

## Monday

### ■ MA-40

- 1 - **Multiple-Stage Parallel-Machine Capacitated Lot-Sizing and Scheduling with Sequence-Dependent Setup: A Case Study in the Wheel Industry**

*Lalida Deeratanasrikul, Shinji Mizuno*

- 2 - **Optimization Model for Scheduling Steelmaking and Continuous Casting Production**

*Eduardo Salazar*

- 3 - **Lot-Sizing in an Export-Oriented Winery: Models and Heuristics under the Principle of Postponement**

*Sergio Maturana, Mauricio Varas, Jorge Vera, Ignacio Vargas*

*Paper added to session*

- 4 - **A Reactive Scheduling Framework via Off-line Optimization**

*Georgios Kopanos, Department of Chemical Engineering, Centre for Process Systems Engineering, Imperial College London, Roderic Hill Building, South Kensington Campus, SW7 2AZ, London, London, United Kingdom, g.kopanos@imperial.ac.uk, Efstratios Pistikopoulos*

In this work, we present a new approach for the reactive scheduling of production systems with uncertain parameters of bounded form. Our method follows a state-space representation for the scheduling problem, and relies on the use of a rolling horizon framework and Parametric Optimization (PO) techniques. We show how we can effectively formulate PO problems that are solved just once and off-line. The results of the PO are used in a rolling horizon basis without the need for on-line optimization. Our approach is applied in the scheduling problem of a network of combined heat and power units.

### ■ MB-14

- 1 - **The Parallel Machine Scheduling Problem with Job Priorities and Sequence-Dependent Setup Times**

*Chun-Mei Lai, Yu Chao*

- 2 - **An Iterated Greedy Algorithm for the Unrelated Parallel Machine Scheduling Problem with Setup Times**

*Eva Vallada, Diana Gonzalez, Ruben Ruiz*

- 3 - **The Unrelated Parallel Machine Scheduling problem with additional Resources**

*Federico Perea, Ruben Ruiz*

*Paper added to session*

- 4 - **New (facet-defining) valid inequalities for a time-indexed formulation**

*Lotte Berghman, Toulouse Business School, France, l.berghman@tbs-ecuacion.fr, Frits Spieksma, T'kindt Vincent*

We consider a time-indexed formulation for the unrelated parallel machine scheduling problem. We show that all polyhedral knowledge known from the single machine problem (in particular, valid inequalities) is applicable to this formulation. We present new valid inequalities and prove that some of them are facet-defining. We also present a preprocessing technique involving fixing variables based on reduced costs. We combine both techniques in a basic cutting-plane algorithm and test the performance of the resulting algorithm by running it on randomly generated instances.

### ■ MB-19

- 1 - **Strategic Inventories and Supply Chain Structure**

*Sudheer Gupta*

- 2 - **Partially Observable Total-Cost Markov Decision Processes with Borel State Spaces and their Applications**

*Eugene Feinberg, Pavlo Kasyanov, Michael Zgurovsky*

*Cancellation*

- On **Optimal Tax Planning and Inventory Systems with Perishable Items**

*Nilofar Varzгани, Suresh Govindaraj, Michael Katehakis*

- 4 - **Inventory Models with Omega-Distributed Demand**

*Lee Papayanopoulos*

### ■ MB-33

- 1 - **Investigating the Role of Electrified Vehicles for Automotive Industry Supply Chain and Fleet Sustainability**

*Matthias Kannegiesser, Hans-Otto Guenther, Niels Autenrieb*

- 2 - **A Multi-Objective Modeling Approach for Intermodal Transport Planning with Environmental Aspects**

*Martin Hrusovsky, Emrah Demir, Wolfgang Burgholzer, Werner Jammerneegg, Tom Van Woensel*

*Cancellation*

- On the **Effectiveness of Emission Prices in Decentralized Supply Chains**

*Saif Benjaafar, Xi Chen*

### ■ MB-38

- 1 - **Supply Chain Management for the Design of Future Biorefineries**

*Sara Giarola, Nilay Shah*

- 2 - **Modelling the European Biofuel Supply Through a Mixed Integer Programme Linked with an Agricultural Model and a Refining Model**

*Frederic Lantz*

*Paper moved to session TE-08*

- Sensor and Controller on Bio-diesel Fuel Market for Eco-efficient Policy Making**

*Noriaki Koide, Koji Okuhara*

### ■ MD-13

- 1 - **Minimization of the Tool Switches Problem - Polynomial Algorithm for a Special Case**

*Horacio Yanasse*

- 2 - **Due Date Quotation in Dynamic Single Machine Environment with Family Setups under Stochastic Job Characteristics**

