■ MA-01

Monday 08:00-09:20
Beethoven

Routing problems

Chair: *Maria Teresa Godinho*

1 - Managing infeasibility in a vehicle routing problem with precedence and loading constraints

Gregorio Tirado, Angel Felipe, M. Teresa Ortuño

2 - On time dependent 2-path formulations for the (cumulative) TSP

Maria Teresa Godinho, Luis Gouveia

3 - Routing costs estimation in a multiperiod location routing problem

Maria Albareda Sambola, Elena Fernandez, Stefan Nickel

4 - Partial order approach to compute shortest paths in multimodal networks

Felipe Lillo

■ MA-02

Monday 08:00-09:20
Schumann

Driving time regulations in vehicle routing

Chair: *Christoph Manuel Meyer*

1 - Distributed decision making in combined vehicle routing and rest period planning

Christoph Manuel Meyer, Herbert Kopfer

2 - Dynamic programming for the vehicle routing problem with the ec social legislation

Leendert Kok, Marco Schutten, Erwin W. Hans

3 - Evaluation of telematic data with respect to ec-driver regulations for reporting purposes

Thomas Bousonville, Teresa Melo

4 - Models and algorithms for vehicle routing problems considering EU social legislation on drivers' working hours

Michael Drexl, Eric Prescott-Gagnon, Guy Desaulniers, Louis-Martin Rousseau

■ MA-03

Monday 08:00-09:20
Reger

Sustainable transport

Chair: *Melanie Bloos*

1 - Evaluating the public procurement of bus transports in terms of emissions and costs

Helene Lidestam

■ MA-04

Monday 08:00-09:20
Liszt

Scheduling applications 2

Chair: *Hans Heller*

1 - Integrated maintenance planning and order scheduling

Andreas Junker, Peter Letmathe

2 - Production scheduling and inventory management for an ice cream manufacturer using hierarchical planning models

Andrea Cameron, Eldon Gunn

3 - On solving scheduling problems by using optlets

Hans Heller, Aleksei Fishkin

■ MA-05

Monday 08:00-09:20
Haydn

Analysis of dna and rna structures

Chair: *Jacek Blazewicz*
Chair: *Piotr Formanowicz*

1 - Rna structure elucidation via nmr: processing of spectral data.

Marta Szachniuk, Mariusz Popenda, Lukasz Popenda

2 - Algorithm for non-classical sequencing by hybridization

Marcin Radom, Piotr Formanowicz

3 - New computational approach for identification of restriction enzymes

Pedamallu Chandra Sekhar, Janos Posfai

4 - Non linear excitation in one dimensional lattices.

Elso Drigo Filho, Hernan Cortez, Jose Roberto Ruggiero

■ MA-06

Monday 08:00-09:20
Koch

Real-world planning and scheduling approaches 2

Chair: *Falk Pappert*

1 - **Investigation of mip approaches for batch scheduling in semiconductor manufacturing**

   Andreas Klemmt, Gerald Weigert

2 - **Block planning-based MILP approach for integrated production and distribution planning in the catering sector**

   Poorya Farahani, Martin Grunow, Hans-Otto Guenther

3 - **Data modeling for assembly processes**

   Falk Pappert, Oliver Rose

■ MA-07

Monday 08:00-09:20
GSI - S 29

Rescheduling in railways

Chair: *Marco Laumanns*
Chair: *Gabrio Curzio Caimi*

1 - Precise operation — accurate and fast rescheduling: potential benefits and challenges in the field of railway operations research

Marco Lüthi

2 - Design of an effective algorithm for fast response to the re-scheduling of railway traffic during disturbances

Johanna Törnquist Krasemann

3 - A model for real-time-dispatching of connection conflicts in railway operation

Stephan Kurby, Matthias Bär

4 - Impact of rescheduling trains with transfer connections in disturbed traffic conditions

Marco Pranzo, Francesco Corman, Andrea D'Ariano, Dario Pacciarelli

■ MA-08

Monday 08:00-09:20

GSI - S 30

Air transportation

Chair: *Karl Nachtigall*

1 - Profit optimised seasonal flight scheduling by attention in traffic demand and ressource restrictions

Steffen Marx

2 - Reducing aircraft delays by optimized runway assignment

Michael Kolonko, Rainer Kiehne

3 - An approach for medium term airline crew planning with anticipation

Michael Römer

4 - Passenger oriented airport operations management

Christoph Lanz, Gernot Tragler

■ MA-09

Monday 08:00-09:20

GSI - S 5

Supplier selection and evaluation

Chair: *Andrea Genovese*

1 - **A neural network approach for supplier performance evaluation**

 Asli Aksoy, Nursel Ozturk

2 - **Supplier selection problem: a literature review**

 Andrea Genovese, Giuseppe Bruno, Emilio Esposito, Renato Passaro

■ MA-10

Monday 08:00-09:20

GSI - S 6

Evolutionary multiobjective optimization i

Chair: *Juergen Branke*

1 - Integration of multi-objective computing budget algorithm with evolutionary algorithm

Loo Hay Lee, Ek Peng Chew

2 - Effective weighted hypervolume sampling to incorporate user preferences in evolutionary multiobjective optimization

Johannes Bader, Dimo Brockhoff, Anne Auger, Eckart Zitzler

3 - Nemo-ii: integrating evolutionary multiobjective optimization and decision making

Juergen Branke, Salvatore Greco, Roman Slowinski, Piotr Zielniewicz

■ MA-11

Monday 08:00-09:20

GSI - S 17

Evolutionary multiobjective optimization v - applications

Chair: *Silvio Araujo*

1 - **Trade-off optimization in project management: time, budget, and quality**

Baruch Keren, *Yuval Cohen*, *Yossi Hadad*

2 - **Optimizing additive fabrication processes using evolutionary multiobjective optimization techniques**

Vassilis Dedoussis, *Vassilis Canellidis*, *John Giannatsis*

3 - **An interactive approach for multi-objective route selection problem**

Diclehan Tezcaner, *Murat Koksalan*

4 - **Heuristic method to the one-dimensional cutting stock problem**

Silvio Araujo, *Andre Lopes*

■ MA-12

Monday 08:00-09:20

GSI - S 18

Applications of stochastic programming in the energy sector

Chair: *Marida Bertocchi*

1 - A three-stage stochastic short-term scheduling model for hydro power and wind power coordination

Maria Teresa Vespucci, Francesca Maggioni, Marida Bertocchi, Mario Innorta

2 - Portfolio optimization in the natural gas value chain

Kjetil Midthun, Asgeir Tomasgard, Matthias P. Nowak

3 - A stochastic approach to the decision support procedure for a generation company operating on day-ahead and physical derivatives electricity markets

Cristina Corchero, Maria Teresa Vespucci, F. Javier Heredia, Mario Innorta

■ MA-13

Monday 08:00-09:20

GSI - S 31

Stochastic programming i.

Chair: *Tong Ji*

1 - Scheduling commercials on tv using stochastic programming

Erdem Gundogdu, Ilkay Gultas

2 - Reverse logistics network design with unkown parameters

Selin Soner Kara, Semih Onut

3 - Stochastic portfolio optimization in the nigerian electricity sector

Erkan Kalayci, Miray Aslan, Gerhard-Wilhelm Weber, Abdurrahman Belel Ismaila

4 - Optimal trading strategy using financial derivatives

Tong Ji, Gautam Mitra

◼ MA-14

Monday 08:00-09:20
GSI - S 32

Location and uncertainty

Chair: *Oded Berman*

1 - Facility location with yield uncertainty: model and solution approach

Jens Wollenweber

2 - A joint location inventory warehouse model

Francisco Silva, Daniel Serra

3 - Hardening facilities against random disruptions

Maria Paola Scaparra

4 - Coordinating replenishment periods in location-inventory model

Oded Berman, Dmitry Krass, M. Mahdi Tajbakhsh

■ MA-15

Monday 08:00-09:20
Einstein

Vehicle routing problems

Chair: *M. Grazia Speranza*

1 - A bi_objective branch-and-cut algorithm for the multi-modal traveling salesman problem

Gilbert Laporte, Frédéric Semet, Nicolas Jozefowiez

2 - A heuristic for the pickup and delivery TSP with lifo loading and multiple stacks

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

3 - A generalised vehicle routing problem with mixed deliveries and pickups

Gábor Nagy, Said Salhi, Niaz Wassan

4 - Multiperiodic vrp models and GRASP algorithms for goods distribution with reverse flows

Pierre Dejax

■ MA-16

Monday 08:00-09:20

Koenig

Multiple criteria integer and linear programming

Chair: *Dogan Ozgen*

1 - Optimizing a linear function over the epsilon-efficient set of a multiobjective mixed integer linear programming problem.

Alejandro Crema, Norma Guzmán

2 - Multiobjective possibilistic linear programming approach for multiechelon supply chain design

Dogan Ozgen, Bahadir Gulsun

■ MA-17

Monday 08:00-09:20
Rheinaue

Scheduling with batching and lot-sizing

Chair: *Mikhail Kovalyov*

1 - Batching with buffered rework

Mikhail Kovalyov, Sergey Kovalev, Erwin Pesch

2 - A new problem of lot-sizing and sequencing under uncertainties

Alexandre Dolgui, Frédéric Grimaud, Genrikh Levin, Kseniya Shchamialiova

3 - A new batch scheduling problem in machining environment

Alexandre Dolgui, Olga Guschinskaya, Nikolai Guschinsky, Genrikh Levin

4 - Structural properties for job shop scheduling under batch availability

Liji Shen, Udo Buscher

■ MA-18

Monday 08:00-09:20
LennÃ©

Mathematical programming in networks 2

Chair: *Gerhard-Wilhelm Weber*
Chair: *Armin Fügenschuh*

1 - Global optimization and complementarity for solving a traffic problem

Isabel Ribeiro, Maria Lurdes Simões

2 - Material flow networks as modeling language for material flow based optimization problems

Hendrik Lambrecht, Mario Schmidt, Andreas Möller

■ MA-19

Monday 08:00-09:20
Haber

Generalized convex functions

Chair: *Attila Gilanyi*

1 - On approximately s-convex functions

Pál Burai, Attila Házy

2 - Bernstein-doetsch type results for breckner s-convex functions

Attila Házy, Pál Burai

3 - On two variants of fenchel duality: stable and totally unstable duality

Radu Ioan Bot

4 - On convex functions of higher order

Attila Gilanyi, Zsolt Pales

■ MA-20

Monday 08:00-09:20
Mann

DEA - efficiency and productivity measurement

Chair: *Dimitris Margaritis*

1 - Are the cooperatives the weakest link in European banking? a non-parametric metafrontier approach

Alexandra Kontolaimou, Kostas Tsekouras

2 - A dynamic Malmquist productivity index

Dimitris Margaritis, Shawna Grosskopf, Rolf Fare

3 - Transportation network performance measurement-the impact of the downtown space reservation system: a network-dea approach

Yueqin Zhao, Konstantinos Triantis

4 - Profit efficiency of bank branches: the impact of the environment

Michel Dietsch

■ MA-21

Monday 08:00-09:20
Hauptmann

Quantitative health care policy decision making

Chair: *Marion Rauner*

1 - The role of health care management games for teaching and policy decision making

