 3 - **A cash flow and profitability monitoring system for retailers in the greek pharmaceutical industry**
George Marinakos, Sophia Daskalaki, Theodor Drinias, Kostas Tsekouras

Title change:

■ **WA-25** ■ **WA-25**

Wednesday, 8:30-10:00

CC-A23

Future role of nuclear

Chair: *Nicklas Forsell*

1 - Future challenges for the French power generation paradigm

Edi Assoumou, Vincent Mazauric, Nadia Maïzi

2 - Looking Japan energy future after the 11th March 2011's earthquake

Adrien Wacziarg, Nadia Maïzi, Prabodh Pourouchottamin

Paper moved to session TD-25

Impact of a carbon tax on french transports sector: A TIMES model for mobility.

Jean-Michel Cayla

4 - Critical Analysis of "Energy 2050" report: An overview of the French electricity mix

Renaud Dudouit

Paper moved from session TD-25

5 - An evaluation of the European CCS potential

Olivia Ricci, Sandrine Selosse

■ **WA-26**

Wednesday, 8:30-10:00

CC-A24

OR and Environmental Management

Chair: *Ralf Gössinger*

Chair: *Michael Kaluzny*

1 - Resilience of the smart meter-enabled electricity supply chains

Behzad Samii, Hakan Ümit

2 - Value co-creation system for B2B service: A case study on after-sales service of electric power industry

Nobuhiko Nishimura

3 - Energy price models: Regime switching with clustering techniques

Baptiste Salasc, Steven Gabriel, Yohan Shim

■ **WA-27**

Wednesday, 8:30-10:00

CC-A25

Decision Support Systems

Chair: *Pascale Zaraté*

- 1 - **Decisions, processes, and decision processes for enabling risk sharing and performance creation at the buyer-supplier interface**

Kristian Rotaru, Carla Wilkin, Leonid Churilov

- 2 - **Modelling to generate alternatives using biologically-inspired algorithms**

Julian Scott Yeomans, Raha Imanirad

- 3 - **The Role of product factors, sellers' factors and attitude toward risk on e-store purchasing**

Arik Sadeh

Paper moved from session TA-26

- 4 - **A multicriteria decision scheme for water pipe replacement prioritization**

Youssef Tili, Amir Nafi

■ **WA-28**

Wednesday, 8:30-10:00

CC-A27

OR Military Applications

Chair: *Ana Isabel Barros*

Chair: *Herman Monsuur*

- 1 - Taking uncertainty into account in Unmanned Aerial Vehicle tour planning**
Lanah Evers, Kristiaan Glorie, Suzanne van der Ster, Ana Isabel Barros, Herman Monsuur
- 2 - Multi objective decision analysis for fighter squadrons flight scheduling problem**
Mehmet Durkan
- 3 - Determining maintenance manpower requirements for aircraft units**
Nicole van Elst, Wouter Noordkamp
- 4 - Lifetime management of defence fleet capability**
Patrick Tobin

■ **WA-29**

Wednesday, 8:30-10:00

CC-A29

Data Mining

Chair: *Erik Kropat*

- 1 - **Exact and heuristic algorithms based on Support Vector Machine for Feature Selection with application to Financial Problems**
Renato De Leone, Sonia De Cosmis
- 2 - **Arrhythmia Classification via Mathematical Programming**
Emre Çimen, Gurkan Ozturk
- 3 - **Proposal for generation of the three-way Perceptual Map using non-metric Multidimensional Scaling with clusters**
Moacyr Machado Cardoso Junior, Rodrigo Scarpel

■ **WA-30**

Wednesday, 8:30-10:00

CC-A31

Scheduling Applications

Chair: *Krystsina Bakhrankova*

1 - Single machine scheduling with due dates and perishable raw materials

Jean-Charles Billaut, Federico Della Croce, Patrick Esquirol, Jean-François Tournamille

2 - Optimum cost blending application in flour mills

Mehmet Akif Sahman, Abdullah Oktay Dunder, Adem Alpaslan Altun

3 - Production Scheduling in Batch Process Industries Using Timed Automata Models

Subanatarajan Subbiah, Christian Schoppmeyer, Sebastian Engell

Paper moved from session MC-11

4 - Development of an optimisation framework for scheduling of street works

Rahman Pilvar

■ **WA-32**

Wednesday, 8:30-10:00

CC-A34

DEA and Performance Measurement: Methodology 4

Chair: *Cecilio Mar-molinero*

1 - On the properties of a linear transformation of variables in Data Envelopment Analysis

Abolfazl Keshvari, Pekka Korhonen

2 - Classifying Inputs and Outputs Based on TOPSIS Method Using Modified DEA Model

Sahand Daneshvar, Gokhan Izbirak

3 - Weights in the multi-activity DEA model

Cecilio Mar-molinero, Fabiola Portillo, Diego Prior

■ WA-33

Wednesday, 8:30-10:00

CC-A37

Sustainable Development in Civil Engineering and Multi-attribute Decision Making

Chair: *Tatjana Vilutiene*

Chair: *Jana Selih*

1 - Logistics significance of wood product manufacturing on competitiveness based management

Kristine Fedotova, Ineta Geipele, Sanda Geipele

2 - Structural Reliability Analysis and Decision Support Applying Probabilistic Methods

Robertas Alzbutas, Gintautas Dundulis

3 - Model of structure solution selection for the sustainable building's design

Ernestas Gaudutis, Klaus Holschemacher, Jolanta Tamosaitiene

Paper moved from session WB-33

4 - Development of a multicriteria model for comprehensive assessment of residential units

Jana Selih

Paper moved to session WB-33

Selection of the rational modernization measures: Case of art school modernization in Birstonas city

Tatjana Vilutiene, Ceslovas Ignatavicius

■ **WA-34**

Wednesday, 8:30-10:00

CC-A39

Solution concepts for TU-games

Chair: *Ilya Katsev*

1 - The $[0,1]$ -nucleolus in 3-person cooperative TU-games

Nadezhda Smirnova, Svetlana Tarashnina

2 - The lexicographic prekernel

Elena Yanovskaya

3 - The SD-prenucleolus for TU games

Ilya Katsev

Paper moved from session MB-34

4 - Cooperative games on accessible union stable systems

Rene van den Brink, Encarnación Algaba, Chris Dietz

■ **WA-35**

Wednesday, 8:30-10:00

CC-A41

Sports and OR

Chair: *Luciano Mercadante*

1 - A proposal for redesign of the FedEx Cup playoff series on the PGA TOUR

Chris Potts, Nicholas Hall

2 - The pooling of sports teams in parallel competitions

Dennis Van den Broeck

3 - Forecasting in-play match outcome in One-day international Cricket

Muhammad Asif, Ian McHale

4 - Patient transportation and mountain running: looking for optimal solutions

Martin Bracke

■ **WA-36**

Wednesday, 8:30-10:00

CC-A43

Societal Complexity, Healthcare and Sustainable Development

Chair: *Dorien DeTombe*

Chair: *Eizo Kinoshita*

1 - How to handle societal complexity

Dorien DeTombe

2 - A framework for asking questions about the state of the art: the Methodology of Societal Complexity

Stephen Taylor

3 - Globalization or isolation?-Ricardo's Model

Eizo Kinoshita

4 - Critical systems practice in generating creative knowledge

Slavica P. Petrovic

■ **WA-37**

Wednesday, 8:30-10:00

CC-Act

OR in Health & Life Sciences 5

Chair: *Ana Viana*

- 1 - Operations Research for pediatric care systems: an opportunity for the personal medical advisor in antibiotic treatment**
Jelena Hadzi-Puri?, Jeca Grmusa
- 2 - An accurate model of Critical Care Unit through queueing theory**
Izabela Komenda, Jeff Griffiths, Vincent Knight
- 3 - Providing healthcare for elderly in smart homes**
Radu Prodan, Ioan Nascu
- 4 - A compact formulation for the Kidney Exchange Problem**
Xenia Klimentova, Miguel Constantino, Ana Viana, Joao Pedro Pedroso, Abdur Rais, Filipe Alvelos

■ **WA-38**

Wednesday, 8:30-10:00

HH-Colombus

Multiobjective Optimization in Location Problems

Chair: *José Rui Figueira*

Chair: *Christiane Tammer*

1 - Robust multicriteria optimization problems

Elisabeth Köbis

2 - Location Problems with Future Facilities

Andrea Wagner, Kathrin Klamroth, Christiane Tammer

3 - An algorithm for solving multicriteria location-cost optimization problems

Shaghaf Alzorba

4 - Robustness in Multiobjective Optimization

Jonas Ide, Anita Schöbel, Matthias Ehrgott

■ **WA-39**

Wednesday, 8:30-10:00

HH-Cousteau

Dynamic Programming 1

Chair: *Lidija Zadnik Stirn*

- 1 - **Decision support model based on group AHP and dynamic programming for optimal regulation of protected areas**
Lidija Zadnik Stirn
- 2 - **A dynamic programming approach to analyze the development of non conventional oil supply under uncertainty: application to the Canadian oil sands**
Frederic Lantz
- 3 - **A Parallel Procedure for Dynamic Multi-objective TSP**
Weiqi Li
- 4 - **Bi-criteria optimization problem of binary objects flow servicing by stationary service processor with storage container**
Anastasia Kuimova

■ WA-40

Wednesday, 8:30-10:00

HH-Livingstone

Preference Learning 4

Chair: *Willem Waegeman*

1 - Preference elicitation for interactive learning of Optimization Modulo Theory problems

Andrea Passerini, Paolo Campigotto, Roberto Battiti

2 - On the characterization of a ranking procedure based on a natural monotonicity constraint

Michael Rademaker, Bernard De Baets

3 - Preference learning for automated reasoning

Evgeni Tsivtsivadze, Daniel Kuehlwein, Tom de Ruijter, Twan van Laarhoven, Josef Urban, Tom Heskes

4 - Learning from preferences in the context of Case-Based Reasoning (CBR)

Patrice Schlegel

■ **WA-41**

Wednesday, 8:30-10:00

HH-Heyerdahl

Young scientists doing research in OR

Chair: *Alexis Pasichny*

1 - Heteroscedastic processes in finance modelling

Bohdan Pukalskyi

2 - Comparative analysis of methods for prediction of finance and economic processes.