*Zehra Duzgit, Ali Tamer Unal*

*Cancellation*

- Single Machine Just-in-Time Scheduling Problems with Two Competing Agents**

*Gur Mosheiov, Enrique (Tzvi) Gerstl*

*Paper moved to session TA-13*

- Genetic Algorithm for a Two-Agent Scheduling Problem with Position-Dependent Learning Effects**

*Jin Young Choi*

### ■ MD-39

*Cancellation*

**Optimal Strategies for Hepatocellular Carcinoma Surveillance in Hepatitis C Patients: A Societal Perspective**

*Turgay Ayer, Qiushi Chen, Jagpreet Chhatwal*

**2 - Routing and Scheduling of Urban Home Health Care Transport Systems**

*Christian Fikar, Patrick Hirsch*

**3 - Competing on Quality: Evidence from Award Winning Hospitals in California**

*Bogdan Bichescu, Wei Wu, Randy Bradley*

**4 - Simulation of an Elevator Bank**

*Preston White*

■ **MD-44**

**1 - Metaheuristic to Improve Career Progression in an Organization with N Functional Careers**

*João Barata, Rui Deus*

**2 - Modeling Innovation Resistance in Technology Diffusion: An Agent-Based Approach**

*Martin Zsifkovits, Markus Günther*

**3 - Simulation Approach for the Distribution Strategy and Fleet Design of a Major e-Commerce Provider in Santiago-Chile**

*Cristián Cortés, Jaime Miranda, Cristobal Pineda, Pablo A. Rey*

*Cancellation*

**Negotiation Mechanisms, Mutually Carried out Investments, and Incentive Compatibility**

*Alexander Brauneis, Stephan Leitner, Alexandra Rausch*

■ **ME-08**

**1 - Optimal Design of the Renewable Energy Production Map of Greece using a Multi-Period Goal Programming Model**

*Eleni Zografidou, Konstantinos Petridis, Garyfallos Arabatzis*

**2 - Optimal Design of Capacity Market with Startup Costs and Capacity Constraints**

*Marina Dolmatova, Alexander Vasin*

**3 - Probabilistic Pricing for Wind Farms**

*Natália Addas Porto, Regiane Silva de Barros, Paulo Correia*

*Cancellation*

**An Energy Environment Economy (3E) Model for Assessing Building Components from a Life Cycle Perspective**

*Giulia Sonetti, Patrizia Lombardi*

■ **ME-15**

*Cancellation*

**Bundle Pricing from Sales Data with Copula Inference**

*Pavankumar Murali, Wei Sun, Anshul Sheopuri*

**2 - Pricing of Conditional Upgrades in the Presence of Strategic Consumers**

*Izak Duenyas, Yao Cui, Ozge Sahin*

**3 - Price Drop Guarantee in the Context of Limited Inventory**

*Dinah Cohen-Vernik, Amit Pazgal*

**4 - The Reference Effects on a Firm's Dynamic Pricing and Inventory Strategies with Strategic Consumers**

*Shining Wu, Rachel Zhang, Qian Liu*

■ **ME-34**

*Cancellation*

**Improving Computational Performance of Energy Market Models**

*Frieder Borggrefe, Karl-Kien Cao, Yvonne Scholz*

**2 - Photovoltaic Energy Production Forecast using Support Vector Regression**

*Maiia Pietrini, Renato De Leone, Antonio Giovannelli*

**3 - Hourly Price Forward Curve for Market Coupling**

*Marcus Hildmann*

■ **ME-44**

**1 - Modeling and Solution of COA Development based on Timed Influence Net and Game Theory**

*Jincai Huang, Chao Chen, Guangquan Cheng, Baoxin Xiu, Weiming Zhang, Cheng Zhu*

**2 - Lexicographic Allocations and Extreme Core Payoffs: The Case of Assignment Games**

*Tamás Solymosi, Marina Nunez*

**3 - A Monotonic and Merge-Proofness Rule in Minimum Cost Spanning Tree Situations**

*Juan Vidal-Puga, Gómez-Rúa María*

*Paper added to session*

**4 - Co-authorship Model with Link Strength**

*Leandro Rego, Statistics, Universidade Federal de Pernambuco, Rua Muniz Tavares 25, apt. 902, Jaqueira, 52050-170, Recife, PE, Brazil, leandro.ufpe@gmail.com, Andrea Maria dos Santos*

We generalize a network model for co-authorship by allowing connections with different link strengths. Such link strengths may represent the number of papers a couple of authors have work together on. We investigate which networks structures are efficient and pairwise stable. We analyze a case in which link strengths are unbounded and another considering that they are bounded. We show that there is no pairwise stable network in the first case, while in the second case, the pairwise stable networks consist of disjoint completely connected components in which all the link strengths are maximal.