Marion Rauner, Sigrun Schwarz, Markus Kraus, Jörg Gesslbauer, Panosch Barbara

2 - A dynamic model of drug supply and demand

Gernot Tragler, Jonathan Caulkins

3 - An integrated simulation and optimization approach to support surgical department management

Angela Testi, Elena Tanfani

4 - Simulation modelling for bipolar disorder — the pam project

Sally Brailsford, S Mohiuddin

■ MA-22

Monday 08:00-09:20
Arndt

Optimization modeling in practice i

Chair: *Bjarni Kristjansson*

1 - Deploying flexible OR solutions with AIMMS

Guido Diepen

2 - Using utility computing to provide mathematical programming resources

Franz Nelissen

3 - GAMS — features you might not know about

Alex Meeraus, Michael Bussieck, Jan-Hendrik Jagla, Franz Nelissen, Lutz Westermann

■ MA-23

Monday 08:00-09:20
Planck

Ahp vi

Chair: *Aycan Aytekin*

1 - AHP and topsis to evaluate the emerging industry credit ability for banking sector

Yi-Shan Chen, Chin-Tsai Lin, Jung-Ho Lu

2 - A new approach of the AHP method: application for trend determination

Szabolcs Duleba

3 - An integrated approach for global supplier selection decision

Aycan Aytekin, Arzu Tektas

■ MA-24

Monday 08:00-09:20

GSI - S 20

Semi-infinite optimization

Chair: *Jan-J Ruckmann*

1 - A genetic algorithm framework for multilocal optimization

A. Ismael F. Vaz, Lino Costa

2 - Explicit solution of the lower level problems for the cooling layout optimization in injection molding

Volker Maag, Karl-Heinz Küfer

3 - Solving sip by penalty techniques: merit functions and filter method

Ana I. Pereira, Edite M.G.P. Fernandes

■ MA-25

Monday 08:00-09:20
GSI - S 25

Assignment games

Chair: *Tamás Solymosi*

1 - A glove market partitioned matrix related to the assignment game

Marina Nunez, Carles Rafels

2 - Axiomatizations of the Shapley value on the class of assignment games

Miklos Pinter

3 - Longest paths to the core in assignment games

Tamás Solymosi

4 - Symmetrically multilateral-bargained allocations in multi-sided assignment markets

Oriol Tejada, Carles Rafels

■ MA-26

Monday 08:00-09:20

GSI - S 35

Knapsack problems

Chair: *Tugba Saraç*

1 - **Meta/exact hybridization to improve intensification in combinatorial optimization problems**

Samir Mahdi, Salim Chikhi, Mohamed Batouche

2 - **A cooperative local search-based algorithm for the multiple-scenario max-min knapsack problem**

Abdelkader Sbihi

3 - **A clonal selection algorithm for the quadratic multiple knapsack problem**

Tugba Saraç, Berna Ulutas

■ MA-27

Monday 08:00-09:20
GSI - S 21

Hinterland transportation

Chair: *Koichi Shintani*

1 - Multiple berth allocation problem

Hossein Jula, Hwan Chang, Anastasios Chassiakos, Petros Ioannou

2 - The impact of foldable containers on empty container management

Koichi Shintani, Rob Konings, Akio Imai

■ MA-28

Monday 08:00-09:20
GSI - S 1

Financial optimization 1

Chair: *J. E. Beasley*

1 - Collapses of global financial institutions in 2008 and their risk management practices

Chaiho Kim

2 - Empirical analysis of online algorithms for multiple trading problems

Günter Schmidt, Esther Mohr

3 - Corporate structure optimisation for multinational companies

J. E. Beasley

■ MA-29

Monday 08:00-09:20

GSI - S 2

Dealing with uncertainty in long-term electricity planning

Chair: *Efraim Centeno Hernáez*

1 - Bilevel optimization analysis of electricity generation capacity expansion

Efraim Centeno Hernáez

2 - Generation capacity expansion under long-term uncertainties in the us electric market

Sabine Goutier, Julian Bouchard, Alexandre Klein

3 - Assessing energy storage value for power systems with a large penetration rate of intermittent renewables

Julien Martin

4 - Tools for long term strategic spanish electricity sector analysis.

Jose Villar

■ MA-30

Monday 08:00-09:20
GSI - S 26

Dynamic programming ii

Chair: *Lidija Zadnik Stirn*

1 - Structuring new product development (npd) pipelines considering resource constraints

Yu Xiong, Kiran Fernandes

2 - Multiple criteria decision analysis within a dynamic environmental system

Lidija Zadnik Stirn

■ MA-31

Monday 08:00-09:20

GSI - S 34

Discovery of patterns in data

Chair: *Takeaki Uno*

1 - **Mining the most representative models of patient care process with process mining methodology**

Hongying Fei, Nadine Meskens

2 - **High speed pattern mining for huge data - algorithm and implementation -**

Takeaki Uno

3 - **A new algorithmic method for telecom event correlation using association rule mining**

Behrad Analui

4 - **Survey, visual analysis & modeling of risk attitudes**

Cemre Kefeli, Ozge Onur, Kerem Uzer

■ MA-32

Monday 08:00-09:20
GSI - S 4

Banking

Chair: *Andreas Georgiou*

1 - Introducing a modified qfd design for quality improvement in the greek banking sector

Andreas Georgiou, Katerina Gotzamani, Andreas Andronikidis, George Paltayian

2 - Optimal centralisation of liquidity management

Christian Schmaltz, Sebastian Pokutta

3 - Bank loan loss provision decisions: empirical analysis of taiwan's banks

Tsai Lien Yeh

■ MA-33

Monday 08:00-09:20

GSI - S 7

Applications of operations research in mining

Chair: *Doreen Thomas*

1 - Using lagrangean relaxation of resource constraints for open pit mining production scheduling

Ambros Gleixner

2 - Determining the transition from open pit to underground mining

Alexandra Newman, Candace Yano

3 - Strategic design of underground mine access, a gilbert arborescence problem

Doreen Thomas

■ MA-34

Monday 08:00-09:20
GSI - S 8

Ii application of fuzzy logic & real options to corporate management decision-making

Chair: *Christer Carlsson*

1 - **Optimal staged expansion of a municipal wastewater plant using option theory**
   Yuri Lawryshyn, Sebastian Jaimungal

2 - **Fuzzy pay-off method for real option valuation**
   Mikael Collan

■ MA-35

Monday 08:00-09:20

GSI - S 9

Facilitated decision analysis

Chair: *Simon French*

1 - Developing MCDM tools for research project assessment

Theodor Stewart, K. Nadia Papamichail

2 - Extending the use of scenario planning and mcda: an application to food security in trinidad &tobago

Camelia Ram, Gilberto Montibeller, Alec Morton

■ MA-36

Monday 08:00-09:20

GSI - S 11

Stochastic control in finance ii

Chair: *Nicole Baeuerle*

1 - Asset allocation and liquidity breakdowns

Peter Diesinger, Holger Kraft, Frank Thomas Seifried

2 - Impulse control of credit portfolios

Roland Seydel, Ruediger Frey

3 - Investment, income, and incompleteness

Holger Kraft

4 - Optimal investment in the foreign exchange market with proportional transaction costs

Luitgard Veraart

■ MA-37

Monday 08:00-09:20

GSI - S 12

Revenue and demand management

Chair: *Catalina Stefanescu*
Chair: *Houyuan Jiang*

1 - **Multivariate demand: modeling and estimation from censored sales**

Catalina Stefanescu

2 - **Choose-and-book: an electronic outpatient appointment system**

Houyuan Jiang, James Z. Pang, Sergei Savin

3 - **Consumer choice modelling inputs into airline revenue management applications**

Tim Ryley

4 - **Aggregating algorithm for pricing and capacity planning under uncertain demand**

Tatsiana Levina, Yuri Levin, Mikhail Nediak, Vladimir Vovk

■ MA-38

Monday 08:00-09:20
GSI - S 13

Bilevel programming

Chair: *Stephan Dempe*

1 - Fuzzy necessary optimality conditions for bilevel set optimization problems

Nazih Abderrazzak Gadhi, Stephan Dempe

2 - The pessimistic approach for a bilevel problem with linear lower level

Sebastian Lohse

3 - Feasible direction method for bilevel programming problem

Ayalew Mersha

4 - A bilevel matroid problem

Diana Fanghaenel

■ MA-39

Monday 08:00-09:20
GSI - S 14

Game theory 1

Chair: *Jirka Poropudas*

1 - Goal programming to model fairness concerns in cooperation

Nerda Zura Zaibidi, Patrick Beullens, Dylan Jones

2 - Game theoretic metamodels in simulation analysis of air combat

Jirka Poropudas, Kai Virtanen

3 - Do relative payoffs matter in contests? an experimental analysis

Nicole Becker, Sina Risse

■ MA-40

Monday 08:00-09:20
GSI - S 27

Development and economy

Chair: *Gerhard-Wilhelm Weber*

1 - Network organisation

Katarzyna Grzybowska, Agnieszka Ponikierska

2 - Will security culture deliver between organizations?

Ke-Wei Tseng, Ming-Chih Tsai

■ MA-41

Monday 08:00-09:20
GSI - S 28

OR in agriculture and forest management i

Chair: *LluisM Pla*

1 - Modelling classical swine fever spread using a spatial hybrid model

Benjamin Ivorra, Angel Manuel Ramos, Beatriz Martinez-Lopez, Jose Manuel Sanchez-Vizcaino

2 - Incorporation of clinical signs for characterization of individual sows in the sow replacement problem.