Yaroslav Shevchenko

3 - Mathematical methods for regional sustainable development modeling based on SD measurement metrics

Alexej Orlov

■ WA-42

Wednesday, 8:30-10:00

BW-Amber

Robust Optimization and Randomized Methods

Chair: *Erik Kropat*

Chair: *Gerhard-Wilhelm Weber*

Chair: *Ayse Özmen*

1 - A robust optimization approach to production planning under non-compliance risks

Ban Kawas, Marco Laumanns, Eleni Pratsini

2 - Fast sample average approximation for minimizing Conditional-Value-at-Risk

Eduardo Moreno, Daniel Espinoza

3 - Stochastic optimization of nonlinear problems with constraints and differentiable functions: The wait and see method

Kherchi Hanya

4 - Randomized Clustering: Weakening Necessary Conditions for the Confidence Interval of the True Number of Clusters

Mikhail Morozkov, Oleg Granichin, Zeev (Vladimir) Volkovich

■ WA-43

Wednesday, 8:30-10:00

BW-Granite

Stochastic programming in industry I

Chair: *Laureano Fernando Escudero*

1 - Risk averse measures in Stochastic mixed 0-1 Optimization

Larraitz Aranburu, Laureano Fernando Escudero, María Araceli Garín, Gloria Perez, Gloria Perez

2 - Scenario cluster partitioning in the Lagrangian based procedures

Aitziber Unzueta, Laureano Fernando Escudero, María Araceli Garín, Gloria Perez

3 - Parallel computing via break stage scenario clustering for multistage stochastic programming

Gloria Perez, María Merino, Laureano Fernando Escudero, María Araceli Garín, Unai Aldasoro

4 - Vehicle Routing with Soft Time Windows and Stochastic Travel Times: A Column Generation and Branch-and-Price Solution Approach

Michel Gendreau, Duygu Tas, Nico Dellaert, Tom Van Woensel, Ton de Kok

■ **WA-44**

Wednesday, 8:30-10:00

BW-Marble

Data Analysis and Its Applications

Chair: *Michael Khachay*

1 - Forecasting algorithm for short time series with preliminary classification

Irina Yatskiv

2 - A robust algorithm for sequential ANOVA with incomplete data

Carmen Anido, Teofilo Valdes

3 - A clustering method based on Independent Component Analysis

Takashi Onoda

4 - Dissimilarity Based on Cluster Discernibility on Attribute Subsets

Yoshifumi Kusunoki, Tetsuzo Tanino

■ **WA-45**

Wednesday, 8:30-10:00

BW-Water

Non-Airline Revenue Management Applications

Chair: *Jochen Gönsch*

1 - Network capacity control and road-based freight transportation

Jörn Schönberger

2 - Operational capacity management in the car rental industry

Claudius Steinhardt, Jochen Gönsch

3 - Dynamic pricing and efficient management of installation and maintenance resources

Rupal Rana

4 - An EMSR approach for revenue management with planned upgrades

Jochen Gönsch, Sebastian Koch, Claudius Steinhardt

■ **WB-01**

Wednesday, 10:30-12h00

RB-Alfa

Keynote Lecture: Professor Matteo Fischetti

Chair: *Elena Fernandez*

1 - On the role of randomness in exact tree search methods

Matteo Fischetti, Michele Monaci

■ WB-02

Wednesday, 10:30-12h00

RB-Beta

Preemption, Lower Bounds and Robustness in Project Scheduling

Chair: *Christoph Schwindt*

1 - Incorporating costs in the RCPSP with pre-emption

Francisco Ballestin

2 - Lower and upper bounds for preemptive project scheduling with generalized precedence relationships

Christoph Schwindt, Tobias Haselmann

3 - Lower bounds for a Fixed Job Scheduling Problem with an equity objective function

Damien Prot, Tanguy Lapegue, Odile Bellenguez-Morineau

4 - Increasing schedule robustness by task grouping

Michel Wilson, Cees Witteveen

■ WB-03

Wednesday, 10:30-12h00

RB-L1

EURO/ROADEF Challenge Session 3

Chair: *Christian Artigues*

Chair: *Ender Özcan*

Chair: *Emmanuel Guere*

Chair: *Eric Bourreau*

Chair: *Kedad-Sidhoum Safia*

Chair: *H. Murat Afsar*

Chair: *Marc Sevaux*

1 - Google/Roadef Challenge: a 100-line LocalSolver model model qualifies for the final round

Romain Megel, Bertrand Estellon, Thierry Benoist, Julien Darlay, Frédéric Gardi, Karim Nouioua

2 - Adaptive Local Search for Google Machine Reassignment problem

Emir Demirovi?, Mirsad Buljubasic, Haris Gavranovic

3 - A Hybrid Large Neighborhood and Local Search for the Machine Reassignment Problem

Thibaut Vidal, Hugues Dubedout, Renaud Masson, Julien Michallet, Puca Penna, Vinicius Petrucci, Anand Subramanian

■ WB-04

Wednesday, 10:30-12h00

RB-L2

New Ideas in Integer Programming

Chair: *Francois Soumis*

- 1 - **A fast and accurate algorithm for stochastic integer programming, applied to stochastic shift scheduling**
Rémi Pacqueau, Francois Soumis, Le Hoang
- 2 - **Correction of an infeasible mixed integer linear programming problem towards feasibility**
Dmitry Borodin, Viktor Gorelik
- 3 - **Integral simplex using decomposition**
Francois Soumis, Issmail Elhallaoui, Zaghrouti Abdelouahab
- 4 - **A hybrid solution to configurate H.264/AVC video CODEC for the Brazilian Digital TV**
Iris Linck, Arthur Gomez

■ WB-05

Wednesday, 10:30-12h00

RB-L3

Topics in combinatorial optimization II

Chair: *Robert Manger*

- 1 - **Fixing rules, Reduction and Optimal resolution for the Knapsack Problem with Setups**
Abdelkader Sbihi
- 2 - **Adding an Edge between Two Levels of a Complete K-ary Linking Pin Structure Minimizing Total Distance**
Kiyoshi Sawada
- 3 - **Minimizing the costs of evacuation paths by decomposing network flows**
Jan Peter Ohst, Stefan Ruzika
- 4 - **Implementing the work function algorithm by network flows and flow cost reduction**
Robert Manger, Tomislav Rudec

■ **WB-06**

Wednesday, 10:30-12h00

RB-Gamma

Industrial Organization

Chair: *Luis Ferreira*

- 1 - **Parallel vs. Sequential Interaction Protocols for the Multilateral Negotiations in Distributed, Multi-agent Environment**

Piotr Palka

- 2 - **Symmetric rendezvous search on a hexagon**

John Howard

- 3 - **Lorenz and lexicographic maximal allocations for bankruptcy problems**

Javier Arin

■ **WB-08**

Wednesday, 10:30-12h00

RB-Epsilon

Boolean Optimization in Graph Theory

Chair: *Martin Milanic*

1 - Forbidden induced subgraph characterizations of graph classes

Guillermo Durán

2 - The Price of Connectivity for Vertex Cover

Oliver Schaudt

3 - Equistable graphs: conjectures, results, and connections with Boolean functions

Martin Milanic

■ WB-09

Wednesday, 10:30-12h00

RB-Zeta

Optimization Problems on Graphs

Chair: *Mirjana Cangalovic*

1 - An algorithm for finding the most probable cut set

Mirko Vujosevic, Dragana Makajic-Nikolic, Nebojsa Nikolic

2 - Strong metric dimension of generalized Petersen graphs $GP(n,1)$

Mirjana Cangalovic, Jozef Kratica, Vera Kovacevic Vujcic

3 - A Set Covering Approach to Solving Heterogeneous Vehicle Routing Problem

Milan Stanojevic, Bogdana Stanojevic

4 - On the dominating tree problem

André Rossi

■ **WB-10**

Wednesday, 10:30-12h00

RB-Theta

Supply Chain Management 1

Chair: *Rifat Gürcan Özdemir*

1 - Managing and Measuring Business Performance

Otilija Sedlak, Zoran Ciric

2 - Optimization in supply chain decision making

Marija Cileg, Tibor Kis

3 - A Trade Credit Model for Supply Chain Coordination

Abhishek Chakraborty, Ashis Chatterjee

4 - An Analysis of Supply Chain Related Graduate Programs in Europe

Y. Ilker Topcu, Emel Aktas, Sezi Cevik Onar, Des Doran

■ WB-11

Wednesday, 10:30-12h00

RB-Iota

Other realistic scheduling problems

Chair: *Alper Gucumengil*

1 - Due-date assignment problems with common flow-allowance

Gur Mosheiov, Baruch Mor

2 - Approximate algorithms for one-machine scheduling with interfering jobs

Paz Perez Gonzalez, Jose M. Framinan

3 - Flowshop scheduling with flexible operations: Throughput optimization

Hakan Gultekin

4 - Project Management Techniques: The Case of Agricultural Statistical Project

Alper Gucumengil, Hüseyin Tatlidil

■ WB-12

Wednesday, 10:30-12h00

RB-Omicron

Railway Optimization II

Chair: *David Canca*

1 - The management of rail system breakdowns for reducing travel demand impacts

Luca D'Acerno, Mariano Gallo, Bruno Montella, Antonio Placido

2 - New approaches for Wagon Routing in Railroad Freight Traffic

Robert Voll, Uwe Clausen

3 - A methodology to analyze quality of railway timetables

David Canca, Eva Barrena, Encarnación Algaba, Alejandro Zarzo

Paper moved to session TA-04

Analysis of the variability of travel conditions and flows along a transit line

Vincent Benezech, Fabien Leurent

■ WB-13

Wednesday, 10:30-12h00

RB-Tau

Transportation and Logistics

Chair: *Achim Koberstein*

Chair: *Martin Grunewald*

1 - Choosing charge carriers to guarantee the efficient material supply of production areas

Dominik Berbig, Kai Furmans, Michaela Köker, Maximilian Altfrohne

2 - The impact of decision making strategies in different network types on stock fluctuation

Meisam Nasrollahi, Jafar Razmi, Reza Ghodsi

3 - An integrated inventory-transportation system with periodic pick-ups and leveled replenishment

Martin Grunewald, Thomas Volling, Thomas Spengler

■ **WB-14**

Wednesday, 10:30-12h00

RB-Omega

Timetabling and Transport

Chair: *Hagai Ilani*

- 1 - **Algorithm for Solving Two-Stations Railway Scheduling Problem**
Elena Musatova, Alexander Lazarev
- 2 - **An Integrated Optimization Model for Timetabling and Machinist Assignment in Light Rail Transit Systems**
Selmin DanisOncul, Demet Bayraktar
- 3 - **Real-time Control Procedures for Transit**
Alessandro Sales, Stefano Carrese
- 4 - **A General Two-directional Two-campus Transport Problem**
Hagai Ilani, Elad Shufan, Tal Grinshpoun

■ WB-15

Wednesday, 10:30-12h00

RB-2101

Theory and algorithms of bilevel programming I

Chair: *Stephan Dempe*

1 - Fuzzy bilevel optimization problem

Alina Ruziyeva, Stephan Dempe

2 - Necessary optimality conditions in pessimistic bilevel programming

Alain B. Zemkoho

3 - Vanishing Stress Constraints in Topology Optimization of Mechanical Structures

Wolfgang Achtziger

4 - Branch and bound method for the competitive facility location problem

Andrey Melnikov, Vladimir Beresnev

■ WB-16

Wednesday, 10:30-12h00

RB-2103

Linear and Quadratic Programming

Chair: *David Bartl*

- 1 - **On the complexity of steepest descent algorithms for minimizing quadratic functions**

Clovis Gonzaga

- 2 - **Convex quadratic programming applied to the stability number of a graph**

Maria F Pacheco, Domingos Cardoso, Carlos J. Luz

- 3 - **A discrete version of Farkas' Lemma and Duality Theorem for homogeneous linear programming**

David Bartl

Paper moved from session MC-04

- 4 - **Optimization for switching control system**

Shahlar Meherrem, Refet Polat

■ WB-17

Wednesday, 10:30-12h00

RB-2105

DC programming and DCA 1

Chair: *Tao Pham Dinh*

- 1 - **A Continuous Optimization Approach for the General Art Gallery Problem**
Mahdi Moeini, Alexander Kroeller, Christiane Schmidt
- 2 - **A DC Programming technique for sparse regularization in least-squares and logistic regressions**
Mamadou Thiao, Hoai An Le Thi, Tao Pham Dinh
- 3 - **A DC programming approach for clustering massive data sets**
Hoai An Le Thi, Ta Minh Thuy, Lydia Boudjeloud-Assala
- 4 - **Solving Generalized Orienting Problem using DCA**
Anh Son Ta, Hoai An Le Thi, Tao Pham Dinh, Djamel Khadraoui

■ **WB-18**

Wednesday, 10:30-12h00

RB-2107

Discrete Location

Chair: *Antonio Manuel Rodriguez-Chia*

- 1 - The p-center problem with capacities and failure ahead**
Alfredo Marín, Inmaculada Espejo, Antonio Manuel Rodriguez-Chia
- 2 - Assigning channels in cellular networks by neural networks**
Enrique Dominguez, Jose Muñoz
- 3 - A p-median model with distance selection**
Stefano Benati, Sergio García Quiles
- 4 - Single Allocation Capacitated Ordered Median Hub Location Models**
Antonio Manuel Rodriguez-Chia, Justo Puerto, Ana Bel Ramos-Gallego

■ WB-19

Wednesday, 10:30-12h00

RB-2111

Predictive Modelling in Finance and Insurance

Chair: *Aysegul Iscanoglu Cekic*

1 - Simulation Study for Modified Maximum Likelihood Estimations in Poisson Regression

Muslu Kazım Körez, Evrim Oral, Yunus Akdoğan, Coskun Kus

2 - An Application of Wavelet Regression on Risk Analysis

A??r Gen??, Tarik Yilmaz

3 - Predictive Power of Generalized Additive Models in Insurance

Aysegul Iscanoglu Cekic

4 - An Application of Wavelet Regression in Exchange Rate Estimation

Tarik Yilmaz, A??r Gen??