## Tuesday

■ **TA-06**

**1 - Health Care Supply Chain Design from a Stakeholder's Perspective**

*Nico Vandaele, Catherine Decouttere, Stef Lemmens*

**2 - Re-Examining the Patient Experience: Using Process Design and Trajectory to Improve Patient Satisfaction in Physician Practices**

*Grady S. York, Gary Garrison*

*Cancellation*

**Patients without Patience: An Econometric Model of Waiting in the Intensive Care Unit**

*Elisa Long, Kusum Mathews*

■ **TA-08**

*Cancellation*

**Pricing Models for Electric Vehicle Charging**

*Peter Letmathe, Ilhana Mulic, Ramajothi Ramsundar*

**2 - E-Mobility: Influence of the Second Life of used Batteries on Profit and Demand**

*Ilhana Mulic, Peter Letmathe, Ramajothi Ramsundar*

**3 - Electric Vehicles with a Battery Switching Station: Adoption and Environmental Impact**

*Buket Avci*

- 4 - **Combinatorial Optimization to Energy Management of an Electric Vehicle**  
Pierre Lopez, Yacine Gaoua, Stéphane Caux

### ■ TA-13

- 1 - **A Project Scheduling Algorithm Considering Resource Constraints and Seasonal Effects**  
Servet Hasgul, Cem Atasever
- 2 - **Project Scheduling with Rework: An Application in the Animation and Videogame Industry**  
Gonzalo Enrique Mejia Delgadillo, Karen Niño, Maria Angélica Sánchez Olaya
- 3 - **Multimode TCSP with Generalized Temporal Constraints: A MILP Formulation**  
Tamara Borreguero, Miguel Ortega-Mier, Álvaro García-Sánchez  
*Paper moved from session MD-13*
- 4 - **Genetic Algorithm for a Two-Agent Scheduling Problem with Position-Dependent Learning Effects**  
Jin Young Choi

### ■ TA-37

- 1 - **LP Well-Posedness for Bilevel Vector Equilibrium and Optimization Problems with Equilibrium Constraints**  
Somyot Plubtieng, Phan Quoc Khanh
- 2 - **Well-Posedness for the Bilevel New Generalized Mixed Equilibrium Problems in Banach Spaces**  
Rabian Wangkeeree
- 3 - **Existence and Convergence of Common Fixed Points via an Iterative Projection Technique for Two Strict Pseudo-Contractions in Hilbert Spaces**  
Kasamsuk Ungchittrakool  
*Cancellation*  
**Hybrid extragradient method for finding a common solution of the split feasibility and system of equilibrium problems**  
Wiyada Kumam, Jitsupa Deeppo, Poom Kumam

### ■ TA-38

- 1 - **A Simple Algorithm for Nonconvex and Nonsmooth Minimization Problems**  
Shoham Sabach, Jérôme Bolte, Marc Teboulle
- 2 - **Sparse Optimization over Symmetric Sets**  
Nadav Hallak, Amir Beck  
*Cancellation*  
**An  $O(1/k)$  First Order Algorithm for a Class of Nonsmooth Convex-Concave Saddle-Point Problems**  
Marc Teboulle, Yoel Drori, Shoham Sabach

### ■ TA-40

- 1 - **Managing an Assemble-To-Order System with After Sales Market for Components**  
Mohsen Elhafi, Essia Hamouda  
*Cancellation*  
**Applying Lean Management in Complex Manufacturing Lines: The Case of Flash Chip Production**  
Elad Harison, Ofer Barkai
- 3 - **A Comparison of Two Priority Rules in Kanban-Controlled Job Shop**  
Ali Ardalán, Rafael Díaz

- 4 - **A Decision Support System to Facilitate the Implementation of Workload Control in Make-to-Order Companies**  
Yuan Huang

### ■ TB-16

- Cancellation*  
**Mixing Hopfield Neural Network and Probabilistic Model Method**  
Diana Vasilieva, Yuri Mikhailov
- 2 - **Bayesian Sample Size Estimation for Patient Classification Survey**  
Anastasia Motrenko
- 3 - **A Machine-Learning Paradigm that Includes Pointwise Constraints**  
Giorgio Gnecco, Marco Gori, Stefano Melacci, Marcello Sanguineti
- 4 - **Structure Learning and Forecasting Model Generation**  
Vadim Strijov, Mikhail Kuznetsov, Anastasia Motrenko