Sara Verónica Rodríguez-Sánchez, Tina Jensen, Lluis Miquel Pla, Anders Kristensen

3 - A two-stage stochastic program for planning production in breeding farms

Lluis Miquel Pla, Sara Verónica Rodríguez-Sánchez, Victor Albornoz

4 - Modeling uncertainties for the magnitude of droughts and biological processes

Laureano Fernando Escudero, Eva-Maria Ortega

■ MA-42

Monday 08:00-09:20
GSI - S 3

Optimal control iii

Chair: *Shahlar Maharramov*

1 - Stochastic optimal control and stochastic dnss sets: exemplified by a model of illicit drug markets

Roswitha Bultmann, Gernot Tragler

2 - Indifference prices for CO2 emission allowances

Olivier Davidau, Mireille Bossy, Nadia Maïzi, Pourtallier Odile

■ MA-43

Monday 08:00-09:20

GSI - S 10

Portfolio and risk management 1

Chair: *Ettore Croci*

1 - Optimal asset allocation and sharing rule for pension funds with stochastic force of mortality and demographic assets

Francesco Menoncin

2 - Minority squeeze-out regulation in Germany — efficiency, fairness, and economic consequences

Ettore Croci, Olaf Ehrhardt

■ MA-44

Monday 08:00-09:20
GSI - S 16

Parametric optimization i

Chair: *Bernd Kummer*

1 - Asymptotic properties of solutions to parametric optimal control problems with varying index of singular arcs

Olga Kostyukova

2 - Penalty techniques for state constrained optimal control problems with the wave equation

Martin Gugat

3 - Handling set constraints like usual inequalities

Bernd Kummer

■ MA-45

Monday 08:00-09:20
GSI - S 33

Analysis of deterministic and stochastic discrete systems 1

Chair: *Dmitrii Lozovanu*

1 - Application of fad-methodology to the solution of optimal control problems for complex dynamic systems

Alla Albu, Vladimir Zubov

2 - Study and modification of the fast automatic differentiation technique

Vladimir Zubov, Andrey Albu

■ MB-01

Monday 09:45-11:45
Beethoven

Opening session

Chair: *Gerhard J. Woeginger*
Chair: *Erwin Pesch*

1 - Opening session

    Gerhard J. Woeginger

■ MC-01

Monday 12:00-13:20
Beethoven

Precedence-constrained scheduling and graph optimization problems

Chair: *Valery Gordon*

1 - On Hamiltonian properties of triangular grid graphs

Valery Gordon, Yury Orlovich, Frank Werner

2 - A monotone approximation algorithm for scheduling with precedence constraints

Rob van Stee, Sven Krumke, Anne Schwahn, Stephan Westphal

3 - Periodic schedules for linear precedence constraints : algorithms and questions

Claire Hanen, Alix Munier-Kordon

4 - On eulerian extension problems and their application to sequencing problems

Wiebke Höhn, Tobias Jacobs, Nicole Megow

■ MC-02

Monday 12:00-13:20
Schumann

Methods for vehicle routing and scheduling

Chair: *Stefan Irnich*

1 - **Cutting on the set partitioning formulation of the vehicle routing problem with time windows**

Simon Spoorendonk

2 - **Partial path column generation for the vehicle routing problem with time windows**

Björn Petersen

3 - **On approximation algorithm for some stochastic vehicle routing problems**

Anastasia Shakhshneyder, Edward Gimadi

4 - **Efficient constraint handling in heuristic and exact vehicle routing**

Stefan Irnich

■ MC-03

Monday 12:00-13:20
Reger

Transportation and environment

Chair: *Klaus-Christian Maassen*

1 - Extending the cell-transmission-model for evacuation planning in urban areas

Klaus-Christian Maassen, Alf Kimms

2 - A tabu search heuristic algorithm for the waste collection vehicle routing problem with time windows (vrptw)

Aida Mauziah Benjamin, J. E. Beasley

3 - Metaheuristic solution methods for waste collection problems

Vera Hemmelmayr, Karl Doerner, Richard Hartl

4 - Application of reverse logistics to construction and demolition waste collection planning

Nicole Sunke, Frank Schultmann

■ MC-04

Monday 12:00-13:20
Liszt

Complex scheduling problems

Chair: *Johann Hurink*

1 - Time-constrained project scheduling

Marco Schutten, Tom Guldemond, Jacob Jan Paulus, Johann Hurink

2 - Time-constrained project scheduling with adjacent resources

Johann Hurink, Leendert Kok, Jacob Jan Paulus, Marco Schutten

3 - Stochastic scheduling subject to preemptive-repeat breakdowns with incomplete information

Xiao-qiang Cai, Xianyi Wu, Xian Zhou

4 - Throughput optimization in two-machine flowshops with flexible operations

Yves Crama, Hakan Gultekin

■ MC-05

Monday 12:00-13:20
Haydn

Protein structures - analysis and prediction

Chair: *Jacek Blazewicz*
Chair: *Piotr Lukasiak*

1 - Survival models based on logical analysis of data and community detection

    Julien Darlay, Nadia Brauner

2 - Role of graphs in protein structure analysis

    Maciej Milostan, Jacek Blazewicz, Piotr Lukasiak

3 - Bspred method — the new approach used for predicting

    Piotr Lukasiak, Jacek Blazewicz, Arkadiusz Hoffa, Maciej Antczak

◼ MC-06

Monday 12:00-13:20
Koch

OR applications in warehouses and routing management

Chair: *Angel A. Juan*
Chair: *Javier Faulin*

1 - Evolutionary approaches to maximizing the self availability in a chaotic warehouse

   Sacramento Quintanilla, Francisco Ballestin, M.Pilar Lino, M. Angeles Pérez, Vicente Valls

2 - Simuroute: using Monte Carlo simulation and splitting techniques to produce a solutions set to the cvrp

   Justo Garcia-Ortega, Fernando Lera-Lopez, Angel A. Juan, Javier Faulin, Scott Grasman

3 - Determination of the transport and delivery capacity in a postal company

   Manuel Mateo, Paolo Gaianigo, Imma Ribas

4 - A tabu search approach for the green cvrp

   Javier Faulin, Francisco Arcelus, Sergio Ubeda

5 - Simulation education in the Internet age: some experiences in three spanish universities

   Javier Faulin, Angel A. Juan

■ MC-07

Monday 12:00-13:20

GSI - S 29

Public transport scheduling in taiwan

Chair: *Anthony F. Han*

1 - Commuter bus routing problem: formulation and ta heuristics

Anthony F. Han, Cheng Wei Chu

2 - Mass rapid transit crew scheduling and rostering: constraint programing applications

Anthony F. Han, Chun-Te Li

3 - A particle swarm optimization algorithm for the fixed-route bus network design

Wen-Chi Ho, Jau-Ming Su

■ MC-08

Monday 12:00-13:20
GSI - S 30

Railway planning

Chair: *Dennis Huisman*

1 - The line planning game for railway systems

Anita Schoebel, Silvia Schwarze

2 - Simultaneous railway line planning and network design

Ángel Marín, Federico Perea, Juan A. Mesa

3 - Train scheduling for large and highly utilized railway networks

Gabrio Curzio Caimi, Marco Laumanns, Martin Fuchsberger, Kaspar Schüpbach

4 - A bundle approach for solving large scale train timetabling problems

Thomas Schlechte, Ralf Borndörfer, Steffen Weider

■ **MC-09**

Monday 12:00-13:20
GSI - S 5

Remanufacturing

Chair: *Mohd Omar*

1 - A manufacturing and remanufacturing aggregate planning model considering a supply function of recovered products

Jordi Olivella, Amaia Lusa, Albert Corominas

2 - Centralization vs. advance quality information in remanufacturing

Ismail Serdar Bakal, Z. Pelin Bayindir, Muruvvet Unal

3 - A production model under a linearly increasing demand process with recovery

Mohd Omar

■ MC-10

Monday 12:00-13:20

GSI - S 6

Evolutionary multiobjective optimization ii

Chair: *Marco Laumanns*

1 - Multi-objective metaheuristics: from design to implementation

El-Ghazali Talbi, Arnaud Liefooghe, Laetitia Jourdan

2 - Evolutionary multi-objective optimization of expensive problems using surrogate ensembles

Yaochu Jin

3 - Finding the best fixed-size pareto front approximation

Marco Laumanns, Rico Zenklusen

■ MC-11

Monday 12:00-13:20

GSI - S 17

Portfolio decision analysis: cases and applications i

Chair: *Alec Morton*
Chair: *Ahti Salo*
Chair: *Jeff Keisler*

1 - Robust portfolio methods for counterterrorism resource allocation

Don Kleinmuntz

2 - Rams: a software for multicriteria resource allocation

João Carlos Lourenço, Carlos Bana e Costa, Alec Morton

3 - Supporting the selection of infrastructure maintenance projects with robust portfolio modelling

Pekka Mild, Juuso Liesiö, Ahti Salo

4 - Applying robust portfolio modeling methodology for the management of uncertainties in forest planning

Mikko Kurttila, Eero Muinonen, Pekka Leskinen, Harri Kilpeläinen, Antti Punkka, Ahti Salo

■ MC-12
Monday 12:00-13:20
GSI - S 18

Industrial applications of stochastic programming

Chair: *Pavel Popela*

1 - Stochastic programming applications in quality control and reliable design

Pavel Popela

2 - Stochastic programming approach to energy producing system

Michal Tous, Martin Pavlas, Petr Stehlik

3 - Modelling to generate alternatives in waste management facility expansion planning using simulation-optimization

Julian Scott Yeomans

■ MC-13

Monday 12:00-13:20
GSI - S 31

Applications of stochastic programming methodologies

Chair: *Andras Prekopa*

1 - Bounding the values of financial derivatives using a combination of the discrete moment problem and binomial tree calculation

Mariya Naumova, Andras Prekopa

2 - Optimal portfolio selection based on multiple value at risk

Kunikazu Yoda, Andras Prekopa

3 - Programming under probabilistic constraints with uniformly distributed random variable

Olga Myndyuk

4 - A two stage stochastic programming model for capacity expansion planning in the automotive industry

Cormac Lucas, Gautam Mitra, Thomas Sommer-Dittrich

■ MC-14

Monday 12:00-13:20
GSI - S 32

Location and queuing

Chair: *Vladimir Marianov*

1 - A decomposition approach for solving the maximal covering location problem with an m/m/1 queuing system

Hossein Taghizadeh Kakhki, Foroogh Moeen Moghadas

2 - The fermat-weber problem in a logistic and service network

Hans Daduna, Vanessa Lange

■ MC-15

Monday 12:00-13:20
Einstein

Real and rich vehicle routing problems

Chair: *Giovanni Righini*

1 - **An exact algorithm for the discrete split delivery vrp with time windows**

Ilaria Vacca, Matteo Salani

2 - **Maritime distribution of stone products**

Johan Oppen

3 - **A branch-and-price algorithm for the multi-depot heterogeneous fleet vehicle routing problem with time windows**

Giovanni Righini, Andrea Bettinelli, Alberto Ceselli

■ MC-16

Monday 12:00-13:20
Koenig

Cutting and packing 1

Chair: *Horacio Yanasse*

1 - Exact algorithm for one-dimensional cutting stock problem with given number of setups

Xiang Song

2 - New lower bounds based on column generation and constraint programming for the pattern minimization problem

Cláudio Alves, Rita Macedo, J. M. Valério de Carvalho

3 - An integer programming formulation for the minimization of open stacks problem

Isabel Cristina Lopes, J. M. Valério de Carvalho

4 - A heuristic for the problem of minimizing the number of saw machine cycles

Horacio Yanasse, Rodolfo Ranck Junior, José Carlos Becceneri

■ MC-17

Monday 12:00-13:20
Rheinaue

Resources in machine scheduling

Chair: *Joanna Jozefowska*

1 - Resource-constrained flowshop scheduling with resource recycling operations included

Hsiao-Lan Huang, T.C. Edwin Cheng, Bertrand Lin

2 - Exact methods for the hybrid flowshop problem with batching machines

Adrien Bellanger, Ammar Oulamara

3 - Resource allocation with apportionment methods

Joanna Jozefowska, Wieslaw Kubiak, Lukasz Jozefowski

4 - A general branch-and-bound algorithm for fair division problems

Rudolf Vetschera

■ MC-18

Monday 12:00-13:20
LennÃ©

Modern applications of mathematical programming i

Chair: *Diethard Pallaschke*
Chair: *Ryszard Urbanski*
Chair: *Gerhard-Wilhelm Weber*

1 - Optimization of the investments' distribution by the stages of the joint implementation projects' realisation

Vlad Kucher

2 - On stability of the mpcc feasible set

Vladimir Shikhman, Hubertus Th. Jongen, Jan-J Ruckmann

3 - Completeness of the minkowski-rådström-hörmander space.