■ **WB-20**

Wednesday, 10:30-12h00

RB-2113

Financial Optimization 1

Chair: *J. E. Beasley*

1 - A Risk-Return Approach to Enhanced Indexation

Francesco Cesarone, Renato Bruni, Andrea Scozzari, Fabio Tardella

2 - Portfolio selection model based on technical, fundamental and market value analysis

Tea Poklepovi?, Branka Marasovic, Zdravka Aljinovic

3 - Computing the Nondominated Surface in Tri-criterion Portfolio Selection

Ralph E. Steuer

4 - Portfolio rebalancing with an investment horizon and transaction costs

J. E. Beasley

■ **WB-21**

Wednesday, 10:30-12h00

RB-2115

Data Analysis in the Financial Sector

Chair: *Patricia Herranz*

1 - Sampling Frequency and Stochastic Diffusion Processes of Term Structure of Interest Rates and Exchange Rates

A. Can Inci

2 - Seasonal allocation decision based on a multi-objective optimization

Fellipe Santos, Adriano Lisboa, Douglas Vieira, Rodney Saldanha, Marcus Lobato

3 - Information acquisition of new technology for maintenance and replacement investment decisions

Thomas Yeung, Khanh Nguyen, Bruno Castanier

4 - One approach to reduce some aspects of costs associated with long term care

Patricia Herranz, Ana M. Martin Caraballo, M. Manuela Segovia-Gonzalez, Guerrero Flor

■ WB-22

Wednesday, 10:30-12h00

RB-2117

Fuzzy Optimization

Chair: *Erik Kropat*

Chair: *Yoshiki Uemura*

Chair: *Kateryna Pereverza*

1 - Involving fuzzy orders for multi-objective linear programming

Olga Grigorenko

2 - Forecasting Enrollments Based on Particle Swarm Optimization and Neural Network Based Fuzzy Time Series

Ozer Ozdemir, Memmedaga Memmedli

3 - Selection of appropriate smoothing parameter for different sample size in nonparametric fuzzy local polynomial models

Munevvere Yildiz, Memmedaga Memmedli

4 - Dynamic Clustering to Improve Marketing Decisions in Retail Stores

Richard Weber, Georg Peters

■ WB-23

Wednesday, 10:30-12h00

RB-Delta

Recent Advances on Proximal Methods I

Chair: *Hector Ramirez*

- 1 - **Dual convergence for penalty algorithms in convex programming**
Miguel Carrasco, Felipe Alvarez, Thierry Champion
- 2 - **Squared Hessian Riemannian metrics on convex sets and gradient-like optimization methods**
Cristopher Hermosilla, Felipe Alvarez
- 3 - **Convergence of the coupling of an inexact generalized proximal algorithm with barrier methods**
Julio López
- 4 - **Solving Network Flow Problems with General Non-Separable Convex Costs using a Two-phase Gradient Projection Algorithm**
Kwong Meng Teo, Trung Hieu Tran

■ WB-24

Wednesday, 10:30-12h00

CC-A11

Data Mining in Early Warning Systems

Chair: *Antonio Rodrigues*

1 - Detection of seasonal changes in climate data by comparative analysis; A case study for Turkey

Tülay Akal, Fidan Fahmi, Elcin Kartal Koc, Vilda Purutcuoglu Gazi, Cem Iyigun, Ceylan Yozgatligil, Inci Batmaz

2 - Developing precipitation models for continental central Anatolia, Turkey

Fulya Aykan, Elcin Kartal Koc, Ceylan Yozgatligil, Cem Iyigun, Vilda Purutcuoglu Gazi, Inci Batmaz

3 - New statistical methods for climate change investigations

Gregory Gurevich, Yossi Hadad

4 - Surveillance and security risk minimization in ports

Antonio Rodrigues

■ WB-25

Wednesday, 10:30-12h00

CC-A23

Smart cities and Smart grids

Chair: *Edi Assoumou*

1 - Demand response in smart grid systems

Abhilasha Aswal, Sunil Kumar Vuppala, G. N. Srinivasa Prasanna

2 - Smart grids and prospective modeling for the electricity sector

Stephanie Bouckaert, Edi Assoumou, Nadia Maïzi

3 - Towards Interactive Urban Planning with Local Search Techniques

Bruno Belin, Marc Christie

4 - Sustainable development and territory planning: a prospective approach to rethink cities

Steve Lechevalier, Sandrine Selosse

■ WB-26

Wednesday, 10:30-12h00

CC-A24

Multi-Criteria Decision Making and Applications 1

Chair: *Marta Castilho Gomes*

- 1 - **On the generation of positional voting systems with variable scores**
Bonifacio Llamazares
- 2 - **Rank-scaled Integral Indicators of Ecological Impact**
Mikhail Kuznetsov
- 3 - **Fast order recommendation separately for each explicit customer of large product system**
Peter Vojtas, Alan Eckhardt
- 4 - **A bi-objective linear programming model for hazardous medical waste management**
Marta Castilho Gomes, Joaquim R. Duque

■ WB-27

Wednesday, 10:30-12h00

CC-A25

Web-based Spatial-temporal Collaborative Decision Support Systems

Chair: *Fatima Dargam*

1 - Scalarising methods in DSS Weboptim

Vassil Guliashki, Leoneed Kirilov, Krassimira Genova, Boris Staykov

2 - Hope: a web-based SDSS for urban management

Joao Coutinho-Rodrigues, Lino Tralhão, Eduardo Manuel Natividade-Jesus

3 - Criteria weighting considering the interaction with institution's goals

Sheu-Hua Chen, Hong Tau Lee

■ **WB-28**

Wednesday, 10:30-12h00

CC-A27

OR Military and Security Applications

Chair: *Ana Isabel Barros*

1 - Interdiction in queueing networks

Tom van der Mijden

2 - A Smuggling Game with the secrecy of smuggler's information

Ryusuke Hohzaki

3 - Modelling covert social networks

Ana Isabel Barros, Bob van der Vecht

■ WB-29

Wednesday, 10:30-12h00

CC-A29

Support Vector Machines. New results

Chair: *Theodore Trafalis*

Paper moved to session WB-29

Feature Ranking for Support Vector Machines with Second-Order Cone Programming

Sebastian Maldonado

2 - A collaborative recommendation using edge weighted SimRank

Ayaka Inoue, Yuichiro Miyamoto

3 - An Adaptive Weighted Kernel Technique for Online Training with Imbalanced Data

Theodore Trafalis, Nicolas Couellan

■ WB-30

Wednesday, 10:30-12h00

CC-A31

DEA and Performance Measurement: Applications 8

Chair: *Juha Eskelinen*

- 1 - **Scale efficiency analysis of Brazilian logistic service providers industry**
Carlos Ernani Fries, Mônica M. M. Luna, Antonio G.N. Novaes
- 2 - **Estimating the longevity of breeding individuals in beef cattle herds**
Juliana Cobre, Erlandson Saraiva, Sabrina Caetano
- 3 - **Intertemporal Sales Efficiency Analysis of a Bank Branch Network: A Stochastic Nonparametric Approach**
Juha Eskelinen, Timo Kuosmanen
- 4 - **An automatic democratic approach to weight setting applied to the new human development index**
Chris Tofallis

■ WB-32

Wednesday, 10:30-12h00

CC-A34

DEA and Performance Measurement: Applications 5

Chair: *Sanjeet Singh*

1 - Measuring Team Performances

Kei Ogiwara, Tsutomu Mishina, Alejandra Gomez Padilla

2 - Group cohesion and organizational performance

Cristina-Petronela Durneac

3 - DEAHP Approach for Manpower Performance Evaluation

Sanjeet Singh, Remica Aggarwal

Paper moved to session MD-35

A holistic approach for assessing the performance of maternity and new-born services

Olga Li, Sérgio Santos, Carla Amado

■ WB-33

Wednesday, 10:30-12h00

CC-A37

OR in Sustainable Urban Development

Chair: *Vida Maliene*

Chair: *Tatjana Vilutiene*

1 - Sustainable and hhealthy housing: exploring stakeholders' views

Agne Prochorskaite, Vida Maliene

2 - Model for municipal real estate strategic management

Egle Klumbyte, Rasa Apanaviciene

Paper moved to session WA-33

Development of a multicriteria model for comprehensive assessment of residential units

Jana Selih

Paper moved from session WA-33

4 - Selection of the rational modernization measures: Case of art school modernization in Birstonas city

Tatjana Vilutiene, Ceslovas Ignatavicius

Paper moved from session WC-33

5 - Classification of factors influencing environmental management of enterprise

Tatjana Tambovceva

■ WB-34

Wednesday, 10:30-12h00

CC-A39

Games and decision making

Chair: *Sirma Zeynep Alparslan Gok*

1 - Coalition formation in a bargaining game with a fixed payments contract and delegation

Haruo Imai

2 - The impact of issue salience and distance in probabilistic spatial voting indexes

Tom Blockmans, Frank Plastria, Stefano Benati, Guiseppe Vittucci Marzetti

3 - Blocks of flats renovation game

Agne Reklaitė

4 - On the interval Shapley value: two new characterizations

Sirma Zeynep Alparslan Gok

■ **WB-35**

Wednesday, 10:30-12h00

CC-A41

Optimization Modeling I

Chair: *Bjarni Kristjansson*

1 - Solving Constraint Programming problems with AIMMS

Guido Diepen

2 - LocalSolver: black-box local search for combinatorial optimization

Julien Darlay, Thierry Benoist, Bertrand Estellon, Frédéric Gardi, Romain Megel, Karim Nouioua

3 - Deploying MPL Optimization Models on Servers and Mobile Platforms

Bjarni Kristjansson, Sandip Pindoria

■ **WB-37**

Wednesday, 10:30-12h00

CC-Act

OR in Health & Life Sciences 6

Chair: *Vassilis Kostoglou*

1 - Improve OR utilization and reduce number of required beds

Theresia Van Essen, Johann Hurink, Erwin Hans

2 - Optimal experimental design for a pure birth process with incomplete information

Ali Eshragh Jahromi

3 - Implementation of an OR model for the comparison of higher technological education specialties

Vassilis Kostoglou, Michael Vassilakopoulos, Christos Koilias

■ WB-38

Wednesday, 10:30-12h00

HH-Colombus

Multiobjective Optimization and Transportation

Chair: *Anatoly Levchenkov*

Chair: *Mikhail Gorobetz*

1 - Multi-Objective Road Pricing: A Game Theoretic and Multi-Level Optimization Approach

Anthony Ohazulike, Georg Still, Walter Kern, Eric van Berkum

2 - Multi-objective optimization with an immune algorithm for a railway safety control system

Andrew Mor-Yaroslavtsev, Anatoly Levchenkov

3 - A Multi-Objective Minimum Cost Flow Problem to Design Safe Walking-Routes for School Children

Ken-ichi Tanaka, Ryuhei Miyashiro, Yuichiro Miyamoto

4 - Use of Adaptive Control Systems in Multi-Criteria Tasks in Electric Transport Control

Andrejs Potapovs

■ **WB-39**

Wednesday, 10:30-12h00

HH-Cousteau

Dynamic Programming 2

Chair: *Martina Hesse*

1 - A Dynamic Classification and Prediction Model for Road Departure Warning Systems

Andre Possani Espinosa, Marta Cabo Nodar, Edgar Possani

2 - Some applications of Optimal Control in Sustainable Fishing in the Baltic Sea