### ■ TB-29

- 1 - **Accident Causation Analysis with Multiple Criteria Decision Making Methods in Workplaces**  
Erdem Aksakal, Metin Dagdeviren
- 2 - **Effectiveness Analysis of Ratios from Paired Comparison**  
William Wedley, Eng Choo, Diederik J.D. Wijnmalen  
*Cancellation*  
**Prioritization of Collaborative Innovation Values**  
Irem Duzdar, Gulgun Kayakutlu, Bahar Sennaroglu
- 4 - **Multi-criteria decision analysis in medical decision making**  
Douwe Postmus

### ■ TD-12

- 1 - **The Dynamics of a Difference Equation**  
?brahim Yalç?nkaya
- 2 - **On a System of Difference Equations**  
Abdullah Selçuk Kurbanl?
- 3 - **Solving Fractional Vibrational Problem Using Generalized Differential Transform Method**  
Ummugulsum Cansu, Ozan Özkan, Suat Kurt  
*Paper moved from session HB-35*
- 4 - **A Model Based Systems Engineering Framework for Large Scale Enterprise Design and Management**  
Craig Lawton

### ■ TD-26

- Cancellation*  
**Fuzzy Clustering with Equity Constraints**  
Siamak Naderi, Kemal Kilic
- 2 - **Multiple-criteria Fuzzy Evaluation in FuzzME - Recent Development**  
Pavel Hole?ek, Jana Talasova
- 3 - **SPRINT SMEs: A Fuzzy Linguistic 2-Tuple Recommendation Approach for Allocating human Resources in Software Projects**  
Vassilis Gerogiannis, Pandelis Ipsilandis

#### 4 - Direct Search methods to optimize Indoor Location Using Fuzzy Logic

Aldina Correia, Pedro Mestre, João Matias, Carlos Serôdio, Carlos Serôdio

### ■ TD-32

#### 1 - Assessing Financial Incentives for Energy Policy-Making

Yulia Malitskaia, Barry OSullivan

#### 2 - Towards Immune Genetic Algorithm for Composition of Web Services with Constraints

Khaled Sellami, Djamal Dris

*Cancellation*

#### Operational Tasks Process Design in Architecture Program based on Improved HTN

Zhang Xiaoxue

#### 4 - Simulation as a key element of advisory system in construction engineering

Aneta Konczak, Jerzy Paslawski

### ■ TD-42

#### 1 - Assessing the Effects of Spanish Financial Sector Restructuring on Branch Rivalry

Martí Sagarra, Cecilio Mar Molinero, Frank M.T.A. Busing, Josep Rialp

*Cancellation*

#### A Novel Application of Data Envelopment Analysis for Efficiency Evaluation of Banking Sector Firms

Shamaila Ishaq

#### 3 - Credit Scoring Model with Additional Regression Parameters Taken from the Social Networks

Nataliya Soldatyuk, Michal Cerny

#### 4 - Assessing Developing Countries Creditworthiness Using the UTADIS Multicriteria Analysis Method

Mariana Funes, José Vargas

### ■ TE-08

#### 1 - Institutional Level, FDI and Pollution Tax

Salvador Sandoval, Rafael Salvador Espinosa

#### 2 - Methodology of the Carbon Footprint in the Logistics Business Operations Applied for Food Manufacturing Companies

Juan Bermeo, Jaime Calderon

#### 3 - Cooperation of Climate Clubs

Jan Kersting

*Paper moved from session MB-38*

#### 4 - Sensor and Controller on Bio-diesel Fuel Market for Eco-efficient Policy Making

Noriaki Koide, Koji Okuhara

### ■ TE-31

#### 1 - Expected Utility and Narrow Framing

Manel Baucells, Rakesh Sarin

#### 2 - Selecting Preventive, Palliative and Fault Transmission Safeguards for Risk Management of Information Systems: A Fuzzy Approach

Antonio Jiménez-Martín, Eloy Vicente, Alfonso Mateos

#### 3 - A Competitive Covering Tour Problem in Disaster Relief

Christian Burkart, Walter Gutjahr, Pamela Nolz

#### 4 - Decision making in the chaotic environment of first response to disasters

Kate Hughes

*Paper added to session*

#### 5 - Decision-Making Social Networks

Ali Abbas, College of Engineering, University of Illinois at Urbana-Champaign, 104 South Mathews Ave, 61801, Urbana, Illinois, United States, aliabbas@uiuc.edu

Facebook has shown us that people love to connect with others in a social network. Wikipedia has shown us that people love to offer expertise to help others. This talk presents the learnings obtained from the decision-making social network, Ahoona. We discuss the types of decisions people like to offer help on, and show tag clouds for preferences, uncertainties and alternatives for decisions in our daily lives.