Hubert Przybycien, Ryszard Urbanski, Jerzy Grzybowski

4 - Reduction of finite exhausters

Ryszard Urbanski, Jerzy Grzybowski, Diethard Pallaschke

■ MC-19

Monday 12:00-13:20
Haber

Convex optimization and variational inequalities

Chair: *Giovanni Paolo Crespi*

1 - Optimal energy purchase

Emanuele Borgonovo, Fabrizio Iozzi, Giovanni Paolo Crespi, Francesca Beccacece

2 - Minty variational principle for set-valued variational inequalities

Giovanni Paolo Crespi, Matteo Rocca

■ MC-20

Monday 12:00-13:20

Mann

Dea-financial assessment: a new research area of DEA

Chair: *Toshiyuki Sueyoshi*

1 - **Bankruptcy analysis and assessment by DEA and dea-da**

Toshiyuki Sueyoshi, Mika Goto

2 - **Bankruptcy-based performance analysis by dea-da**

Mika Goto, Toshiyuki Sueyoshi

3 - **Bankruptcy prediction using data envelopment analysis**

Angela Tran, Joseph Paradi

4 - **An efficiency decomposition approach to measure the performance of taiwan financial holding companies**

Shiang-Tai Liu

5 - **Evolution of bank efficiency in brazil: a DEA approach**

Roberta Staub

■ MC-21

Monday 12:00-13:20
Hauptmann

Planning and scheduling

Chair: *Jan Vissers*

1 - Midterm scheduling for physicians with flexible shifts using branch-and-price

Jens Brunner, Rainer Kolisch, Jonathan F. Bard

2 - Planning elective surgeries — analysis and comparison in a real case

Inês Marques, Maria Eugénia Captivo, Margarida Pato

3 - Operational research to support the development of triage protocols for use in determining access to paediatric intensive care in the context of pandemic influenza.

Martin Utley

■ MC-22

Monday 12:00-13:20
Arndt

Innovations in railway logistics operations

Chair: *Jo van Nunen*
Chair: *Bjarni Kristjansson*

1 - Impact of introducing crew scheduling support at netherlands railways

Erwin Abbink

2 - How can the railway system benefit from OR tools? some preliminary observations from sncf

David De Almeida

3 - Impact of or-tools at prorail network development

Dick Middelkoop

■ MC-23

Monday 12:00-13:20
Planck

Anp i

Chair: *Monica Garcia-Melon*
Chair: *Pablo Aragones-Beltran*

1 - A project strategic index proposal for portfolio selection based on the analytic network process

Monica Garcia-Melon, Rocio Poveda-Bautista, Juan P. Pastor-Ferrando

2 - Location of a municipal solid waste management plant in the metropolitan area of valencia (spain) using an analytic network process model.

Pablo Aragones-Beltran, Juan P. Pastor-Ferrando, Fernando García-García, Amadeo Pascual-Agulló

3 - Comparison of two apparel retailer companies: a multiple criteria evaluation of retail locations

Y. Ilker Topcu, Sebnem Burnaz

4 - Projects prioritization in higher education institutions using the analytic network process

Nina Begicevic, Blazenka Divjak, Tihomir Hunjak

■ MC-24

Monday 12:00-13:20
GSI - S 20

Linear semi-infinite optimization i

Chair: *Ralf Werner*

1 - Bounds on basket options by linear semi-infinite programming

Ralf Werner

2 - Qualification, optimality conditions, and subdifferentials of optimal values functions for dc infinite and semi-infinite programs

Dinh Nguyen

3 - Evenly convex functions

Margarita Rodríguez Álvarez, José Vicente Pérez

■ MC-25

Monday 12:00-13:20
GSI - S 25

Operations research games

Chair: *Gustavo Bergantinos*

1 - On obligation rules

Gustavo Bergantinos, Anirban Kar

2 - A characterization of the proportional rule in multi-issue allocation situations

Silvia Lorenzo-Freire, Gustavo Bergantinos, Leticia Lorenzo

3 - New characterizations of the constrained equal awards rule in multi-issue allocation situations

Leticia Lorenzo, Gustavo Bergantinos, Silvia Lorenzo-Freire

4 - Sharing a polluted river through environmental taxes

Gómez-Rúa María

■ MC-26

Monday 12:00-13:20

GSI - S 35

Graphs and networks ii

Chair: *Kiyoshi Sawada*

1 - Adding edges to multi-levels of a complete k-ary tree minimizing total distance

Kiyoshi Sawada, Kazuyuki Amano

2 - A greedy algorithm for obtaining global information from local informations in a Markov network

Edith Kovacs, Tamas Szantai

3 - Finding Hamiltonian contour with minimal acceptable risk weight

Mirko Vujosevic, Djokovic Aleksandar

4 - Mathematical modeling and solving the metric dimension and related problems

Mirjana Cangalovic, Jozef Kratica, Vera Kovacevic Vujcic

■ MC-27

Monday 12:00-13:20

GSI - S 21

Berth and crane operations planning

Chair: *Frank Meisel*

1 - The quay cranes scheduling problem with time windows

Frank Meisel, Christian Bierwirth

2 - Accelerating quay crane operations through double cycling and reshuffling

Christian Bierwirth, Frank Meisel

3 - Robust optimal control of vessel processing in container terminals

Johannes Paefgen, Marco Laumanns

■ MC-28

Monday 12:00-13:20
GSI - S 1

Financial optimization 2

Chair: *Diana Barro*

1 - Stochastic portfolio optimization with market frictions

Miguel Lejeune

2 - Application of interactive surrogate constraint method to financial optimization problems

Yuji Nakagawa, Yuriko Isada, Nobuko Igaki, Chanaka Edirisinghe

3 - The effect of shorting in optimal tracking error portfolios

Diana Barro, Gautam Mitra, Diana Roman

■ MC-29

Monday 12:00-13:20
GSI - S 2

Risk and uncertainty in energy models

Chair: *Christoph Weber*
Chair: *Dominik Möst*

1 - Power plant dispatch and portfolio management under uncertain fuel and electricity prices

Dominik Möst, Dogan Keles, Wolf Fichtner

2 - Advantages of a stochastic optimization in mid-term generation and trading planning

Bernd Tersteegen, Tobias Mirbach, Gerd Hinueber

3 - Valuation of a flexible gas fired unit under uncertain prices

Marc Hasenbeck

4 - Recombining scenario trees for stochastic optimization of decentralized energy supply with wind energy and storages

Oliver Woll

■ MC-30

Monday 12:00-13:20
GSI - S 26

Dynamic programming i

Chair: *Lidija Zadnik Stirn*

1 - The dynamic lot size problem with minimum order quantities and capacity constraints

Irena Okhrin, Knut Richter

2 - Multi-level hierarchic Markov process as a tool for optimization of beef heifer management decisions

Anna Stygar, Anders Kristensen

3 - A unifying approximate dynamic programming model for the economic lot scheduling problem

Christiane Barz, Dan Adelman

4 - Optimal dispatch planning of security guards counter to an arriving suicide bomber

Toru Komiya, Methee Pholphan, Ryusuke Hohzaki

■ MC-31

Monday 12:00-13:20

GSI - S 34

Data mining applications in quality improvement

Chair: *Gulser Koksal*

1 - Exploring the emotions of internet newspaper reader's by kansei engineering

Ezgi Aktar Demirtas, Berna Ulutas

2 - Comparison of data mining algorithms for classification and prediction in quality improvement

Gulser Koksal, Zeynep Anaklı, Inci Batmaz, Fatma Yerlikaya Ozkurt, Murat Caner Testik, Elcin Kartal, Sinan Kayaligil, Berna Bakir, Esra Karasakal

3 - A re-sampling approach and its applications for mts classification based on imbalanced data

Berna Bakir, Dilber Ayhan, Baris Yenidunya, Gulser Koksal

4 - Nonsmooth optimization of desirability functions by msg algorithm

Basak Akteke-Ozturk, Gulser Koksal, Gerhard-Wilhelm Weber

■ MC-32

Monday 12:00-13:20
GSI - S 4

Financial markets

Chair: *Gabriela Fernández Barberis*

1 - Equilibrium pricing of contingent claims in tradable permit markets
   Katsumasa Nishide

2 - On lazy $-game and its behavior
   Jun Kiniwa, Takeshi Koide, Hiroaki Sandoh

3 - An investor/entrepeneur dynamic model of start-up firms
   Edgar Possani, Thomas Archibald, Lyn Thomas

■ MC-33

Monday 12:00-13:20

GSI - S 7

Global optimization in locating in space

Chair: *Oleg Burdakov*

1 - Nash equilibria in locational analysis

Elena Saiz, Eligius M.T. Hendrix, Blas Pelegrin

2 - Competitive facility location and design model with reaction of competitors in the plane

Nasreddine Saidani, Chu Feng, Chen Haoxun

3 - Optimal placement of communications relay nodes

Oleg Burdakov, Patrick Doherty, Kaj Holmberg, Per-Magnus Olsson

4 - On the convex hull of huffman codes

Thanh Hai Nguyen, Jean François Maurras, Viet Hung Nguyen

■ MC-34

Monday 12:00-13:20

GSI - S 8

Fuzzy optimization and decision analysis 1

Chair: *Masahiro Inuiguchi*

1 - The use of interval valued probability measures in fuzzy linear programming

Phantipa Thipwiwatpotjana, Weldon Lodwick

2 - Production and transportation planning — a fuzzy approach for minimizing the total cost

Heinrich Rommelfanger

3 - Construction of a poset using families of strong cuts

Dragan Stojic, Dragan Vugdelija

■ MC-35

Monday 12:00-13:20
GSI - S 9

Facilitated problem structuring i

Chair: *Etiënne Rouwette*

1 - Improving operations management by synthesizing participant knowledge and system data

Etiënne Rouwette, Andreas Größler

2 - Improving team effectiveness in strategic workshops: developing question sets to enhance the facilitators understanding of group dynamics in a live workshop environment.