Dmitriy Stukalin

3 - Supporting Tailor-made Performance Management Systems by System Dynamics — A Multiple Criteria Based Software Evaluation

Wolfgang Ossadnik, Ralf Kaspar

4 - Modeling carbon storage in cascading usage systems of wood and derived timber products

Martina Hesse, Jutta Geldermann

■ **WB-40**

Wednesday, 10:30-12h00

HH-Livingstone

Preference Learning 5

Chair: *Willem Waegeman*

1 - Preference-based reinforcement learning

Weiwei Cheng

2 - Preference-based policy learning

Riad Akrou, Marc Schoenauer, Michèle Sebag

3 - A simple algorithm for multi-label ranking

Krzysztof Dembczynski, Wojciech Kotlowski, Eyke Hüllermeier

■ WB-41

Wednesday, 10:30-12h00

HH-Heyerdahl

System Dynamics: demographics and methodology

Chair: *David Wheat*

1 - A Simulation Model of Demography & Economy in Lithuania

David Wheat

2 - A Simulation-based Analysis of Trends in Immigration and Crime

Richard McDowall

3 - Diagramming a Feedback Model of Emigration

Rasa Cincyte, David Wheat

4 - Modelling the Mechanisms of Behaviour Change at the Population level in a Social Marketing Context

Brian Dangerfield, Norhaslinda Zainal Abidin

■ **WB-42 has moved to TA-42**

■ **WB-42 has moved from TA-42**
■ **WB-42**

Wednesday, 10:30-12h00

BW-Amber

Energy Systems Planning

Chair: *Erik Kropat*

1 - Planning Critical Resources for Offshore Oil Field Development under Uncertainty

Leonidas Sakalauskas, Leonardo Moraes, Luiz Carlos Sousa, Roger Rocha, Adilson Elias Xavier

2 - A decision rule approach to medium-term hydropower scheduling under uncertainty

Paula Rocha, Wolfram Wiesemann, Daniel Kuhn

3 - Refinery Operations Planning under Uncertainty

Leonardo Nascimento, Helder Venceslau, Adilson Elias Xavier, Virgilio Jose Martins Ferreira Filho, Leonidas Sakalauskas, Roger Rocha

■ WB-43

Wednesday, 10:30-12h00

BW-Granite

Extended Two-Stage Linear Stochastic Programs

Chair: *Rüdiger Schultz*

1 - Nonlinear Two-Stage Stochastic Programs

Rüdiger Schultz, Tobias Wollenberg

2 - Some Remarks on Linear Stochastic Bilevel Programs

Charlotte Henkel

3 - Decomposition Methods for Stochastic Programs with Dominance Constraints Induced by Linear Recourse

Dimitri Drapkin

4 - A stochastic programming approach to optimization of information retrieval

Vitaliy Vitsentiy

■ **WB-44**

Wednesday, 10:30-12h00

BW-Marble

Collective Learning Procedures

Chair: *Michael Khachay*

Chair: *Vadim Strijov*

1 - Geometrical properties of connected search spaces for binary classification problem

Oleksandr Frei

2 - Approximation for Minimum Committee Problem

Konstantin Kobylkin

3 - Combinatorial theory for ensemble of algorithms

Andrey Ivakhnenko

4 - Computational complexity and approximability of several geometric covering problems.

Michael Khachay, Maria Poberiy

■ WB-45

Wednesday, 10:30-12h00

BW-Water

Customer-Oriented Revenue Management

Chair: *Catherine Cleophas*

- 1 - **Selling to Heterogeneous Customers of Uncertain Value considering both Opportunity Costs and Misclassification in a Dynamic Revenue Management Approach**

Michael Mohaupt, Andreas Hilbert

- 2 - **Deterministic Aggregation for Discrete Choice Models**

Jonas Rauch, Sebastian Sager

- 3 - **Customer-Oriented Extensions of Revenue Management Models and the Value of Intuition**

Catherine Cleophas

- 4 - **Filtering techniques to improve forecasting from small numbers in revenue management**

Philipp Bartke

■ WC-01

Wednesday, 12:30-14:00

RB-Alfa

Keynote Lecture: Professor Jonathan Caulkins

Chair: *Richard Hartl*

1 - Providing a Scientific Basis for Managing Illegal Drugs & Markets

Jonathan Caulkins

■ WC-02

Wednesday, 12:30-14:00

RB-Beta

Multi-Project Scheduling and Stochastic Project Scheduling

Chair: *Rainer Kolisch*

1 - A modified branch and cut approach for Resource Portfolio Problem under Relaxed Resource Dedication policy

Umut Besikci, Ümit Bilge, Gündüz Ulusoy

2 - Dynamic stochastic resource-constrained multi-project scheduling

Rainer Kolisch, Thomas Flidner, Philipp Melchior, Walter Gutjahr

3 - Assorted sensitivity results in stochastic project networks

Anand Paul

■ WC-03

Wednesday, 12:30-14:00

RB-L1

EURO/ROADEF Challenge Session 4

Chair: *Christian Artigues*

Chair: *Ender Özcan*

Chair: *Emmanuel Guere*

Chair: *Eric Bourreau*

Chair: *Kedad-Sidhoum Safia*

Chair: *H. Murat Afsar*

Chair: *Marc Sevaux*

1 - Offline, enhanced, adaptive large neighborhood search for the machine re-assignment problem

Alberto Delgado, Yuri Malitsky, Dario Pacino, Kevin Tierney

2 - A hybridization of Simulated Annealing and sample local search for solving the machine reassignment problem

Marcus Ritt, Gabriel Portal, Leonardo de Miranda Borba, Alexander J. Benavides, Luciana S. Buriol

3 - A co-evolutionary hyper-heuristic for ROADEF/EURO Challenge 2012 Machine Reassignment problem

Wojciech Ja?kowski, Piotr Gawron, Marcin Szubert, Bartosz Wieloch

4 - A hybrid algorithm for machine reassignment

Arnaud Liefoghe, François Legillon, François Clautiaux, El-ghazali Talbi

■ WC-04

Wednesday, 12:30-14:00

RB-L2

Combinatorial Optimization: Applications

Chair: *Jan van Vuuren*

1 - Minimizing setup time in colour printing schedules

Alewyn Burger, Neil Jacobs, Jan van Vuuren, Stephan Visagie

2 - The cost of link failure in network protection

Anton de Villiers, Alewyn Burger, Jan van Vuuren

3 - Variable selection in NIR spectroscopy data using a hybrid PSO algorithm

Martin Kidd

4 - An optimisation-based sugarcane harvest scheduling decision support system for commercial growers in South Africa

Jonas Stray, Jan van Vuuren

■ WC-05

Wednesday, 12:30-14:00

RB-L3

Topics in integer and mixed integer programming I

Chair: *Frank Fischer*

- 1 - **Investigation of properties and solving of combinatorial optimization problems with linear constraints.**
Igor Grebennik, Oleksii Baranov
- 2 - **On Mixed Integer Random Convex Programs**
Giuseppe Calafiore, Daniel Lyons, Lorenzo Fagiano
- 3 - **The SCIP Optimization Suite - It's all in the bag!**
Gerald Gamrath
- 4 - **Dynamic Graph Generation in Lagrangian Relaxation**
Frank Fischer, Christoph Helmberg

■ WC-06

Wednesday, 12:30-14:00

RB-Gamma

Mathematical Economics

Chair: *Luis Ferreira*

- 1 - **On the convergence to Walrasian prices in random matching Edgeworthian economies**
Luis Ferreira
- 2 - **A cooperative version of one group pursuit game**
Yaroslavna Pankratova, Denis Kuzyutin
- 3 - **On the Experimental Investigation of the Stock-Exchange Game Model**
Igor Katin, Joana Katina, Jonas Mockus

■ WC-07

Wednesday, 12:30-14:00

RB-Eta

Rich vehicle routing problems

Chair: *Jorge E. Mendoza*

Chair: *Victor Pillac*

1 - A Unified Hybrid Genetic Search for Vehicle Routing Problems

Thibaut Vidal, Teodor Gabriel Crainic, Michel Gendreau, Christian Prins

2 - Constraint-based Construction Heuristics for Rich Vehicle Routing Problems

Felix Brandt, Anne Meyer

3 - Generalized disaggregation algorithm for the vehicle routing problem with time windows and multiple routes

Rita Macedo, Saïd Hanafi, François Clautiaux, Cláudio Alves, J. M. Valério de Carvalho

4 - A Mixed Integer Linear Programming Model For Solving Large-Scale Integrated Location-Routing Problems For Urban Logistics Applications at Groupe La Poste

Matthias Winkenbach, Paul Kleindorfer, Bernard Lemarié, Christèle Levêque, Alain Roset, Stefan Spinler

■ WC-08

Wednesday, 12:30-14:00

RB-Epsilon

Boolean Functions and Their Applications

Chair: *Endre Boros*

1 - On the Polyhedral Set of Bipartite TSP

Bela Vizvari

2 - Some Results on Threshold Separability of Boolean Functions

Giovanni Felici, Endre Boros

3 - Hardness Results for Approximate Pure Horn CNF Formulae Minimization

Endre Boros, Aritanan Gruber

■ WC-09

Wednesday, 12:30-14:00

RB-Zeta

Maritime Transportation 3

Chair: *Magnus Stålhane*

1 - On routing and risk minimization in offshore helicopter transportation

Irina Gribkovskaia, Oyvind Halskau, Fubin Qian

2 - A combined pickup and delivery and inventory routing problem

Magnus Stålhane, Henrik Andersson, Marielle Christiansen

3 - A base integer programming model and benchmark suite for liner shipping network design

Fernando Alvarez, Berit Dangaard Brouer, Christian Edinger Munk Plum, David Pisinger, Mikkel M. Sigurd

■ WC-10

Wednesday, 12:30-14:00

RB-Theta

Humanitarian Logistics

Chair: *Maria Besiou*

1 - The environmental impact of humanitarian operations

Jurgita Balaisyte, Ruth Carrasco-Gallego, Luk Van Wassenhove

2 - The Effects of Unsolicited Donations in Disaster Relief Operations

Nha-Nghi Huynh, Sandra Transchel, Maria Besiou, Luk Van Wassenhove

3 - Funding strategies in humanitarian operations for relief and development

Alfonso Pedraza-Martinez, Arian Aflaki

4 - Decentralisation and Earmarked Funding in Humanitarian Logistics for Relief and Development

Maria Besiou, Alfonso Pedraza Martinez, Luk Van Wassenhove

■ WC-11

Wednesday, 12:30-14:00

RB-Iota

Realistic parallel machines problems

Chair: *Olga Chub*

- 1 - **Minimising tardiness in parallel machine scheduling with additional mold type restrictions**
Amelia White, Andrea Raith
- 2 - **MIP models and algorithms for earliness/tardiness scheduling problems on parallel machines**
Rosiane de Freitas Rodrigues, Rainer Xavier de Amorim, Bruno Cardoso Dias
- 3 - **Multiobjective parallel machine scheduling using memetic algorithms**
Felipe Baesler, Oscar Cornejo
- 4 - **Mathematical model and method for optimal planning several resources**
Olga Chub

■ WC-12

Wednesday, 12:30-14:00

RB-Omicron

Solution Methods at Seaport Container Terminals

Chair: *Erhan Kozan*

1 - An Integrated Approach to Optimising Container Processes at Multimodal Seaport Terminals

Erhan Kozan, Brad Casey

2 - Yard crane scheduling by using a genetic algorithm at seaport container terminals

Mehmet Ula? Koyuncuo?lu, Osman Kulak, Olcay Polat, Mustafa Egemen Taner

3 - Empty container management and the linkage between global and local allocations in export oriented countries: case of Thailand

Montathip Chanpum

4 - Modeling and Optimal Management of Equipments of the BMT Containers Terminal (Bejaia's Harbor)