## Thursday

### ■ HA-04

*Cancellation*

#### A Network Model for Capped Distance-Based Tolls

Michael Florian

#### 2 - Extensions of the Macroscopic Fundamental Diagram to Multimodal Traffic

Nicolas Chiabaut

#### 3 - A Mathematical Proof for the Optimal Perimeter Control Policy at an Urban Region

Jack Haddad, Ilya Ioslovich

#### 4 - Modeling and Control of Large Scale Multimodal Urban Networks

Nikolas Geroliminis, Konstantinos Ampountolas, Nan Zheng

### ■ HA-16

#### 1 - Partial Orders Combining for the Object Ranking Problem

Mikhail Kuznetsov, Vadim Strijov

#### 2 - An Interactive Approach for Multicriteria Selection Problem

Anil Kaya, Ozgur Ozpeynirci, Selin Ozpeynirci

#### 3 - Data-Driven Robustness Analysis for MCDA Preference Disaggregation Approaches

Michael Doumpos, Constantin Zopounidis

*Paper moved from session FB-40*

#### 4 - Linking Voice of Industry (Recruiters) with B-Schools' Service Operations using Q Sort Technique through Quality Function Deployment

Jitendra Sharma, Tinu Agrawal

### ■ HA-22

#### 1 - The Role of Operations in New Product Development Alliances

Niyazi Taneri, Arnoud De Meyer

*Cancellation*

#### Sequential Inspection Games

Boaz Golany, Yael Deutsch

#### 3 - Openshop Sequencing Games

Pedro Calleja

#### 4 - Solution Concepts in Influence Games

Fabián Riquelme, Xavier Molinero, Maria Serna

### ■ HA-32

#### 1 - Sustainable Supply Chain Management: Developing a Framework through Conceptual Modelling

Norma Harrison, Tayyab Amjed

- 2 - **Application of Inequality between Arithmetic and Geometric Mean to Optimization of Economic Functions**  
*Zrinka Lukac, Vedran Kojic*
- 3 - **Changing Production Chain by using 3D-Printing**  
*Maria Mavri*  
*Cancellation*  
**Analytical Hierarchy Process and SCOR Model to Support Supply Chain Re-Design: A Case Study in an Airline MRO Provider**  
*Jaime Palma*

## ■ HB-12

- 1 - **Decentralized Multi-Project Scheduling: Review and Classification**  
*Andreas Fink, Jörg Homberger*  
*Cancellation*  
**An Extension of the Resource Constrained Multi-Project Scheduling Problem with Financial Constraints**  
*Adolfo Lopez-Paredes*
- 3 - **Benchmark Instances and Solutions for the Decentralized Multi-Project Scheduling Problem**  
*Jörg Homberger, Andreas Fink*  
*Paper moved from session FB-08*
- 4 - **Two-Level Heuristic Algorithm for the Hierarchical Scheduling Problem**  
*Zdenek Hanzalek, Roman Capek, Premysl Sucha*

## ■ HB-35

- 1 - **An Agent-based Simulation of the Diffusion of Intelligent Technical Systems in Future Markets**  
*Christian Stummer, Lars Lüpke, Sabrina Backs*
- 2 - **A Bayesian Negotiation Model for Reliability and Price**  
*María Jesús Rufo Bazaga, Jacinto Martín, Carlos Javier Pérez Sánchez*
- 3 - **Simulated Determination and Usage of a Clearing Function for Leadtime Estimation**  
*Frank Herrmann*  
*Paper moved to session TD-12*  
**A Model Based Systems Engineering Framework for Large Scale Enterprise Design and Management**  
*Craig Lawton*

## ■ HB-39

- 1 - **SLH Algorithm for Solving Hamiltonian Cycles Problem**  
*Vladimir Ejov*
- 2 - **Investigating the Robustness of the TSP Routes through the Recognition of Special Structured Matrices**  
*Azmin Azliza Aziz*
- 3 - **Conjecture about the Extremal Graphs for the Geometric-Arithmetic Index with Given Minimum Degree**  
*Ljiljana Pavlovic, Tomica Divnic, Milica Milivojevic*  
*Paper moved from session FA-02*
- 4 - **A Kind of Rollout Algorithm for N-Vehicle Exploration Problem**  
*Xiaoya Li*

## ■ HB-40

- 1 - **Meta-Analytics for Market Basket Analysis**  
*Antonio Ladrón de Guevara, Helena Ramalhinho Lourenco, Pedro Martins*
- 2 - **A Regret Model Applied to the Maximum Coverage Location Problem with Queue Discipline**  
*Francisco Silva, Pedro Nunes, Helena Ramalhinho Lourenco*
- 3 - **Advances in Solving Max 3-SAT Problems**  
*Peter Greistorfer, Cornelia Rainer, Haibo Wang, Gary Kochenberger*  
*Cancellation*  
**A New Tabu Search Approach for solving the Quadratic Assignment Problem**  
*Haibo Wang, Zhipeng Lu, Fred Glover, Gary Kochenberger*