Ashley Carreras, Parmjit Kaur

3 - Facilitated modelling in operational research

Gilberto Montibeller, L. Alberto Franco

■ MC-36

Monday 12:00-13:20
GSI - S 11

Stochastic control in insurance

Chair: *Nicole Baeuerle*

1 - Compactness of the space of non-randomized policies in countable-state sequential decision processes

Eugene Feinberg

2 - Optimal control and dependence modeling of portfolios with lévy dynamics

Anja Blatter, Nicole Baeuerle

3 - On dividends charged by transaction costs in the compound Poisson risk model

Stefan Thonhauser

■ MC-37

Monday 12:00-13:20

GSI - S 12

Innovative models in revenue management

Chair: *Joern Meissner*

1 - Risk considerations in revenue management

Matthias Koenig, Joern Meissner

2 - Incorporating competition in dynamic pricing models

Christine Currie

3 - Strategic business planning and its evaluation

Tsutomu Mishina, Alejandra Gomez_Padilla

4 - Choice-based network revenue management under weak market segmentation

Arne Karsten Strauss, Joern Meissner

■ MC-38

Monday 12:00-13:20
GSI - S 13

Optimization problems with vanishing constraints

Chair: *Christian Kanzow*

1 - Mathematical programs with vanishing constraints

Tim Hoheisel, Christian Kanzow, Wolfgang Achtziger

2 - Topology optimization of mechanical structures subject to stress constraints

Wolfgang Achtziger, Tim Hoheisel, Christian Kanzow

3 - On some new aspects of the implicit programming approach in a class of mathematical programs with equilibrium constraints

Michal Cervinka, Jiri Outrata

■ MC-39

Monday 12:00-13:20
GSI - S 14

Game theory 2

Chair: *Ilya Katsev*

1 - Price of anarchy (poa) in the markovian single server

Gail Gilboa-Freedman, Rafi Hassin, Yoav Kerner

2 - Robust dynamic games for modelling the interaction between forward and spot markets

Nalan Gulpinar, Fernando Oliveira

3 - On the ordinal equivalence of values in cooperative games

Josep Freixas, Montserrat Pons

4 - Between the prekernel and the prenucleolus

Ilya Katsev, Elena Yanovskaya

■ MC-40

Monday 12:00-13:20

GSI - S 27

Models and implementation of operational systems for development

Chair: *Chandra Sekhar Pedamallu*

1 - Dss platform for integrated assessment of cities occupation dynamics. case study, medellín metropolitan area-colombia

Claudia Rave, Gloria Patricia Jaramillo, Y Olaya

2 - Greek regional development: examining the convergence hypothesis and identifying development patterns through multivariate approaches.

Yorgos Goletsis, Michael Chletsos

3 - Exploring the relationship between public space intervention and homicides in bogota: case study

Juan Camilo Bohórquez, Juan Pablo Calderón, Olga Lucia Sarmiento, Roberto Zarama Urdaneta

4 - The evolution of the ciclovia as an adaptive network.

Juan Pablo Calderón, Juan Camilo Bohórquez, Olga Lucia Sarmiento, Roberto Zarama Urdaneta

■ MC-41

Monday 12:00-13:20
GSI - S 28

Forest management i

Chair: *Manfred Gronalt*

1 - Forest sustainability assessment from the representation of personal preferences on environmental comparisons

Susana Martin-Fernandez, Eugenio Martinez-Falero, Concepcion Gonzalez

2 - Optimizing pinus pinaster stand management scheduling, under the risk of fire

Liliana Ferreira

3 - Analysis of the efficiency in a multiobjective forest management problem solved via a metaheuristic procedure.

Monica Hernandez, Trinidad Gomez, Julian Molina, Maria Amparo Leon, Rafael Caballero

4 - Integrated empty container management and vehicle routing in timber transport

Jan Zazgornik, Manfred Gronalt, Patrick Hirsch

■ MC-42

Monday 12:00-13:20
GSI - S 3

Health care i

Chair: *Marie Persson*

1 - Optimal consumption, health expenditures and retirement

Gustav Feichtinger, Stefan Wrzaczek, Alexia Prskawetz, Michael Kuhn

2 - An approximate hypercube queuing model embedded into straightforward optimization methods to analyze large emergency medical systems on highways

Ana Iannoni, Reinaldo Morabito, Cem Saydam

3 - Heuristic algorithm for optimization of beam orientation in intensity-modulated radiation therapy planning

Ahmad-Saher Azizi-Sultan

■ MC-43
Monday 12:00-13:20
GSI - S 10

Forest investments 1

Chair: *Bernhard Moehring*

1 - Forest as an investment

Thomas Knoke

2 - Adaption to uncertainty: sustainable forest management and intergenerational justice

Andreas Hahn

3 - The german round wood market structure — implications for long-term investments: an economic analysis

Kajetan Zwirgelmaier

4 - Finding the optimal rotation age under risk by means of survival probability

Bernhard Moehring, Kai Staupendahl

■ MC-44

Monday 12:00-13:20
GSI - S 16

Parametric optimization ii

Chair: *Georg Still*

1 - High-order optimality conditions for nonlinear programming problems

Helmut Gfrerer

2 - Solving generalized fractional programming problems with approximation

S. Ilker Birbil, J.b.g. Frenk, Shuzhong Zhang

3 - Increasing the demand in traffic equilibrium flows.

Georg Still

■ MC-45

Monday 12:00-13:20

GSI - S 33

Analysis of deterministic and stochastic discrete systems 2

Chair: *Gerhard-Wilhelm Weber*
Chair: *Vladimir Zubov*

1 - Algorithms for solving discrete control problems with deterministic and random states transactions of dynamical system

Dmitrii Lozovanu

■ MD-01

Monday 13:35-14:55
Beethoven

Non-linear combinatorial optimization problems

Chair: *Adam Letchford*

1 - A new linearization technique and its application to train platforming problems

Laura Galli, Alberto Caprara, Sebastian Stiller, Paolo Toth

2 - Knapsack-based cutting planes for the max-cut problem

Konstantinos Kaparis, Adam Letchford

3 - Convex reformulations for binary quadratic programs

Amélie Lambert, Alain Billionnet, Sourour Elloumi

■ MD-02

Monday 13:35-14:55
Schumann

Extended vehicle routing and scheduling

Chair: *Stefan Irnich*

1 - Combining vehicle routing with forwarding

Xin Wang, Herbert Kopfer

2 - Minimization of the manufacturer's distribution costs in the supply chain — a case study

Pawel Hanczar

3 - Pickup and delivery with dynamic freight consolidation: a near real-time optimization problem

Curt Nowak, Felix Hahne, Klaus Ambrosi

Monday 13:35-14:55
Reger

Case studies for transportation planning i

Chair: *Herbert Kopfer*

1 - Vehicle routing problem: a case study in local government

Azmin Azliza Aziz

2 - Web and GIS based computational solution to vehicle routing problems

Emre Dağlı, Osman Özgür, Burak Ozdemir

3 - A truck loading algorithm for renault's supply chain system

Jean-philippe Brenaut

4 - A complexity indicator for renault's vehicle documentation

Alain Nguyen, Herve Bricard

■ MD-04
Monday 13:35-14:55
Liszt

Scheduling in health care

Chair: *Dobrila Petrovic*

1 - Multiobjective scheduling of radiotherapy cancer patients

Mohammad Sarwar Morshed, Dobrila Petrovic, Sanja Petrovic

2 - A mathematical programming model for the radiotherapy pre-treatment scheduling problem

Elkin Castro, Sanja Petrovic

3 - Optimization based approaches for the planning and the management of week-hospital services

Rosita Guido, Marco Matucci Cerenic, Domenico Conforti, Maria Letizia Conforti, Francesca Guerriero

4 - An optimal scheduling tool for emergency departments

Mel Diefenbach, Erhan Kozan

■ MD-05
Monday 13:35-14:55
Haydn

Bioinformatics i

Chair: *Ceyda Oguz*

1 - Isothermic sequencing by hybridization with additional information available

Piotr Formanowicz

2 - An mdp approach for the optimal issuing policy of a blood product

René Haijema

3 - Exact crossing minimization in general tanglegrams

Frauke Liers, Frank Baumann, Christoph Buchheim

4 - Gevadss - system for development and standardized evaluation of novel genetic vaccines

Piotr Lukasiak, Jacek Blazewicz, Pawel Wojciechowski, Marcin Borowski, Pawel Kedziora

■ MD-06

Monday 13:35-14:55
Koch

Global logistics modeling

Chair: *Hokey Min*

1 - Supply chain risk modeling from global logistics perspectives

Hokey Min

2 - Transshipment port selection using the hybrid dea/ahp methodology

Byung-In Park, Hokey Min

3 - A game-theoretic volume discount model in global maritime logistics

Byung-In Park, Souk-Kyung Sung, Hokey Min

4 - Modeling techniques and solution approaches for maximizing fleet availability of mission aircraft subject to flight and maintenance requirements

Andreas Gavranis, George Kozanidis

■ MD-07

Monday 13:35-14:55
GSI - S 29

Railway disruption management

Chair: *Dennis Huisman*

1 - Dispatching support system for a main station area

Martin Fuchsberger, Jörg Priewasser, Holger Flier, Gabrio Curzio Caimi, Marc Nunkesser, Marco Laumanns

2 - Capacity oriented rolling stock rescheduling in passenger railways

Lars Nielsen, Leo Kroon, Gabor Maroti

3 - Railway crew rescheduling under uncertainty

Daniel Potthoff, Dennis Huisman

■ MD-08

Monday 13:35-14:55

GSI - S 30

Vehicle routing applications in taiwan

Chair: *Yuh-Jen Cho*
Chair: *Huey-Kuo Chen*

1 - The vehicle routing problem with variable virtual depots

Huey-Kuo Chen, Huey-Wen Chou, Che-Fu Hsueh, Chia-Yun Hsu

2 - Investigation of multi-period inventory routing management strategies with stochastic demands using simulation

Chao-Hua Chen

3 - Application of hybrid meta-heuristic method on the multi-temperature co-delivery routing

Yuh-Jen Cho, Yu-Ning Tseng

4 - Mixed hub-and-spoke intra-network routes design for the fixed-route trucking carriers

Chien-Yen Chang, Yuh-Jen Cho, Chia-Chun Wu

■ MD-09

Monday 13:35-14:55
GSI - S 5

Strategic design

Chair: *Agnieszka Ponikierska*

1 - Strategic design of competing supply chain networks with foresight

Shabnam Rezapour, Reza Zanjirani Farahani

2 - Multi-echelon logistics network design with fuzzy bi-level programming

Umut Rifat Tuzkaya, Semih Onut

3 - Empirical-based scenario analysis of strategic impact factors

Tobias Klatt

4 - Reengineering of the information and materials flow systems in the supply chain

Agnieszka Ponikierska, Katarzyna Grzybowska

■ MD-10
Monday 13:35-14:55

GSI - S 6

Evolutionary multiobjective optimization iii

Chair: *Sanaz Mostaghim*

1 - An interactive evolutionary algorithm for the multi-objective vehicle routing problem

Martin Josef Geiger

2 - Multi-objective particle swarm optimization

Sanaz Mostaghim

■ MD-11

Monday 13:35-14:55

GSI - S 17

The decision deck project

Chair: *Raymond Bisdorff*
Chair: *Patrick Meyer*

1 - News and perspectives from the decision deck project

Vincent Mousseau, Marc Pirlot, Raymond Bisdorff

2 - Xmcda: a standard xml encoding of MCDA data

Raymond Bisdorff, Patrick Meyer, Thomas Veneziano

3 - Diviz: an MCDA components workflow execution engine

Thomas Veneziano, Sebastien Bigaret, Patrick Meyer

■ MD-12

Monday 13:35-14:55

GSI - S 18

Stochastic mixed integer programming algorithms and applications

Chair: *Laureano Fernando Escudero*

1 - Branch-and-fix coordination approach for the mixed 0-1 multistage environment: a set of strategies

María Merino, Laureano Fernando Escudero, M. Araceli Garín, Gloria Pérez

2 - On the performance of the bfc-tsmip algorithm

Maria Araceli Garin, Laureano Fernando Escudero, María Merino, Gloria Pérez

3 - On the air trafic flow management problem. a stochatic integer programming approach,

Alba Agustin, Pablo Olaso, Antonio Alonso-Ayuso

■ MD-13

Monday 13:35-14:55
GSI - S 31

Stochastic programming ii.