Fazia Aoudia-rahmoune, Sofiane Soualah, Aichouche Oubraham

■ WC-13

Wednesday, 12:30-14:00

RB-Tau

Emerging Issues in Order Fulfillment

Chair: *Bart MacCarthy*

Chair: *Philip Brabazon*

1 - Auction-based coordination of retailers and manufacturer in the sales of configurable products

Andreas Matzke, Thomas Volling, Thomas Spengler

2 - A review of works on the planning of capacities and orders in build-to-order automobile production

Thomas Volling, Martin Grunewald, Andreas Matzke, Thomas Spengler

3 - Optimal design of open pipeline order fulfilment processes in the volume automotive sector

Philip Brabazon, Bart MacCarthy

■ WC-14

Wednesday, 12:30-14:00

RB-Omega

Timetabling and People

Chair: *Sara McComb*

1 - Deterministic Optimization of Examination Timetables

Siti Khatijah Nor Abdul Rahim, Andrzej Bargiela, Rong Qu

2 - The Classroom Allocation Problem in University Timetabling

Antony Phillips, Hamish Waterer, Matthias Ehrgott, David Ryan

3 - Decision Support System for Modification of Timetables After Completion of Registration Process Involving Backlog Subjects

Sanjeev Kumar Guleria, A.k. Lal, Daljit Singh Bawa

4 - Examining Team Communication Using Questionnaires, Simulation, and Optimization

Sara McComb, Ralitza Vozdolska, Deanna Kennedy

■ WC-15

Wednesday, 12:30-14:00

RB-2101

Discrete bilevel optimization and Variational inequalities

Chair: *Diana Fanghaenel*

- 1 - **Global Optimization of Mixed-Integer Bilevel Programming Problem**
Zhaohui Xu
- 2 - **The Branch-and-Sandwich Algorithm for Mixed-Integer Nonlinear Bilevel Programming Problems**
Polyxeni-Margarita Kleniati, Claire Adjiman
- 3 - **A bilevel problem with supermodular objective function in the lower level**
Diana Fanghaenel
- 4 - **Existence results for quasivariational inequalities**
Didier Aussel

■ WC-16

Wednesday, 12:30-14:00

RB-2103

Linear programming: Algorithms and Applications

Chair: *S.M.Atiqur Rahman Chowdhury*

1 - The primal-dual column generation method

Pablo Gonzalez-Brevis, Jacek Gondzio, Pedro Munari

2 - Compact Formulations of the Steiner Traveling Salesman Problem

Saeideh D. Nasiri, Adam Letchford, Dirk Oliver Theis

3 - Computational experiments with a cutting plane algorithm for a time-indexed formulation

Lotte Berghman, Frits Spieksma

4 - A Computer Technique for Solving Linear Programming Problems with Bounded Variables

S.M.Atiqur Rahman Chowdhury

■ WC-17

Wednesday, 12:30-14:00

RB-2105

Nonconvex Programming

Chair: *Hoai An Le Thi*

- 1 - **Rare event simulations applied to hierarchical sensor planning with partially known subprocess models**
Frédéric Dambreville
- 2 - **On the Permuted Perceptron Problem - A New formulation and approach**
Hoai Minh Le, Hoai An Le Thi, Tiru Arthanari
- 3 - **Solving the Multidimensional Assignment Problem via the Cross-Entropy method**
Manh Nguyen Duc, Hoai An Le Thi, Tao Pham Dinh
- 4 - **optimisation in water management with passive aeration of tanks**
Nataliya Metla

■ WC-18

Wednesday, 12:30-14:00

RB-2107

Location Routing

Chair: *Maria Albareda Sambola*

- 1 - **Adaptive large neighborhood search for the two-echelon capacitated location routing problem**
Vera Hemmelmayr, Claudio Contardo, Teodor Gabriel Crainic
- 2 - **A Particle Swarm Optimization Approach for the Location-Routing Problem with Simultaneous Pickup and Delivery**
Ismail Karaoglan, Fulya Altiparmak
- 3 - **Sparsing arrival times in discrete location**
Maria Barbati, Giuseppe Bruno, Alfredo Marín
- 4 - **The reliable p-median problem with at-facility service**
Maria Albareda Sambola, Yolanda Hinojosa, Justo Puerto

■ WC-19

Wednesday, 12:30-14:00

RB-2111

Simulation in Estimation

Chair: *Ahmet Çal?k*

Chair: *Aysegul Iscanoglu Cekic*

- 1 - Estimation of Stress-Strength Reliability for Exponential Geometric Distribution**
Ayd?n Karakoca, ?smail K?nac?, Adem Y?lmaz
- 2 - Simulation Study for the Comparison of Maximum Likelihood and Modified Maximum Likelihood Estimators in Logistic Regression**
Yunus Akdo?an, Evrim Oral, Muslu Kaz?m K?rez, Coskun Kus
- 3 - Estimation of stress-strength parameter for exponential distribution based on masked data**
Demet Sezer, ?smail K?nac?
- 4 - Fuzzy AHP/DEA Approach For Relative Efficiency Of Private Universities In Turkey**
Ahmet Çal?k, Nimet Yapici Pehlivan, Ahmet Pekg?r

■ WC-20

Wednesday, 12:30-14:00

RB-2113

Financial Optimization 2

Chair: *Mariya Nikitina*

- 1 - **Investment timing with fixed and proportional costs of external financing**
Michi Nishihara, Takashi Shibata
- 2 - **On optimal strategies for long-term business**
Efim Bronshtein
- 3 - **Longevity Risk Management and Financial Uneasy Premonition**
Tadashi Uratani
- 4 - **On Minimizing the Ruin Probability by Investment**
Mariya Nikitina

■ WC-21

Wednesday, 12:30-14:00

RB-2115

Ratings of Banks and Companies

Chair: *Wissem Ennouri*

1 - Cluster Analysis of Banks in Croatia Regarding their Characteristics

Ante Rozga, Ksenija Dumcic, Blanka ?krabi? Peri?

2 - Effectiveness of Credit Ratings

Ivan Lichner

3 - Small and Medium-Sized Businesses through the Credit Crunch: Evidence from the UK

Meng Ma, Galina Andreeva, Jake Ansell

4 - Pricing Default and Financial Distress Risks in Foreign Currency Corporate Loans in Turkey

Aycan Yilmaz, I?il Erol

■ WC-22

Wednesday, 12:30-14:00

RB-2117

Fuzzy Scheduling and Fuzzy Quality Management

Chair: *Erik Kropat*

Chair: *Alexej Orlov*

1 - A comparison study of Wilcoxon and fuzzy Wilcoxon tests

Gultekin Atalik, Sevil Senturk

2 - A design for sampling plans by attributes under fuzzy environment

Ebru Turanoglu, Cengiz Kahraman

3 - Task Flow Control in the GRID-System

Vlad Kucher

4 - The analysis of influence of a choice of a class of membership functions on quality of work of recognition system

Nigar Aliyeva, Elviz Ismayilov

■ WC-23

Wednesday, 12:30-14:00

RB-Delta

Recent Advances on Proximal Methods II

Chair: *Hector Ramirez*

1 - Lagrangian-penalization algorithm for constrained optimization

Juan Peypouquet

2 - Interior Proximal Algorithm with Variable Metric for Second-Order Cone Programming: Applications to Structural Optimization

Hector Ramirez, Felipe Alvarez, Julio López

3 - A Projected Subgradient -type method for Equilibrium Problems

Susana Scheimberg, Paulo Sergio Santos

4 - Proximal Alternating Direction Methods Combining Quadratic Regularization with Divergence Kernels

Natalia Ruiz, Felipe Alvarez

■ WC-25

Wednesday, 12:30-14:00

CC-A23

OR and Environmental Management - Decision Processes

Chair: *Susanne Wiedenmann*

1 - Supply Planning under Uncertainty for the Industrial Use of Renewable Resources

Susanne Wiedenmann, Jutta Geldermann

2 - Hydro-turbines Optimization: Especification and Operation

Jéssica Pillon Torralba Fernandes

3 - Integrated Risk Management Applications in Electricity Retailing

Fehmi Tanrisever, Geert Jongen

■ WC-26

Wednesday, 12:30-14:00

CC-A24

Criteria Weighting in Decision Support

Chair: *Alexander Bolshoy*

Chair: *Mikhail Kuznetsov*

- 1 - **A comparison of weight distributions in multi-attribute value theory**
Jyri Mustajoki
- 2 - **"Hit and Run" for the efficient generation of weights**
Gert van Valkenhoef, Tommi Tervonen, Nalan Ba?türk, Douwe Postmus
- 3 - **Non-profit project portfolio evaluation and selection: A multicriteria approach**
Nassim Dehouche, Daniel Vanderpooten
- 4 - **Maximization of a Sum of Kendall's Tau Rank-Correlation Coefficients**
Alexander Bolshoy

■ WC-27

Wednesday, 12:30-14:00

CC-A25

Knowledge Management & Decision Systems

Chair: *Shaofeng Liu*

1 - Extending the analysis of the EURO Working Group on DSS Research Collaboration Network (EWG-DSS Collab-Net V.2)

Pascale Zaraté, Fatima Dargam, David Dadenne, Isabelle Linden, Shaofeng Liu, Rita Ribeiro, Wei Sun

2 - Applying ontology in the analysis of a DSS Research Collaboration Network

Fatima Dargam, Antonio C. S. Branco, Alexandre Rademaker, Renato Rocha Souza

3 - Ranking the seawater desalination methods by using multi criteria decision making approaches

Amin Esmaeeli, Hooman Baghban Asghari nejad, Mahdi Zarghami

■ WC-28

Wednesday, 12:30-14:00

CC-A27

OR Military Applications II

Chair: *Ana Isabel Barros*

1 - Convoying against piracy

Rien van de Ven, Jack Vermeulen

2 - Counter improvised explosive devices game

Toru Komiya, Akinori Yasue

3 - A NATO Guide for Judgement-based Operational Analysis

Ingrid Bastings, Diederik J.D. Wijnmalen

4 - Topology of Military C2 Systems and its relation to cyber warfare

Herman Monsuur

■ WC-29

Wednesday, 12:30-14:00

CC-A29

Optimization and Data Mining (I)

Chair: *Concha Bielza*

Chair: *Rubén Armañanzas*

1 - Mathematical Models of Supervised Learning and Application to Biomedical Problems

Mario Guarracino, Roberta De Asmundis

2 - Incorporating Partially Labeled Information into Kernel Spectral Clustering

Carlos Alzate, Johan Suykens

3 - Restating clinical impression of severity index for Parkinson's disease using just non-motor criteria

Rubén Armañanzas, Pablo Martinez-Martin, Concha Bielza, Pedro Larrañaga

■ WC-30

Wednesday, 12:30-14:00

CC-A31

DEA and Performance Measurement: Applications 9

Chair: *Ahti Salo*

- 1 - **Measuring the Operation Efficiency for Bus Transit in Taiwan with Undesirable Outputs**
Chao-Chung Kang
- 2 - **Factors defining Effectiveness of automatic vehicle location systems**
Daniil Opolchenov
- 3 - **Chinese Companies Distress Prediction: An Application of Data Envelopment Analysis**
Zhiyong Li, Jonathan Crook, Galina Andreeva
- 4 - **Analyzing Portfolios of DMUs with Ratio-Based Efficiency Analysis (REA)**
Ahti Salo, Juuso Liesiö, Yongjun Li

■ WC-31

Wednesday, 12:30-14:00

CC-A33

OR and Ethics I

Chair: *Cristobal Miralles*

Chair: *Fred Wenstøp*

1 - On Multidimensional Performance Measures — A Critical Reflection and Future Developments

João Clímaco

2 - Responsibility in Decision-Support

Sven Diekmann

3 - Multicriteria analysis ranking the most developed EU countries

Zeljko Racic, Matea Zlatkovic

4 - A value structured approach to conflicts in environmental management

Fred Wenstøp

■ WC-32

Wednesday, 12:30-14:00

CC-A34

DEA and Performance Measurement: Applications 6

Chair: *Chih-Hai Yang*

1 - Comparing groups of efficiency in Algarve Portuguese Hotels

Isabel Pedro, Ricardo Oliveira, Rui Marques

2 - On the need for reform of the Portuguese Judicial System — Does Data Envelopment Analysis evidence support it?