## ■ HB-44

- 1 - **The Impact of Supply Chain Disruptions on Stockholder Wealth in Japan**  
*Jiangxia Liu, Kumar Sanjay, Ashutosh Deshmukh*  
*Cancellation*  
**A Supply Chain Risk Management Model with Random Demands**  
*Yash Daultani, Ravi Suman, Sushil Kumar, Omkarprasad S Vaidya, Manoj Tiwari*  
*Cancellation*  
**Optimal Access Restoration for Disaster Response with Explicit Consideration of Human Suffering**  
*Felipe Aros-Vera, Jose Holguin-Veras*

## ■ HD-03

- Cancellation*  
**The Maximin HAZMAT Routing Problem: Exact and Heuristic Procedures**  
*Vladimir Marianov, Andres Bronfman, Armin Lüer-Villagra, Germán Paredes-Belmar*
- 2 - **An Empirical Comparison of Customer Retail Patronization Models**  
*Burcin Bozkaya, Seda Ugurlu, Vivek Singh, Alex Pentland*
- 3 - **A Two-Stage Stochastic Transportation Problem with Fixed Handling Costs and A Priori Selection of the Distribution Channels**  
*Yolanda Hinojosa, Justo Puerto, Francisco Saldanha-da-Gama*
- 4 - **Optimal Location of Battery Stations and its Charger for Electric Vehicles Based on Japanese Road Networks**  
*Yudai Honma, Shigeki Toriumi*

## ■ HD-04

- 1 - **Optimisation of Multi-Lane Motorways in Presence of Vehicle Automation and Communication Systems**  
*Claudio Roncoli, Markos Papageorgiou, Ioannis Papamichail*  
*Paper added to session*

## 2 - Optimizing Real-Time Traffic Information for Freeways

Klaus Bogenberger, Intelligent Transportation Systems, University FAF Munich, Werner-Heisenberg-Weg 39, 85577, Neubiberg, Germany, Klaus.Bogenberger@unibw.de, Gerhard Huber

When Real-Time Traffic Information (RTTI) is provided via a color-coded map of a freeway network, usually only a few speed-classes are used to illustrate the current traffic states, even though exact speed values are available. A scheme for quantifying the resulting loss of information on motorways is introduced. Different algorithms to optimize the quality of RTTI leading to highly nonlinear problems are developed. These NLPs are solved using genetic algorithms or, if possible, they are transformed into shortest path problems. Both approaches are tested with real data of a German freeway.