Chair: *Michael Bussieck*

1 - A progressive hedging algorithm for a stochastic lot sizing and pricing problem

Hongyan Li

2 - Capacity planning and capital expenditure for participation in collaborative provision of advanced mobile data services

Paolo Pisciella, Alexei Gaivoronski, Josip Zoric

3 - Stochastic optimization: recent enhancements in algebraic modeling systems

Michael Bussieck

■ MD-14

Monday 13:35-14:55
GSI - S 32

Districting problems

Chair: *Cesar Beltran-Royo*

1 - **Using the simplex method to determine land reallocation in urban land arrangements applications**

Tayfun Cay, Ibrahim Baz, Zekai Cevdet Can, Fatih Iscan

2 - **The quadratic assignment problem solved by semi-lagrangian relaxation**

Cesar Beltran-Royo, Huizhen Zhang, Miguel Constantino

■ MD-15

Monday 13:35-14:55
Einstein

Vehicle routing

Chair: *Roberto Baldacci*

1 - An exact algorithm for the period routing problem

Roberto Baldacci, Enrico Bartolini, Aristide Mingozzi

2 - Location of capacitated depots for the vehicle routing problem

Roberto Wolfler Calvo, Roberto Baldacci, Aristide Mingozzi

3 - The generalized covering salesman problem

Majid Salari, Zahra Naji Azimi, Bruce Golden, S. Raghavan, Paolo Toth

4 - The pickup and delivery problem with incompatibility constraints

Pablo Factorovich, Isabel Méndez-Diaz, Paula Zabala

■ MD-16

Monday 13:35-14:55
Koenig

Cutting and packing 2

Chair: *Gleb Belov*

1 - A just-in-time intelligence framework to the bin packing problem

Sergey Polyakovskiy, Rym Mhallah

2 - Sawmbs: a sufficient-average-weight-minimum-bin-slack heuristic for one-dimensional bin-packing

Krzysztof Fleszar, Christoforos Charalambous, Khalil Hindi

3 - A new lower bound for bin packing problem with general conflicts graph

Mohamed Maiza, Christelle Gueret, Pierre Lemaire, Mohammed Said Radjef

■ MD-17

Monday 13:35-14:55
Rheinaue

Scheduling and applications

Chair: *Malgorzata Sterna*

1 - Scheduling tasks in web service for text translation

Malgorzata Sterna, Jacek Juraszek

2 - Agent driven scheduling model in the multi-line production system

Grzegorz Pawlak, Slawomir Walkowski, Tomasz Zurkowski

3 - On scheduling divisible loads with memory constraints

Maciej Drozdowski, Joanna Berlinska

4 - The last station problem in assembly lines

Waldemar Grzechca

■ MD-18

Monday 13:35-14:55
LennÃ©

Modern applications of mathematical programming ii

Chair: *I. Kuban Altinel*

1 - Topological properties of the solution set of generalized vector equilibrium problems

Kamelia G. Alizadeh, Ildar Sadeqi

2 - Multiparametric sensitivity analysis in transportation problems with linear-plus-linear fractional objective function

Sanjeet Singh, Pankaj Gupta, Milan Vlach

3 - When every function evaluation counts: an efficient optimizer for high-dimensional problems and a bootstrap standard error estimation of a psychological behavior model

Thomas Buchsbaum

4 - Mission based component test plans

M. Emre Keskin, I. Kuban Altinel, Suleyman Ozekici, Bora Cekyay, Orhan Feyzioglu

■ MD-19

Monday 13:35-14:55
Haber

Quasidifferential analysis and generalized convexity

Chair: *Ryszard Urbanski*
Chair: *Diethard Pallaschke*

1 - Quasidifferentiable functions and pairs of compact convex sets

 Diethard Pallaschke, Ryszard Urbanski

2 - Gradient set splitting in nonconvex nonsmooth numerical optimization

 Enrico Gorgone

3 - Conically equivalent convex sets and applications

 Alberto Zaffaroni

4 - Reducing infinite exhausters

 Jerzy Grzybowski, Ryszard Urbanski

■ MD-20

Monday 13:35-14:55
Mann

DEA methodology i

Chair: *Luka Neralic*

1 - Sensitivity in data envelopment analysis using an approximate inverse matrix

Luka Neralic, Richard E. Wendell

2 - Rational inefficiencies of stochastic service productions

Andreas Kleine

3 - Measurement and decomposition of Malmquist productivity index under variable capacity utilization

Giannis Karagiannis, Panos Fousekis

■ MD-21

Monday 13:35-14:55
Hauptmann

Models for screening and medical decision making

Chair: *Elena Rizzato*

1 - When to recommend biopsy to women undergoing mammography screening? a Markov decision process (mdp) model

Oguzhan Alagoz, Jagpreet Chhatwal, Elizabeth Burnside

2 - Admission control for preventive services

Derya Kunduzcu, E. Lerzan Ormeci, Evrim Didem Gunes

3 - Modelling trauma hip fracture hospital activities

Cheryl Voake, Jeff Griffiths, Janet Williams

4 - Perinatal assistance network users' behaviour: model and simulation.

Elena Rizzato, Paola Facchin, Anna Ferrante, Giorgio Romanin-Jacur, Laura Salmaso

■ MD-22

Monday 13:35-14:55
Arndt

Optimization modeling in practice ii

Chair: *Eleni Pratsini*
Chair: *Bjarni Kristjansson*

1 - Practical solutions in network design for dhl

Hans Schut, Sander van den Berg

2 - Mathematical programming based strategic and tactical production and operational logistics planning in the automotive industry

Achim Koberstein, Leena Suhl, Ralf Bihlmaier, Thomas Sillekens, Jens Peter Kempkes, Thomas Sommer-Dittrich

3 - Collaborative production optimization in plantwide production scheduling and planning

Guido Sand, Xu Chaojun

4 - Alignment of replenishment and lateral transshipment decisions in spare parts networks

Harold Tiemessen, Eleni Pratsini, Moritz Fleischmann

■ MD-23

Monday 13:35-14:55
Planck

Anp ii

Chair: *Petr Fiala*

1 - Applying the ANP model for selecting the optimal full-service advertising agency

Pi-Fang Hsu, Pei-Ling Hsieh, Shang-Ling Wei

2 - Application of analytic network process (anp) in pilot selection

Ebru Yazgan, Abdullah Korkut Üstün

3 - ANP in supply network formation by auctions

Petr Fiala

■ MD-24

Monday 13:35-14:55

GSI - S 20

Solution methods for semi-infinite optimization

Chair: *Alexander Mitsos*

1 - Right-hand side restriction for the deterministic global optimization of semi-infinite programs

Alexander Mitsos

2 - Bi-criteria multi-body design centering in presence of guillotine constraints

Jan Schwientek, Karl-Heinz Küfer, Anton Winterfeld

3 - Semi-infinite optimization with implicit functions

Matthew Stuber, Paul I. Barton

■ MD-25

Monday 13:35-14:55

GSI - S 25

Ordered structured in games and decision

Chair: *Michel Grabisch*

1 - Monge extensions and convexity of cooperation structures

Michel Grabisch, Ulrich Faigle

2 - A matrix approach to tu games with coalition and communication structures

Gerard Hamiache

3 - Moebius inversion of cooperative games involving partitions of players

Giovanni Rossi

■ MD-26

Monday 13:35-14:55
GSI - S 35

Lot sizing i

Chair: *Horst Tempelmeier*

1 - **A comparative study of three fast algorithms for the single item dynamic lot sizing problem**

Nadjib Brahimi, Dali Chen

2 - **Solution methods for an integrated lot sizing and scheduling problem**

Carina Pimentel, Filipe Alvelos, J. M. Valério de Carvalho, António Duarte

3 - **Dynamic uncapacitated lot sizing with random demand under a fillrate constraint**

Horst Tempelmeier, Sascha Herpers

■ MD-27

Monday 13:35-14:55

GSI - S 21

Improving container terminal performance

Chair: *Kees Jan Roodbergen*

1 - Efficient dispatching through utilizing twin load capability of vehicles at container terminals

Roel van Anholt

2 - Dynamic storage yard allocation for a transshipment hub port

Ek Peng Chew, Loo Hay Lee

3 - Scheduling of container storage and retrieval

Kees Jan Roodbergen

4 - Routing multiple automated stacking cranes at container terminals

Iris F.A. Vis, Hector Carlo

■ MD-28

Monday 13:35-14:55
GSI - S 1

Financial optimization 3

Chair: *Andrea Consiglio*

1 - Scenario reduction for trading in electricity markets

Miguel Carrión, Antonio J. Conejo, Salvador Pineda, Juan Miguel Morales

2 - The optimal mortgage choice: mix your loans and stay out of trouble

Kourosh Marjani Rasmussen, Snorri P. Sigurdsson, Klaus K. Andersen, Jens Clausen

3 - Handling second order stochastic dominance through cutting plane representations of cvar

Diana Roman, Csaba I. Fabian, Gautam Mitra

4 - A stochastic programming model for the optimal issuance of government bonds

Andrea Consiglio

■ MD-29

Monday 13:35-14:55
GSI - S 2

Market design for emission trading

Chair: *Max Fehr*

1 - Dynamic electricity market equilibria: strategic bidding and production constraints

Alexander Rudyk

2 - Design of allocation mechanisms for cap and trade schemes

Max Fehr

3 - Technology change and presence of institutional investors in experimental markets for emission permits

Luca Taschini, Marc Chesney, Mei Wang

4 - Comparison of two strategic energy models on a case study

Guillaume Erbs, Jean André, Ruud Egging, Steven Gabriel, Franziska Holz

■ MD-30
Monday 13:35-14:55
GSI - S 26

Dynamic programming - systems

Chair: *Lidija Zadnik Stirn*

1 - State-independent control of mdp's

D.a. van der Laan

2 - Optimization of power plant investments using approximate dynamic programming

Ansgar Geiger, Stefan Nickel

3 - Inventory rationing and sharing for traveling salesmen

Grigory Pishchulov

4 - Learning and forgetting in setups:

Sunantha Teyarachakul

■ MD-31

Monday 13:35-14:55

GSI - S 34

Data mining algorithms for quality improvement

Chair: *Inci Batmaz*

1 - Design parameter optimization using mahalanobis Taguchi system

Baris Yenidunya, Gulser Koksal

2 - A nonparametric improved fuzzy classifier function approach for classification based on customer satisfaction survey data

Gizem Özer, Tuna Kilic, Elcin Kartal, Inci Batmaz, Özlem Türker Bayrak, Gulser Koksal, Burhan Turksen

3 - On rough-set based multicriteria decision making in quality improvement

Guvenc Arslan, Ozlem Aydin

4 - Multi-class mts classification algorithms and their applications

Dilber Ayhan, Gulser Koksal

■ MD-32

Monday 13:35-14:55
GSI - S 4

Financial crisis

Chair: *M Shahid Ebrahim*

1 - Empirical study on stability of Japanese corporate ratings with artificial neural network

Katsuaki Tanaka, Motohiro Hagiwara, Hideki Katsuda, Susumu Saito

2 - The reasons us financial secretary pauson gave up lehman brothers from the non-american investors' view

George Chun Ming Chien,, Ching Ya Hsiao, Horng Jinh Chang

3 - With japan experience, this financial crisis will last longer than expected

Ching Ya Hsiao, George Chun Ming Chien,, Horng Jinh Chang

4 - On the efficiency of the upreit organizational form: implications for the subprime crisis and cdos

M Shahid Ebrahim

■ MD-33

Monday 13:35-14:55

GSI - S 7

Metaheuristics in global optimization

Chair: *Pilar Ortigosa*

1 - Scheduling optimization based on a genetic algorithm under constraints

Djamila Boukredera, Rabah Kassa, Khaled Sellami

2 - Determining optimal batch sizes by means of evolutionary algorithms and queueing network analysis

Boualem Rabta

3 - A shared memory programming approach of uego.