Sérgio Santos, Carla Amado

Paper added to session

3 - Evaluation of alternative targets for graduate distance courses in Brazil using multiobjective models based on data envelopment analysis

Silvio Gomes Júnior, Lidia Angulo-Meza, João Carlos Soares de Mello

Classic DEA models determine efficiency indexes of DMUs. For an inefficient DMU one target is found. Subsequent works use multiobjective models, called MORO, that determine alternative targets. These projections are obtained with non proportional variations of the variables. In some real problems, some variables cannot change their levels. These variables are called non discretionary variables. In this paper, we present a case study that involves the efficiency evaluation of the Center for Higher Distance Education in Brazil with an integration of MORO models and non discretionary variables.

4 - Produce Patents or Journal Articles? A Cross-Country Comparison of R&D Productivity Change

Chih-Hai Yang

■ WC-33

Wednesday, 12:30-14:00

CC-A37

Sustainable Construction Processes and supplier selection

Chair: *Folke Björk*

1 - Multi-criteria assessment of the sustainable renovation according on the methodology of the building certification system

Milena Medineckiene, Folke Björk, Zenonas Turskis

2 - Sustainability prioritizing constructing projects of municipalities based on AHP and COPRAS-G: a case study about construction of footbridges in Iran

Zenonas Turskis, Edmundas Kazimieras Zavadskas, Mohammad Hasan Aghdaie, Sarfaraz Hashemkhani Zolfani

3 - Sustainability assessment model of supplier selection problem

Jolanta Tamosaitiene, Edmundas Kazimieras Zavadskas, Zenonas Turskis

Paper moved to session WB-33

Classification of factors influencing environmental management of enterprise

Tatjana Tambovceva

■ WC-34

Wednesday, 12:30-14:00

CC-A39

Economic modeling and finance

Chair: *Sirma Zeynep Alparslan Gok*

1 - The Choquet Integral as a continuous certainty equivalent

Gianni Bosi, Magali E. Zuanon

2 - An Adversarial approach to maximize gain due to finite precision errors in basic financial computations

Ganesh Perumal M, Abhilasha Aswal, G. N. Srinivasa Prasanna

3 - Handling peak loads in queuing service systems

Abraham Seidmann, Mariya Bondareva

4 - Pricing Strategies for Gaming-on-Demand

Sumanta Basu, Soumyakanti Chakraborty

■ WC-35

Wednesday, 12:30-14:00

CC-A41

Recent Achievements in Regression and Classification

Chair: *Fatma Yerlikaya Ozkurt*

Chair: *Semih Kuter*

- 1 - **Restructuring the forward step of CMARS by a mapping approach**
Elcin Kartal Koc, Cem Iyigun, Inci Batmaz, Gerhard-Wilhelm Weber
- 2 - **Balance Optimization Subset Selection (BOSS) for Causal Inference with Observational Data**
Alexander Nikolaev, Sheldon Jacobson
- 3 - **Testing of MARS on MODIS Images for Local Atmospheric Correction**
Semih Kuter, Zuhail Akyurek, Gerhard-Wilhelm Weber, Ayse Özmen
- 4 - **Estimation of Multi-dimensional Stochastic Differential Equations with CMARS Method**
Fatma Yerlikaya Ozkurt, Gerhard-Wilhelm Weber

■ WC-36

Wednesday, 12:30-14:00

CC-A43

Recent Advances of OR on Societal Complexity

Chair: *Dorien DeTombe*

Chair: *Gerhard-Wilhelm Weber*

- 1 - **By revitalization of ancient abandoned cemeteries to societal and economic strengthening of small sites**

Eva Kralova

- 2 - **A surprising equivalence between Consolation of Philosophy and Methodology for Societal Complexity**

Nicolae Bulz

■ WC-37

Wednesday, 12:30-14:00

CC-Act

Operations Research in Health Care I

Chair: *Patrick Hirsch*

1 - Weekly routing and scheduling of home health care services

Andrea Trautsamwieser, Patrick Hirsch

2 - Scheduling of urban home health care services using time-dependent multimodal transport

Klaus-Dieter Rest, Patrick Hirsch

3 - Using agent-based modelling and simulation in patient adherence to medication

Christos Vasilakis, Christina Pagel, Steve Gallivan, Nick Barber, Martin Utley

4 - Uncovering the hospital length of stay distribution: a finite mixture model approach

Maria Guzman Castillo, Sally Brailsford, Honora Smith

■ WC-38

Wednesday, 12:30-14:00

HH-Colombus

Applications of Multiobjective Optimization

Chair: *Carlos Henggeler Antunes*

- 1 - **A multi-objective model to determine electrical load control actions**
Carlos Henggeler Antunes
- 2 - **A Fuzzy Goal Programming Model for Solving Aggregate Production-Planning Problems under Uncertainty**
Fernando Marins, Aneirson Silva, José Arnaldo Montevechi, Ubirajara Ferreira
- 3 - **A Multi-objective Portfolio Optimization Model with Higher Order Moments**
Bijaya Krushna Mangaraj, Gayatri Biswal
- 4 - **Trade-off in statistical design process**
Samuel Bohman, Maria Kalinina, Aron Larsson

■ WC-39

Wednesday, 12:30-14:00

HH-Cousteau

Cops and Robber Games

Chair: *Nancy Clarke*

1 - Slow Firefighting on Graphs

Margaret-Ellen Messinger

2 - Cops and a Robber on a graph embedded into a surface

Dirk Oliver Theis, Nancy Clarke

3 - Ambush Cops and Robbers

Nancy Clarke

■ WC-40

Wednesday, 12:30-14:00

HH-Livingstone

Model quality and modelling sustainable energy and transport systems

Chair: *Pierre Kunsch*

- 1 - **Automatic control of turbo generators setting automatic frequency**
Meglouli Hocine
- 2 - **Phasing-out nuclear energy in Belgium: is it feasible?**
Pierre Kunsch
- 3 - **Model Quality: How to Build Better Models**
Markus Schwaninger

■ WC-41

Wednesday, 12:30-14:00

HH-Heyerdahl

Modern project for involvement young people in OR community and OR education

Chair: *Bohdan Pukalskyi*

Chair: *Kateryna Pereverza*

- 1 - **Achieving interdisciplinarity in OR by additional educational activities. Example of Summer School AACIMP**

Iryna Smolina

- 2 - **Odss.4SC: A summer school in Optimization and Decision Support Systems for Supply Chain Management**

Giuseppe Bruno, Ana Amaro, Miguel Casquilho, Albert Corominas, Andrea Genovese, Juan Manuel Garcia Lopez, Amaia Lusa, Johan Magnusson, Henrique Matos, Joao Miranda, Sergio Rubio

- 3 - **Mathematically formalized methodology for scenario study. Approaches for scenario space exploration**

Kateryna Pereverza

■ WC-42

Wednesday, 12:30-14:00

BW-Amber

Queueing Systems II

Chair: *Erik Kropat*

Chair: *Devin Sezer*

1 - Analyzing Multi-server Queueing Model with no Waiting Line

Hanifi Okan Isguder, Sener Akpinar, Atabak Elmi, Alper Hamzadayi, Simge Yelkenci Kose

2 - Distribution Evaluation and Decomposition for Queueing Networks Modelling

Jean-Sébastien Tancrez

3 - Alternative stochastic approaches for condition-based production-maintenance control

Michael Kaluzny, Ralf Gössinger

Paper moved to session TC-22

Optimal Control Formulation of Query Model for Authentication Systems

Devin Sezer, Ferruh Ozbudak, Yildirim Ustun

■ WC-43 has moved to MC-44

■ WC-44

Wednesday, 12:30-14:00

BW-Marble

Information and Intelligent Systems I

Chair: *Wuyi Yue*

Chair: *Gerhard-Wilhelm Weber*

- 1 - **Malfunction diagnosis on air-conditioning using rough sets approach**
Hong Tau Lee, Sheu-Hua Chen
- 2 - **Approach for the prolongation of the lifetime of a wireless sensor network**
Abdelmalek Boudries, Makhlouf Aliouat
- 3 - **Analysis of real-time traffic with the sleep mode in IEEE 802.16m networks**
Wuyi Yue, Shunfu Jin, Xiaofei Zhang
- 4 - **Planning of Map Making Technique by Planning Method with Continuously Operating Reference Station (CORS-TR)**
Omur Esen, I.Bulent Gundogdu

■ WC-45

Wednesday, 12:30-14:00

BW-Water

Advanced Revenue Management

Chair: *Claudius Steinhardt*

1 - Pricing-cum-Inventory Decisions in Supply Chain Networks

Lambros Pechlivanos, Panos Seferlis

2 - Modeling of customer choice behavior in revenue management

Petr Fiala

3 - Incorporating Auction Games in Logistics Optimization Academic Course

Charis Marentakis, Dimitrios Emiris, Maria Giannopoulou

4 - Decision tools for online pricing and sourcing for truckload trucking

Hani Mahmassani, Diego Klabjan, Hamed Babai, Young Woong Park, Christopher Lindsey

■ **WD-01**

Wednesday, 14:30-16:00

RB-Alfa

Tutorial Lecture: Professor Karla Hoffman

Chair: *Mikael Rönnqvist*

- 1 - **Auctions: Why they proliferating and what you need to know to participate**
Karla Hoffman

■ WD-02

Wednesday, 14:30-16:00

RB-Beta

Methods for Resource-Constrained Project Scheduling

Chair: *Vincent Van Peteghem*

1 - Solving resource-constrained project scheduling problems with new mathematical programming formulations

Thomas Kyriakidis, Georgios Kopanos, Michael Georgiadis

2 - Solving the resource-constrained project scheduling problem using large neighborhood search

Wolfgang Summerauer, Christian Almeder, Richard Hartl

3 - An Invasive Weed Optimization algorithm for the resource availability cost problem

Vincent Van Peteghem, Mario Vanhoucke

Paper moved to session WA-02

A preprocessing procedure to improve recent exact algorithms for the resource-constrained project scheduling problem

Alexander Schnell, Richard Hartl

■ **WD-03**

Wednesday, 14:30-16:00

RB-L1

Demand Responsiveness and Transportation Network Design

Chair: *Gabriel Gutiérrez-Jarpa*

- 1 - **An analytical model to estimate the optimal cycle length of demand responsive feeder transit services**
Luca Quadrioglio, Shailesh Chandra
- 2 - **Dynamic Vehicle Routing for Demand Responsive Transportation Services**
Jorge Pinho de Sousa, Rui Gomes, Teresa Galvão Dias
- 3 - **Cut and Branch Synchronization Bus Timetabling**
Yasmin Rios-solis, Omar Ibarra-Rojas
- 4 - **The Hierarchical Network Design Problem with Traffic Capture**
Gabriel Gutiérrez-Jarpa, Pablo Ibacache, Vladimir Marianov

■ **WD-04**

Wednesday, 14:30-16:00

RB-L2

Advances for solving Quadratic and Other Difficult 0-1 Optimization Problems

Chair: *Monique Guignard-Spielberg*

Chair: *Peter Hahn*

1 - Eigenvalues of Voting Power Indexes

Lee Papayanopoulos

2 - Extensive experiments with the improved hybrid genetic algorithm for the quadratic assignment problem

Alfonas Misevicius

3 - The hypergraph assignment problem

Olga Heismann, Ralf Borndörfer

4 - 0-1 quadratic optimization problems: convexification and solution.