## 3 - Integrated Control of a Urban Freeway Off-ramp and Neighboring Intersections

Xianfeng Yang, Yang Lu, Gang-Len Chang

## 4 - An Optimal Fleet Allocation of Emergency Response Teams on Freeway Using a Two-Stage Stochastic Programming

Hyoshin Park, Ali Haghani

## HD-06

### 1 - Ad Exchanges and the Problem of Disclosing Information

Sofia Ceppi

### 2 - Railroads and Economic Growth: A Trade Policy Approach

Fernando Pérez Cervantes

Cancellation

### Optimal Contracting in Networks

Ali Jadbabaie, Alireza Tahbaz-Salehi

### 4 - The Impact of Valuation Heterogeneity and Network Structure on Equilibrium Prices in Supply Chains

Alper Nakkas, Yi Xu

## HD-30

### 1 - Cournot Duopolies with R&D Investment

Bruno M.P. M. Oliveira, Joana Becker, Alberto Pinto

### 2 - Dynamic Management Model of Small Work Groups

Liliya Mukhamedrakhimova, Ilmira Gerasimova

Cancellation

### Nonlinear Model Predictive Control of a Renewable Resource

Lotfi Tadj, Messaoud Bounkhel

### 4 - Dynamic Model of a Multi-Product Manufacturing System

Juliana Keiko Sagawa, Marcelo Nagano

## HD-31

### 1 - Scheduling Wireless Networks: The Advantage of Co-operation

Celia Glass

### 2 - Incremental Network Design for Maximum Flows

Thomas Kalinowski, Dmytro Matsypura, Martin Savelsbergh

### 3 - A Branch-and-Price Algorithm for Communication Systems with High Error Correction Capability

Banu Kabakulak, Z. Caner Taşk?n, Ali Emre Pusane

Cancellation

## Forwarding Strategies for Congestion Control in Intermittently Connected Networks

Marcello Sanguineti, Marco Cello, Giorgio Gnecco, Mario Marchese

## HE-07

### 1 - Modified FCM Method to Explore Variations in a Multi-Variable Field

Metin Ger

Cancellation

### Supplier Selection in a Fuzzy and Probabilistic Environment

Sarah Bakhtiari, Ahmad Makui

### 3 - Decision Making in Interface Selection

Mehmet Burak ?enol, Metin Dagdeviren, Mustafa Kurt

### 4 - Team-Oriented Assembly Line Balancing Problem: A Fuzzy Approach

Hamid Y?lmaz, Mustafa Y?lmaz, Merve Kayac? ?odur

## HE-30

### 1 - Better Excel Optimisation using OpenSolver & SolverStudio

Andrew J Mason

### 2 - Dip and DipPy: A Decomposition-based Modeling System and Solver

Ted Ralphs

### 3 - CmpiServer - An Open Source Approach for Distributed and Grid Optimization

Mike Steglich

Paper added to session

### 4 - Extensions to the OSiL schema: Matrix and cone programming

Horand Gassmann, School of Business Administration, Dalhousie University, Halifax, Nova Scotia, Canada, horand.gassmann@dal.ca, Jun Ma, Kipp Martin, Imre Polik

A lot of attention has been given recently to cone programming and matrix programming, using, for instance, relaxations of hard mixed integer programs using variables whose values are required to form symmetric positive semidefinite matrices or satisfy similar cone constraints. This talk presents efforts to facilitate the formulation of such problems within the OSiL framework, an XML schema used to allow a unified representation format for a large variety of mathematical optimization problem instances. OSiL is part of the OS project, an open source project under the COIN-OR umbrella.

## HE-41

### 1 - Single-VRP with Simultaneous Delivery and Uncertain Pickup Data

Nadine Wollenberg, Michel Gendreau, Rüdiger Schultz

Cancellation

### Stochastic Single Vehicle Routing with Pickups and Deliveries, Continuous Demands and a Predefined Customer Sequence

Epaminondas Kyriakidis

### 3 - The Vehicle Routing Problem with Stochastic Two-Dimensional Items

Jean-François Côté, Michel Gendreau, Jean-Yves Potvin

### 4 - A Priori Optimization with Recourse for the Vehicle Routing Problem with Hard Time Windows and Stochastic Service Times

Fausto Errico, Guy Desaulniers, Michel Gendreau, Louis-Martin Rousseau

## Friday

## FA-01

- 1 - **Simultaneous Network Expansion and Global Frequency Setting on Railway Systems**  
*Francisco Lopez-Ramos, Esteve Codina, Ángel Marín*
- 2 - **Allocating the Railway Capacities to Extra Trains**  
*Soon-Heum Hong, Bum Hwan Park*  
*Cancellation*  
**The Application of Complex Structures to the Analysis and Design of Railway Networks**  
*Juan A. Mesa, Gilbert Laporte, Alicia De Los Santos Pineda*
- 4 - **Integer Programming Model for Planning Accompanied Combined Transport Operations in India**  
*Amit Upadhyay, Nimesh Bolia*

## ■ FA-02

- 1 - **A Decomposition Approach for the Inventory Routing Problem**  
*Carlos Franco, Verena Schmid*
- 2 - **A Multi-Depot Vehicle Scheduling Problem in a Public Transportation System in Quito**  
*Luis Torres, Ramiro Torres*
- 3 - **An Unsupervised Fuzzy Clustering Approach to the Capacitated Vehicle Routing Problem**  
*Henrique Ewbank, Peter Wanke, Abdollah Hadi-Vencheh*  
*Paper moved to session HB-39*  
**A Kind of Rollout Algorithm for N-Vehicle Exploration Problem**  
*Xiaoya Li*

## ■ FB-08

- 1 - **Decision Support System (DSS) Based on Dynamic Programming with Fuzzy Returns for Optimal Management of Natural Resources**  
*Lidija Zadnik Stirn*
- 2 - **Graphing Tri-Criterion Nondominated Surfaces**  
*Maximilian Wimmer, Ralph E. Steuer*
- 3 - **Maximising Diversity in Combinatorial Scenario Spaces**  
*Christian Carling, E Anders Eriksson*  
*Paper moved to session HB-12*  
**Two-Level Heuristic Algorithm for the Hierarchical Scheduling Problem**  
*Zdenek Hanzalek, Roman Capek, Premysl Sucha*