Juana Lopez-Redondo, I. Garcia, Pilar Ortigosa

■ MD-34

Monday 13:35-14:55

GSI - S 8

Fuzzy logic based decision systems

Chair: *Masayuki Kageyama*

1 - Fuzzy rule based scenario-management

Thomas Spengler

2 - Does the law of large numbers hold if people estimate the mean of a random variable by observing it for several times? —an example of fuzziness in the responses of people

Bodo Vogt, Thomas Spengler

3 - On the developement of a risk-model using credibilistic processes

Masayuki Kageyama

■ MD-35
Monday 13:35-14:55
GSI - S 9

Facilitated strategy making

Chair: *Colin Eden*
Chair: *Fran Ackermann*

1 - Anchoring decision analysis in the strategic management toolbox

Paul Schulze-Cleven, Gilberto Montibeller, Martin Schilling

2 - Scriptsmap–a tool to facilitate design of strategy workshops

David Andersen, Colin Eden, Fran Ackermann, George Richardson

3 - Modelling competitive advantage

Colin Eden, Fran Ackermann

4 - Modelling the dynamics stakeholder reactions: a process for considering stakeholder responses, reactions and interactions when developing strategy

Fran Ackermann, Colin Eden, David Andersen, George Richardson

■ MD-36

Monday 13:35-14:55
GSI - S 11

Stochastic control in finance i

Chair: *Ulrich Rieder*

1 - On asymptotic power utility-based pricing and hedging

Johannes Muhle-Karbe

2 - A Bayesian approach to incorporate model ambiguity in a dynamic risk measure

Nicole Baeuerle

3 - Portfolio optimization with dynamic risk constraints and partial information

Jörn Sass

4 - Portfolio optimization under uncertain drift

Christoph Wopperer

■ MD-37

Monday 13:35-14:55
GSI - S 12

Pricing and revenue management

Chair: *Guillaume Roels*
Chair: *Houyuan Jiang*

1 - Revenue management for resource allocation problem

Giovanna Miglionico, Francesca Guerriero, Filomena Olivito

2 - A branch and cut algorithm for the product assortment problem under customer choice behavior

Juan Jose Miranda Bront, Isabel Méndez-Diaz, Gustavo Vulcano, Paula Zabala

3 - Robust pricing in the newsvendor model

Guillaume Roels

■ MD-38

Monday 13:35-14:55

GSI - S 13

Lean accounting beyond operations

Chair: *Thomas Kristensen*

1 - Cost estimating for lean supply chains

Marcus Schweitzer

2 - Adopting bsc as a change management tool in a public transport operator: the stcp case study

Leandro Carvalho, Jorge Freire de Sousa

3 - Standard costing in a lean organization: enabling OR coercive?

Thomas Kristensen

■ MD-39

Monday 13:35-14:55
GSI - S 14

Game theory 3

Chair: *Mariusz Kaleta*

1 - On optimal organization of government and corporate control

Alexander Vasin

2 - Fuzzy subjective conflict analysis

Teruhisa Nakai

3 - Decisiveness-related generalized class of power values for cooperative games

Dorota Marciniak

4 - Computing α-efficient cost allocations

Mariusz Kaleta

■ **MD-40**

Monday 13:35-14:55

GSI - S 27

OR methods and their applications in healthcare for development

Chair: *Honora Smith*
Chair: *Gerhard-Wilhelm Weber*

1 - Tackling maternal mortality: a mathematical model to help evaluate the impact of different interventions.

Christina Pagel, Martin Utley, Anthony Costello

2 - Modeling patient flows in a two-tier health service system

Evrim Didem Gunes, Mehmet Cagri Dedeoglu

3 - Modelling the scalability of three different sized hospitals

Adisak Sakphisal

4 - OR for sustainable community health programs in rural areas of developing countries

Honora Smith

■ MD-41

Monday 13:35-14:55

GSI - S 28

OR in agriculture and forest management ii

Chair: *Yi-Ying Chen*

1 - **Planning the harvest machinery use in a medium-size czech logging company**

Jitka Janova

2 - **Optimization of the use of biomass residues in the poplar plywood sector**

Ivan Ferretti, Luca Zanchi

3 - **Evaluating the pay-off of value chain-retailer with agricultural products**

Yi-Ying Chen, Ming-Chih Tsai

■ MD-42

Monday 13:35-14:55
GSI - S 3

Health care ii

Chair: *Giorgio Romanin-Jacur*

1 - Fuzzy clustering employing wavelet coefficients for detection of mitral valve disorders

Necaattin Barisci

2 - Is integrated care a solution to health care problems? on redesigning antenatal care processes with computer simulation.

Angele Pieters, Henk Akkermans

3 - A new challenge: paediatric palliative care planning

Giorgio Romanin-Jacur, Giada Aspergh, Paola Facchin, Anna Ferrante, Laura Visona_Dalla_Pozza

■ MD-43

Monday 13:35-14:55

GSI - S 10

Forest investments 2

Chair: *Thomas Knoke*

1 - Financial analysis of andean alder (alnus acuminata h.b.k) under different scenarios of production "land use portfolio approach"

Baltazar Calvas

2 - Loosing admixed tree species: financial consequences

Christian Clasen

3 - Financial evaluation of mixed species plantations in southern chile

Patrick Hildebrandt

4 - The value of expiring credits issued for carbon sequestration projects

Klaus Wallner

■ MD-44

Monday 13:35-14:55
GSI - S 16

Energy, environment and system optimization

Chair: *Steven Gabriel*

1 - Employing a two-level integer program for evaluating real options for low-carbon project selection under multi-stage competitions

Jeremy Eckhause, Steven Gabriel

2 - Analyzing energy security in natural gas markets

Steven Gabriel, Ruud Egging

3 - A discretely-constrained mathematical program with equililibrium constraints with an application in electric power markets

Florian Leuthold, Steven Gabriel

■ MD-45
Monday 13:35-14:55
GSI - S 33

Activities for young people in OR

Chair: *Alexis Pasichny*
Chair: *Kateryna Pereverza*

1 - Theoretical and practical or problems for developing countries

Alexander Makarenko

2 - Education from inside: effective teaching methods from students' view point

Ielyzaveta Korotchenko, Kateryna Pereverza

■ ME-01

Monday 15:20-16:10
Beethoven

Plenary 1

Chair: *Benny Moldovanu*

1 - Experimental results on the process of goal formation and aspiration adaptation

Reinhard Selten

■ MF-01

Monday 16:20-17:10
Beethoven

Plenary 2

Chair: *Elise del Rosario*

1 - Computing equilibria

Christos Papadimitriou

■ MG-01

Monday 17:25-18:45
Beethoven

Metaheuristics and mips

Chair: *Saïd Hanafi*

1 - Neighborhood exploration using mip solvers for a tank allocation problem

Lars Magnus Hvattum, Kjetil Fagerholt, Vinícius Armentano

2 - A multi level branching strategy algorithm for the 01mdk

Michel Vasquez, Sylvain Boussier, Yannick Vimont, Saïd Hanafi, Philippe Michelon

3 - Inequalities and target objectives in metaheuristics for mixed binary program

Fred Glover, Saïd Hanafi

4 - The layout design of a semiconductor fab with spine and perimeter interbay guide paths

Ying-Chin Ho, Ta-Wei Liao

■ MG-02

Monday 17:25-18:45
Schumann

Transportation planning in postal logistics

Chair: *Hans-Jürgen Sebastian*

1 - Recent advances in local area transportation planning at deutsche post ag

Jörg Salomon, Hans-Jürgen Sebastian, Dirk Steffensen, Gerhard Stüber

2 - Challenges of complex vehicle routing problems in local postal pickup and delivery

Tore Grünert

3 - A multi-criteria analysis of service-area allocations for parcel sorting centers at deutsche post

Christoph Hempsch, Andreas Marschner

■ MG-03

Monday 17:25-18:45
Reger

Case sudies for transportation planning ii

Chair: *Joern Schoenberger*

1 - The optimization of the fleet composition problem (fcp) in the distribution system

Piotr Sawicki, Marcin Kicinski, Jacek Zak, Adam Redmer

2 - The simulation based solution of the fleet composition problem (fcp) in the fuel distribution network

Piotr Sawicki, Hanna Sawicka, Jacek Zak

3 - Mixed integer models for the inter-islands fuel oil distribution in cape verde

Alexandrino Delgado, Agostinho Agra

■ MG-04

Monday 17:25-18:45
Liszt

Parallel and multiprocessor task scheduling problems

Chair: *Mohamed Bendraouche*

1 - Scheduling multiprocessor uet tasks of two sizes

Tamas Kis

2 - Task scheduling on parallel machines by simulated annealing

Jacek Juraszek, Erwin Pesch, Malgorzata Sterna

3 - Scheduling on parallel processors subject to compatibility constraints

Mohamed Bendraouche, Mourad Boudhar

■ MG-05

Monday 17:25-18:45
Haydn

Bioinformatics ii

Chair: *Jonathan Garibaldi*

1 - Structure similarity consensus as a measure of quality in protein structure prediction

Pawel Widera, Daniel Barthel, Jonathan Garibaldi, Natalio Krasnogor

2 - Cancer profiles by affinity propagation

Daniele Soria, Federico Ambrogi, Patrizia Boracchi, Jonathan Garibaldi, Elia Biganzoli

3 - Case control analysis for snps data

Linda Fiaschi

■ MG-06

Monday 17:25-18:45
Koch

Real-world planning and scheduling approaches 1

Chair: *Lars Moench*

1 - Lot-sizing and scheduling in the soft drink industry

Bernardo Almada-Lobo, Deisemara Ferreira, Christian Almeder

2 - Scheduling inspection operations with regular step cost functions on a single machine

Boris Detienne, Stéphane Dauzère-Pérès, Claude Yugma

3 - Why do scheduling systems tend to fail in (real-world) complex manufacturing systems?