Monique Guignard-Spielberg, Lucas Létocart, Gérard Plateau

■ **WD-05**

Wednesday, 14:30-16:00

RB-L3

Topics in integer and mixed integer programming II

Chair: *Iskander Aliev*

1 - Optimize the payout probability table in slot machines

Xiaoming Liu, Zhaotong Lian, Xin Li

2 - The Master Corner Polyhedron: Vertices

Vladimir Shlyk

3 - The K-Separator Problem

Mohamed Ahmed Mohamed Sidi, Walid Ben-ameur, Jose Neto

4 - s-Fold Feasibility of Integer Knapsacks

Iskander Aliev

■ **WD-06**

Wednesday, 14:30-16:00

RB-Gamma

Game Theory Applications

Chair: *Luis Ferreira*

- 1 - **Analysis of stroke patients EEG signals on the base of cooperative game theory**
Hamidreza Navidi, Majid Hassanpour-ezatti, Saeid Barjesteh, Hadi Aghayari
- 2 - **A game theoretical approach to the Emergency Medical Vehicle - Emergency Department interface**
Vincent Knight
- 3 - **Non-conflicting redistribution of optimal income for non-cycling network systems**
Sergei Schreider
- 4 - **Strategy for Land Acquisition: a game-theoretical model**
S Deman

■ **WD-07**

Wednesday, 14:30-16:00

RB-Eta

Applications of Vehicle Routing 2

Chair: *Marco Castro*

1 - An Exact Approach for the Clustered Vehicle Routing Problem

Daniele Vigo, Maria Battarra, Gunes Erdogan

2 - A Comparison of Cross Entropy Algorithms for the Vehicle Routing Problem

Edgar Possani, Marta Cabo Nodar

3 - Orienteering Problem with Hotel Selection: A Variable Neighborhood Search Method

Ali Divsalar, Pieter Vansteenwegen, Dirk Cattrysse

4 - Improved Methods for the Travelling Salesperson Problem with Hotel Selection

Marco Castro, Kenneth Sörensen, Pieter Vansteenwegen, Peter Goos

■ WD-09

Wednesday, 14:30-16:00

RB-Zeta

EURO/ROADEF Challenge Session 5

Chair: *H. Murat Afsar*

Chair: *Eric Bourreau*

Chair: *Emmanuel Guere*

Chair: *Ender Özcan*

Chair: *Kedad-Sidhoum Safia*

Chair: *Christian Artigues*

Chair: *Marc Sevaux*

1 - A late acceptance metaheuristic for the machine reassignment problem

Wim Vancroonenburg, Tony Wauters

2 - Basic VNS for Machine reassignment

Nenad Mladenovic, Bassem Jarboui, Dragan Urosevic

3 - ROADEF/EURO Challenge 2012 : Final Results announcement

Eric Bourreau, H. Murat Afsar, Christian Artigues, Emmanuel Guere, Kedad-Sidhoum Safia, Ender Özcan, Marc Sevaux

■ WD-10

Wednesday, 14:30-16:00

RB-Theta

Integrated Planning of Operations

Chair: *Thomas Makuschewitz*

Chair: *Marc-André Isenberg*

1 - A graph theory based heuristic for capacity and cost oriented integrated production and maritime transport scheduling

Jens Hartmann, Thomas Makuschewitz, Enzo Frazzon, Bernd Scholz-Reiter

2 - Solution of facility layout problem through discrete particle swarm optimization algorithm and an application

Abdullah Oktay Dunder, Mehmet Akif Sahman, Muhammet Bezirci, Ali Alagoz

3 - Scheduling a flowshop of batch processors containing individual job families

Marc-André Isenberg, Bernd Scholz-Reiter

■ **WD-12**

Wednesday, 14:30-16:00

RB-Omicron

Port and Liner Management

Chair: *Haakon Lindstad*

1 - Integrated and robust planning of bulk port operations

Nitish Umang, Michel Bierlaire

2 - Port dynamics - A challenge for network optimization in liner shipping

Nguyen Khoi Tran, Hans-Dietrich Haasis

3 - Multi objective scheduling and environmental routing of maritime vessels

Haakon Lindstad

Paper moved to session TB-33

Knowledge Management of Macro and Micro Seaport Repositories using Data Mining Techniques

Ana Halabi Echeverry, Deborah Richards, Ayse Bilgin, Jairo Montoya-Torres

■ **WD-13**

Wednesday, 14:30-16:00

RB-Tau

Emerging Issues in New Product Development

Chair: Thomas Volling

1 - Algorithms for Extending Battery's lifespan in Electric Vehicles

Ron Adany, Doron Aurbach, Sarit Kraus

2 - Coordination by contracts in decentralized product development processes with uncertain development results

Kerstin Schmidt, Thomas Volling, Thomas Spengler

Paper moved to session TB-27

A Proposal of Diagnosis Procedure for BTO Products

Yuji Sato

■ **WD-15**

Wednesday, 14:30-16:00

RB-2101

Theory and algorithms of bilevel programming II

Chair: *Alain B. Zemkoho*

1 - Solution algorithm for linear bilevel programming problem

Stephan Dempe, Shili Peng

2 - Some results in semivectorial bilevel optimal control problem

Henri Bonnel, Jacqueline Morgan

3 - On an enumerative algorithm for solving eigenvalue complementarity problems

Joaquim Judice, Luís Fernandes, Hanif Sherali, Maria Forjaz

■ **WD-16**

Wednesday, 14:30-16:00

RB-2103

Recent Advances in Linear Programming and Related Subjects

Chair: *Tibor Illés*

- 1 - **The s-Monotone Index Selection Rules for Pivot Algorithms of Linear Programming**
Tibor Illés, Zsolt Csizmadia, Adrienn Nagy
- 2 - **The numerical behavior of s-monotone index selection rules for the simplex algorithm**
Adrienn Nagy, Tibor Illés
- 3 - **Advantages and disadvantages of successive linear programming methods for solving non-linear problems**
Zsolt Csizmadia
- 4 - **Cutting Plane Methods for Solving Inexact Problems**
Fariba Pidani

■ **WD-17**

Wednesday, 14:30-16:00

RB-2105

DC programming and DCA 2

Chair: *Tao Pham Dinh*

1 - DC Programming via BMI constraints

Yi-Shuai Niu, Tao Pham Dinh

2 - Combining multiobjective constraint satisfaction and sequential control for solving the sensors management of the intelligence process

Ali Khenchaf, Manh Nguyen Duc, Dambreville Frédéric, Christophe Osswald, Abdelmalek Toumi, Jean-Christophe Cexus

3 - A new efficient deterministic approach for mixed 0-1 multiobjective programming. Application to shift scheduling problems.

Viet Nga Pham, Hoai An Le Thi, Tao Pham Dinh

■ **WD-18**

Wednesday, 14:30-16:00

RB-2107

Location Analysis and Disruptions

Chair: *Mozart Menezes*

Chair: *Serigne Gueye*

- 1 - **An exact cooperative method for the simple plant location problem**
Philippe Michelon
- 2 - **Critical Facility Capacitated r -Interdiction Location Problem: an example of grocery stores with limited demand**
Yuran Choi, Tsutomu Suzuki
- 3 - **A Bilinear Programming Formulation for the p -Median Problem with Unreliable Facilities and Disruption Probability Classes**
Serigne Gueye, Mozart Menezes

■ WD-19

Wednesday, 14:30-16:00

RB-2111

Survival Analysis and Simulation

Chair: *Coskun Kus*

Chair: *Aysegul Iscanoglu Cekic*

- 1 - **A new lifetime distribution with increasing failure rate**
İsmail Kınacı, Demet Sezer
- 2 - **Optimal Warranty Policy for a Pareto Distributed Products based on Progressive Censored Sample**
Neriman Karadayı, Yunus Akdoğan, Coskun Kus, Shuo-Jye Wu
- 3 - **Optimal Progressive Group Censoring Scheme under Cost Considerations for Pareto Distribution**
Coskun Kus, Yunus Akdoğan, Shuo-Jye Wu
- 4 - **Generalized Linear Mixed Models (GLMMs) with a Financial Application**
Neslihan Yigit

■ **WD-20**

Wednesday, 14:30-16:00

RB-2113

Financial Optimization 3

Chair: *Ayse Arik*

- 1 - Performance measurement of online algorithms using geometric Brownian motion and quantile regression**
Esther Mohr, Robert Dochow, Günter Schmidt
- 2 - Optimal Dynamic Tax Evasion: A Portfolio Approach**
Francesco Menoncin, Rosella Levaggi
- 3 - Optimal Cash Management Using Impulse Control**
Peter Lakner, Joshua Reed
- 4 - The Lee Carter Method and Poisson Log-Bilinear Model: An Application To Turkish Census Data**
Ayse Arik, Basak Bulut, Erenkul Ozkok, Meral Sucu

■ **WD-21**

Wednesday, 14:30-16:00

RB-2115

Capital Asset Pricing Models

Chair: *Fabian Lutzenberger*

1 - Testing the Capital Asset Pricing Model (CAPM) on the Central and South-East European Emerging Securities Markets

Zdravka Aljinovic, Josipa Dzaja

2 - Risk Sensitive Approach to Inventory Management

Muge Tekin, Suleyman Ozekici

3 - Valuation — Liquidity (Risk) and Cost of Equity

Michael Ludwig, Stefan Stöckl, Dennis Diepold

4 - Multiperiod valuation and the CAPM

Fabian Lutzenberger, Stefan Stöckl, Vasko Isakovic

■ **WD-22**

Wednesday, 14:30-16:00

RB-2117

Fuzzy Systems in Geopolitics and Disaster Management

Chair: *Erik Kropat*

Chair: *Alexis Pasichny*

- 1 - Preparation of Complex Landslide Simulation Results with Spatial Data Mining Methods for Decision Support**
Erik Kropat, Eva Nuhn, Wolfgang Reinhardt, Stefan Pickl
- 2 - Fuzzy civilization-state model for system analysis of world geopolitics**
Alexis Pasichny
- 3 - A concurrent neuro-fuzzy inference system for automotive service industry**
Fehmi Evren Dinç, Yildiz Yulugkural, Zerrin Aladag

■ WD-23

Wednesday, 14:30-16:00

RB-Delta

Recent Advances in Convex Optimization

Chair: *Aharon Ben-Tal*

Chair: *Attila Gilanyi*

- 1 - **Iterative solution methods for a canonical dc programming problem**
Syuuji Yamada, Tamaki Tanaka, Tetsuzo Tanino
- 2 - **Revisiting the construction of gap functions for variational inequalities via conjugate duality**
Liana Cioban, Ernő Robert Csetnek
- 3 - **Database for Convex Optimization**
Shriguru Nayak, Neha Bhatia, G. N. Srinivasa Prasanna
- 4 - **An iterative algorithm for the reflexive optimal approximation solutions of matrix equations $AXB+CYD=E$**
Heming Sun

■ **WD-24**

Wednesday, 14:30-16:00

CC-A11

OR and the Arts

Chair: *Vitaly Podobedov*

1 - OR and Abstract Painting

Vitaly Podobedov

2 - Optimization of inner operation of a museum to enhance the educational impact on visitors

Katarina Simoncicova, Eva Kralova

3 - Composing counterpoint musical scores with variable neighborhood search

Dorien Herremans, Kenneth Sörensen

4 - Ball motion inside symmetric surfaces, described by using special diagrams

Lina Otradnova

■ **WD-25**

Wednesday, 14:30-16:00

CC-A23

Simulation Based Decision Support

Chair: *Guido Siestrup*

1 - Simulation approach for measuring benefits of cutting stock optimization with usable leftovers

Mihael Cesar, Luka Tomat, Miro Gradisar

2 - A risk management approach for logistics agglomerations

Guido Siestrup, Claudia Breuer, Hendrik Wildebrand, Hans-Dietrich Haasis

■ WD-26

Wednesday, 14:30-16:00

CC-A24

Multi-Criteria Decision Making and Applications 2

Chair: *Mikhail Kuznetsov*

Chair: *King-Wah Pang*

1 - Multi-criteria Internet Shopping Optimization Problem

Jedrzej Musial, Jacek Blazewicz, Pascal Bouvry

2 - A hybrid decision making model for labor flexibility

Erdem Aksakal, Metin Dagdeviren, Ihsan Yüksel

3 - A knowledge based decision support system for warehousing management to improve operating efficiency