## ■ FB-09

- 1 - **Combinatorial Optimization Enhances the Energy Output of Electric Power Networks**  
*Christiano Lyra Filho, Celso Cavellucci, Fábio Usberti, José Federico Vizcaino*
- 2 - **Lying Generators**  
*Dávid Csersik*
- 3 - **Seasonal Transmission Switching with N-1 Reliability Requirements**  
*Jorge Valenzuela, Masood Jabarnejad, Jianhui Wang*  
*Cancellation*  
**A Nonlinear Electrical Capacity Planning Model with Application to the Case of Indonesia**  
*Wanshan Zhu*

## ■ FB-23

- 1 - **A Variable Neighbourhood Metaheuristic for the Clustered Vehicle Routing Problem**  
*Christof Defryn, Kenneth Sörensen*
- 2 - **Iterated Local Search Algorithm for the Open Vehicle Routing Problem with Time Windows**  
*Jose Brandao*  
*Cancellation*  
**A Parallel Iterated Local Search Heuristic for Heterogeneous Fleet Vehicle Routing Problems**  
*Juliana Silva, Puca Huachi Penna, Eyder Rios, Ricardo Farias, Luiz Satoru Ochi*
- 4 - **A Parallel Iterated Local Search Algorithm on GPUs for Quadratic Assignment Problems**  
*Erdener Ozcetin, Gurkan Ozturk*

## ■ FB-26

- 1 - **Convexification in Multiobjective Semi-Infinite Programming**  
*Francisco Guerra-Vázquez, Jan-J Ruckmann*
- 2 - **A Proximal Point Method with Generalized Distances for a Class of Bilevel Equilibrium Problems**  
*João Xavier da Cruz Neto, Glaydston Bento, Jurandir Oliveira, Pedro Soares Junior, Antoine Soubeyran*  
*Cancellation*  
**Nonsmooth Multiobjective Bilevel Optimization Problem under Generalized Invexity**  
*Hachem Slimani, Karima Bouibed, Mohammed Said Radjef*
- 4 - **Bilevel Road Pricing: A Solution Algorithm**  
*Susanne Franke*

## ■ FB-36

- Cancellation*  
**Optimal Resource Allocation for Effective Health Care Delivery in Niger Delta Region of Nigeria - an Invariant Property Based Algorithm Approach**  
*Idorenyin Etukudo*
- Cancellation*  
**Selecting Basic Insurance Organizations' covered Medications in Iran**  
*Arash Aliakbari, Seyedeh Hoda Shajari, Hamid Pourasghari, Mohammadreza Mehregan, Fatemeh Boloori, Farnaz Hooshmand Khaligh, Jamaledin Kedmati*
- 3 - **HIV Diagnostic Service Delivery in South Africa: Scenario Analysis using a Multi-Objective Version of the Uncapacitated Fixed-Charge Location Model**  
*Louzanne Oosthuizen, Johannes Gerhardus Benade, James Bekker*
- 4 - **Models for Preventing and Treating Malaria in Resource-Constrained Regions**  
*Susan Martonosi*

## ■ FB-40

- 1 - **Local-Scale Maximum Daily Ozone Prediction by using Artificial Intelligence Techniques**  
*Bing Gong, Joaquin Ordieres-Mere*
- 2 - **A Bagging-Based Undersampling Strategy for Classification: A Customer Churn Prediction Application**  
*Kristof Coussement, Geert Verstraeten*
- 3 - **Assessing Entrepreneurial Potential of Individuals using Principal Component Analysis**  
*Sabri Erdem, Nilay B?çakc?o?lu, Mehmet Ça?l?yangil*  
*Paper moved to session HA-16*

**Linking Voice of Industry (Recruiters) with B-Schools' Service Operations using Q Sort Technique through Quality Function Deployment**

*Jitendra Sharma, Tinu Agrawal*

■ **FB-43**

*Paper added to session*

**1 - GAM Models Explore Non-Parametric Feature of UK SMEs Performance During Financial Crisis**

*Jake Ansell, Business Studies, The University of Edinburgh, 29 Buccleuch Place, EH4 1ET, Edinburgh, United Kingdom, J.Ansell@ed.ac.uk, Meng Ma, Galina Andreeva*

This paper extends our understanding of SMEs performance during the past crisis from standard models into semi parametric methods. Employing Generalized Additive Models (GAM) to investigate both linear and nonparametric features of UK SMEs provides useful insight. We find nonparametric effects are significant for both start-up SMEs and non-start-ups. GAM models improve our understanding of comprehensive SMEs performance during the switch in the economy. Several measures have been used for comparison with standard models.

**2 - Lending Decisions with Limits on Capital Available**

*Lyn Thomas, Mee Chi So*

**3 - Feasible Algorithms for Lattice and Directed Subspaces**

*Piotr Wojciechowski, Vladik Kreinovich, Jennifer Del Valle*