King-Wah Pang

Paper moved to session MC-40

Environmental Fuzzy Multi-Attribute Decision-Making in Integrated Wastewater Management

Hojjat Mianabadi, Mehrdad Mirabi, Erik Mostert, Mohammad Bagher Sharifi

■ **WD-27**

Wednesday, 14:30-16:00

CC-A25

Applications in Decision Making & Decision Analysis

Chair: *Pascale Zaraté*

Chair: *Fatima Dargam*

1 - A decision making framework for a Colombian business group

Julián Benavides, Felipe Henao

2 - Development of a territorial vulnerability indicator framework for cross-border risk analysis

Tina Comes, Marjorie Vannieuwenhuyse, Frank Schultmann

3 - Requirements analysis and conceptual design of data warehouse

Dragana Becejski-Vujaklija, Milena Panovic

■ **WD-28**

Wednesday, 14:30-16:00

CC-A27

Seismic Modeling with OR

Chair: *Aysegul Askan*

Chair: *Gerhard-Wilhelm Weber*

- 1 - Ensemble methods for classification of volcano - seismic signals**
Cindy Mora-Stock, Cristian Bravo
- 2 - An integrated model for disaster mitigation and response decisions**
Alper Döyen, Necati Aras, Gülay Barbarosoglu
- 3 - A data mining approach for modeling high-frequency spectral decay of ground motions for Northwestern Turkey**
Fatma Nurten Sisman, Onur Pekcan, Aysegul Askan
- 4 - Waveform tomography with numerical optimization techniques**
Aysegul Askan, Volkan Akcelik, Jacobo Bielak, Omar Ghattas

■ WD-29

Wednesday, 14:30-16:00

CC-A29

Optimization and Data Mining (II)

Chair: *Minyoung Cho*

- 1 - **The application of neural networks and linear programming discriminant models on the file fragment classification problem**

Erich Wilgenbus, Hennie Kruger, Tiny Du Toit

- 2 - **Clustering anthropometric data addressed to the clothing industry**

Teresa Leon, Guillermo Vinue, Guillermo Ayala, Sandra Alemany, Juan Domingo

- 3 - **Fault Classification using Data Mining Technique for Semiconductor Process Monitoring**

Minyoung Cho, Jonghyuck Park, Jun Seok Kim, Sung-Shick Kim, Jun-Geol Baek

■ **WD-31**

Wednesday, 14:30-16:00

CC-A33

OR and Ethics II

Chair: Cristobal Miralles

1 - Identifying the upper age limit to extend screening for breast cancer in England and Wales

Rachid Rafia, Alan Brennan, Jason Madan, Lynda Wyld, Karen Collins

2 - Multi-criteria decision making with criteria values estimated from survival data: a case study in heart failure

Jing Zhao, Douwe Postmus, Hans Hillege

3 - Complexity of decision making with multiple stakeholders: a case study.

Cristobal Miralles, Alysson Costa, Maria Antónia Carravilla

■ WD-32

Wednesday, 14:30-16:00

CC-A34

DEA and Performance Measurement: Applications 7

Chair: *Hanns de la Fuente*

1 - Measuring the efficiency and productivity change in Global Telecom Operators

Chrysovaladis Prachalias, Rajiv Banker

2 - Returns to Scale and Incentive Regulation in Brazil Electricity Distribution Industry

Ana Lopes, Rajiv Banker

3 - Performance measurement in the marketing productivity in services. An application to the U.S. financial sector using stochastic frontier models

Hanns de la Fuente

Paper added to session

4 - Efficiency evaluation and analysis of Third Party Logistics in Brazil

Mariana Almeida, Luis Oliveira

This paper deals with the efficiency evaluation and analysis of 44 Third Party Logistics working in Brazil, using Data Envelopment Analysis — DEA for this purpose. The DEA model used considers variable returns to scale, since the analyzed companies have diversified sizes, and oriented to maximize their outputs. The use of variable selection techniques was critical to reach a subset of variables with greater representativeness for the system. As the main practical result, it was possible to identify the best players, regarding the efficiency of production processes and the returns to scale.

■ **WD-33**

Wednesday, 14:30-16:00

CC-A37

Optimization Modeling II

Chair: *Bjarni Kristjansson*

Chair: *Robert Fourer*

1 - Alternatives for Scripting in Conjunction with an Algebraic Modeling Language for Optimization

Robert Fourer

2 - CMPL - Coliop—Coin Mathematical Programming Language

Mike Steglich

■ **WD-35**

Wednesday, 14:30-16:00

CC-A41

Recent Advances in Statistics

Chair: *Pakize Taylan*

Chair: *Elcin Kartal Koc*

Chair: *Gerhard-Wilhelm Weber*

1 - A simulation study to compare conditional and normalized residuals in diagnostic checking

Mehmet Güray Ünsal, Resat Kasap

2 - Statistical Analysis of Narrative Sequences

Fatma Selcen Phelps, William Guinee, Eugene Johnsen

■ **WD-36**

Wednesday, 14:30-16:00

CC-A43

Technological change and productivity: permanent features of population health

Chair: *M. Harvey Brenner*

Chair: *Elena Andreeva*

- 1 - **Large-scale organisational downsizing and workers' health during the global crisis of the last decade**
Elena Andreeva
- 2 - **Macroeconomic influences on life expectancy in advanced industrialized countries**
M. Harvey Brenner
- 3 - **Health policy amidst financial austerity — the case of Hungary**
Péter Mihályi

■ **WD-37**

Wednesday, 14:30-16:00

CC-Act

Operations Research in Health Care II

Chair: *Sally Brailsford*

- 1 - **Combining Discrete Event, Agent Based and System Dynamics Simulation to explore the Health and Social Care implications of Age Related Macular Degeneration**

Joe Viana, Andrew Amos Channon, Sally Brailsford

- 2 - **Modelling the dental workforce in Sri Lanka**

Sally Brailsford, Dileep de Silva

- 3 - **Managing limited bed capacity at hospitals**

Burhaneddin Sandikci, Tom Best, Don Eisenstein, David Meltzer

■ **WD-38**

Wednesday, 14:30-16:00

HH-Colombus

Multiobjective Optimization and Water Management

Chair: *Javier Cano*

Chair: *Angel Udias*

1 - Pareto Data Mining based decision for Global Water Restoration Decision Process

Angel Udias, Andrés Redchuk, Javier Cano, Lorenzo Lgalbiati@gencat.cat

2 - A decision support system for the multiobjective management of the Kwanza river

Kiombo Jean Marie, Javier Cano, David Rios-Insua

Paper moved from session MD-33

3 - Role of carbon capture technologies in the Spanish industry in 2030 under a CO2 reduction scenario using the TIMES-Spain energy optimisation model

Diego García, Helena Cabal, Machteld Van Den Broek, Yolanda Lechón, Antonio Alonso-Ayuso

Paper moved to session MD-33

Multicriteria Decision Aid for Equitable Water Distribution Network

Jose Luis Castaño Cabrales, Angel Udias, David Rios-Insua, Javier Cano, Hocine Fellag

■ **WD-39**

Wednesday, 14:30-16:00

HH-Cousteau

Graph and Digraph Searching Games

Chair: *Nancy Clarke*

1 - On Constructive Characterization of Forbidden Minors for k-Searchable Graphs

Oznur Yasar Diner

2 - LIFO-search on digraphs

Paul Hunter

3 - Eternal Domination- being ever watchful

Stephen Finbow

■ **WD-40**

Wednesday, 14:30-16:00

HH-Livingstone

Modelling sustainable production systems

Chair: *Francois Guerrin*

1 - Modeling and prioritizing requirements for designing sustainable supply chains

Anjali Awasthi, ZhongHua Zhang

2 - A fuzzy farming efficiency estimation model for agricultural development

Tomas Balezentis, Alvydas Balezentis

3 - Integrating multidisciplinary knowledge into simulation models to organize organic wastes recycling in agriculture

Francois Guerrin, Moussa NDienor, Heriniaina Ramahefarison, Virginie Parnaudeau, Jean-Marie Paillat

■ WD-41

Wednesday, 14:30-16:00

HH-Heyerdahl

Applications of Control Theory in Dynamical Systems

Chair: *Ioan Radu Morar*

- 1 - **A model to particles flow composed by two metastable potentials**
Elsó Drigo Filho, Marcelo Tozo de Araujo
- 2 - **The mechatronic system optimization with use of genetic programming**
Marian Klucik, Ladislav Jurisica, Anton Vitko, Peter Paszto, Jaroslav Hanzel
- 3 - **Fault-tolerant Control Systems in Stability and Recovery control Of Damaged Aircraft**
M. Navabi, M. Radaei
- 4 - **Modeling an Unmanned Aerial Vehicle (Quadrotor)**
Ioan Radu Morar, Ioan Nascu

■ **WD-42**

Wednesday, 14:30-16:00

BW-Amber

Stochastic Modelling in Computational Biology and Environmental Sciences

Chair: *Erik Kropat*

Chair: *Zeev (Vladimir) Volkovich*

Chair: *Gerhard-Wilhelm Weber*

1 - Earthquake Scenario Reduction by Symmetry Reasoning

Steven Prestwich

2 - Modelling the meteorological effects on air temperature for Konya city in Turkey: the approaches of quantile regression and quantile regression neural networks

?lkay Altindag, Nimet Yapici Pehlivan

3 - Stochastic optimization methods in change-point detection

Tatiana Polushina, Georgy Sofronov

4 - A randomness test based on the Minimal Spanning Tree approach

Zeev (Vladimir) Volkovich

■ **WD-43**

Wednesday, 14:30-16:00

BW-Granite

Emerging applications in finance and insurance

Chair: *Giorgio Consigli*

1 - An application of institutional asset-liability management to a large P&C insurance company

Giorgio Consigli, Vittorio Moriggia, Gaetano Iaquinta, Angelo Uristani

Paper moved to session TD-22

An Alternative Approach for Exponential Smoothing Method

Ali Sabri Taylan, Güçkan Yapar

3 - Multistage strategic asset allocation with alternative investments

Angelo Uristani, Giorgio Consigli, Vittorio Moriggia

4 - Quadrangle Concept in Classification and Online Trading Algorithms

Stan Uryasev, Peter Tsyurmasto

■ **WD-44**

Wednesday, 14:30-16:00

BW-Marble

Information and Intelligent Systems II

Chair: *Igor Kabashkin*

Chair: *Hans Georg Zimmermann*

1 - E-Commerce & m-Commerce: A Specific Integrated Platform

David L. La Red Martínez, Valeria E. Uribe, Sofía J. Vallejos

2 - Text mining and visualization with self-organizing maps

Pavel Stefanovi?, Olga Kurasova

3 - Design of architecture of embedded system for optimal reliability of complex system

Igor Kabashkin

4 - Selecting Ore for an Iron Ore Mine

Jim Everett

■ **WD-45**

Wednesday, 14:30-16:00

BW-Water

IBM Research Applications

Chair: *Marco Laumanns*

1 - Planning under Uncertainty — Case Study: Energy Cost Minimization for a Water Treatment and Distribution Network.

Susara van den Heever, Niall Brady, Olivier Verscheure, Kate Lehane

2 - Nonlinear optimization for decision problems in water distribution networks under uncertainty

Martin Mevissen

3 - An efficient way to find an optimal power series for charging electric vehicles

Jacint Szabo, Olivier Gallay, Olle Sundstroem

4 - Multi-Period Production Planning Under Non-Compliance Risk

Marco Laumanns, Alwin Haensel, Ban Kawas, Eleni Pratsini, Steven Prestwich, Catalin Stefan Tiseanu

■ WE-01

Wednesday, 16:30-17:30

RB-Alfa

IFORS Distinguished Lecture: Professor Ralph E. Gomory

Chair: *Dominique de Werra*

1 - Forty Years of Corner Polyhedra

Ralph E. Gomory