Lars Moench

■ MG-07

Monday 17:25-18:45

GSI - S 29

Optimizing transport and resources in traffic systems

Chair: *Uwe T. Zimmermann*

1 - Dynamic construction of time-discretized networks for very large scale operational railway planning

Frank Fischer, Christoph Helmberg, Jürgen Janßen, Boris Krostitz

2 - Vehicle routing in waste management

Ronny Hansmann, Uwe T. Zimmermann

3 - A new model for routing cars in rail freight service

Henning Homfeld, Armin Fügenschuh, Hanno Schülldorf

4 - A column generation algorithm for the crew scheduling problem in waste management

Jens Baudach, Annette Chmielewski

■ MG-08

Monday 17:25-18:45
GSI - S 30

Case studies

Chair: *Yuh-Jen Cho*

1 - **A study on the linehaul-feeder vehicle routing problem**

   Yuh-Jen Cho, Chih-Hsun Lin

2 - **Tourism planning using public transport in taiwan**

   Chih-Hung Chang, Jau-Ming Su, Guei- Jhih Wang

3 - **Real time scheduling optimization for airport management: a case study**

   Ludovica Adacher, Marta Flamini

4 - **Optimal headway for feeder transit services: a case study in the texas border's colonias**

   Luca Quadrifoglio

■ MG-09

Monday 17:25-18:45

GSI - S 5

Human resources management i

Chair: *Ming Liang*

1 - **The performance influence elements of dispatched worker at pharmaceutical industry of taiwan**

Ying-Chyi Chou, Chien-Hua Hsiao, Pao-Long Chang

2 - **A heuristic procedure for recruiting and transition decisions in a hierarchical manpower system**

Pao-Long Chang

3 - **Developing a temporary workforce transaction mechanism risk sharing perspectives**

Ying-Chyi Chou, Yen-Chen Lin

4 - **Job rotation methodology to cope with boredom at work**

Ming Liang, Nader Azizi, Saeed Zolfaghari

■ MG-10

Monday 17:25-18:45

GSI - S 6

Evolutionary multiobjective optimization iv - auctions

Chair: *Gülşah Karakaya*

1 - Collaborative planning in detailed scheduling

Benedikt Scheckenbach

2 - Bi-objective winner determination in trucking contract procurement auctions

Tobias Buer, Giselher Pankratz

■ MG-11

Monday 17:25-18:45

GSI - S 17

Theoretical advances in MCDA

Chair: *Michel Grabisch*

1 - **A characterization of the 2-additive choquet integral by using a cardinal information**

   Brice Mayag, Michel Grabisch, Christophe Labreuche

2 - **Processing additionnal information in a multiple criteria context with information imperfections: an aggregation procedure including the weak preference relation**

   Sarah Ben Amor, Jean Marc Martel

3 - **Analysing the correspondence between strict and non-strict outranking relations**

   Marc Pirlot, Denis Bouyssou

■ MG-12

Monday 17:25-18:45

GSI - S 18

Emerging applications of simulation

Chair: *David Munoz*

1 - Modeling, simulation and analysis of a securities settlement system

Miguel De Lascurain, Arturo Palacios, David Munoz, Omar Romero

2 - Bayesian forecasting of spare parts using simulation

David Munoz, Omar Romero

3 - Algorithms for the generalized weighted frequency assignment problem

Diego Munoz, David Munoz

■ MG-13

Monday 17:25-18:45

GSI - S 31

Stochastic programming iii.

Chair: *Alexei Gaivoronski*

1 - Goodness-of-fit tests for uniformity and internal and external sorting

Thomas Morgenstern

2 - A mip approach to dynamic graph reliability with dependencies

Nicole Nowak

3 - Stochastic programming models for distribution of scarce resources under uncertainty

Alexei Gaivoronski

■ MG-14

Monday 17:25-18:45
GSI - S 32

Experimental OR

Chair: *Andreas Novak*

1 - A differential game related to terrorism: stationary nash and Stackelberg strategies

Andreas Novak, Gustav Feichtinger, George Leitmann

2 - Defining Stackelberg equilibria on discrete multlayered networks

Dmitrii Lozovanu, Stefan Pickl

3 - Cooperation within a pdg with unknown length

Ulrike Leopold-Wildburger

4 - System dynamics and experimental design supporting the simulation and the analysis of a complex lotka-volterra system

Stefan Pickl, Ulrike Leopold-Wildburger, Johannes Leitner

■ MG-15

Monday 17:25-18:45
Einstein

Optimizing routes

Chair: *Juan José Salazar González*

1 - Valid inequalities for the cvrp obtained by projecting a capacitated multicommodity flow formulation

Maria João Lopes, Luis Gouveia

2 - An ilp improvement procedure for the open vehicle routing problem

Paolo Toth, Majid Salari, Andrea Tramontani

3 - A randomised method for solving the line design problem for connected rapid transit networks

Laureano Fernando Escudero, Susana Muñoz

4 - A branch-and-cut-and-price approach for a bus school problem

Juan José Salazar González, Jorge Riera-Ledesma

■ MG-16

Monday 17:25-18:45
Koenig

Cutting and packing 3

Chair: *J. M. Valério de Carvalho*

1 - A constructive bin-oriented algorithm for the two-dimensional bin packing problem with guillotine cuts

Christoforos Charalambous, Khalil Hindi, Krzysztof Fleszar

2 - Bin packing problem with the constraint longest items at the bottom

Nazahet Fellah, Méziane Aîder

3 - Lower bounds with small complexity for the two-dimensional rectangular bin packing problem

J. M. Valério de Carvalho, Rita Macedo, Cláudio Alves, Jürgen Rietz

■ MG-17

Monday 17:25-18:45
Rheinaue

Resource constraints scheduling with real problem characteristics

Chair: *Vicente Valls*

1 - Scheduling and routing pallet-picking operations using different types of forklifts and rfid technology

Francisco Ballestin, M.Pilar Lino, M. Angeles Pérez, Sacramento Quintanilla, Vicente Valls

2 - Searching for the best modes in the mrcpsp/max

Francisco Ballestin, Vicente Valls, Agustin Barrios

3 - Sensibility and robustness in a dynamic and online rcpsp/max problem.

David Gómez-Cabrero, Vicente Valls

4 - 2d parameterized models for project management test generation

Constanta-Nicoleta Bodea, Maria Dascalu

■ MG-18

Monday 17:25-18:45
Lennà©

Convex and nonconvex optimization

Chair: *Asuman Ozdaglar*
Chair: *Gerhard-Wilhelm Weber*

1 - Computing bounds for the capacitated multifacility Weber problem by branch and price and lagrangean relaxation

Burak Boyaci, I. Kuban Altinel, Necati Aras

2 - Efficient heuristics for the multi-commodity capacitated multi-facility Weber problem

Mehmet Hakan Akyüz, Temel Öncan, I. Kuban Altinel

3 - A feasible direction method for nonsmooth nonconvex optimization

Mario Tanaka Filho, Jose Herskovits, Napsu Karmitsa

4 - Simplex based solution of convex quadratic programming problems

Zsolt Csizmadia

■ MG-19

Monday 17:25-18:45
Haber

Genetic algorithms

Chair: *André Rossi*

1 - **Tuning genetic algorithms by using simulation optimization techniques**

Helcio Vieira Junior, Karl Heinz Kienitz, Mischel Carmen N. Belderrain

2 - **Index tracking with genetic algorithms**

Peter Rossbach, Denis Karlow

3 - **A hybrid simulated annealing/genetic algorithm method for the global optimization of mixed-integer nonlinear programming problems with applications to industrial design**

Fattaneh Cauley, Stephen Cauley, Linda Wang

4 - **A genetic algorithm for the complex-constrained assembly line balancing problem**

Aliye Ayca Supciller, Latif Salum

5 - **A problem-specific and effective metaheuristic for flexibility design**

Michael Schneider, Jörn Grahl, David Francas

■ MG-20

Monday 17:25-18:45
Mann

DEA methodology ii

Chair: *Ozren Despic*

1 - Elliptical frontier model: a new approach for input allocation in parametric DEA

José Virgilio Guedes Avellar, Armando Milioni

2 - Combining AHP and DEA to enhance entrepreneurial decision making

Ulrich Bodmer, Tatyana Vlasyuk

3 - Data envelopment analysis with nonlinear virtual inputs and outputs

Lamprini V. Stamati, Dimitris Despotis, Yannis Smirlis

4 - Geometric dea: theory, models and properties

Ozren Despic

■ **MG-21**

Monday 17:25-18:45
Hauptmann

Various topics in health care management

Chair: *Jan Vissers*

1 - **The story of orahs: the euro working group on operational research applied to health services**

Jan Vissers, Sally Brailsford

2 - **Designing for economies of scale vs. economies of focus in hospital departments**

Nelly Litvak, Peter T. Vanberkel

3 - **Supporting lean workshops with simulation modelling**

Ruth Davies

■ MG-22

Monday 17:25-18:45
Arndt

Optimization in sustainable energy

Chair: *Steffen Rebennack*
Chair: *Niko Iliadis*
Chair: *Panos Pardalos*

1 - Electricity and CO2 emissions system prices modeling and optimization

Niko Iliadis, Steffen Rebennack, Mario Veiga Pereira, Panos Pardalos

2 - Wind farm layout optimization

Michele Samorani, Harald Reinertsen, Manuel Laguna

3 - Managerial biases and energy savings: an empirical analysis of the adoption of process improvement recommendations

Charles Corbett, Suresh Muthulingam, Shlomo Benartzi, Bohdan Oppenheim

■ MG-23

Monday 17:25-18:45
Planck

Anp iii

Chair: *Arzum Ozgen*

1 - **Analysis of the environmental effects of leather firms active in marmara region in Turkey**

   Arzum Ozgen

2 - **A bi-objective approach for the design of reverse logistics networks and an application from Turkish white good industry**

   Gülfem Tuzkaya, Bahadir Gulsun, Sule Onsel

3 - **Location selection for taiwanese seaside resorts**

   Pin-Ju Juan, Shin-Yi Lin, Shiuan-Ying Huang

■ **MG-24**

Monday 17:25-18:45

GSI - S 20

Theory of semi-infinite programming

Chair: *Francisco Guerra-Vázquez*

1 - A local duality theorem for nonconvex semi-infinite programming problems

Francisco Guerra-Vázquez, Jan-J Ruckmann

2 - Explicit exchange method for convex semi-infinite programming problems with second-order cones

Shunsuke Hayashi, Soon-Yi Wu

3 - The exact feasibility of randomized solutions of semi-infinite convex programs

Marco Campi, Simone Garatti

■ MG-25

Monday 17:25-18:45

GSI - S 25

Cooperative games and their applications

Chair: *Joaquin Sánchez-Soriano*

1 - How to divide a cake when people have different metabolism?

Mª Luisa Carpente, Balbina-Virginia Casas-Méndez, Natividad Llorca, Manuel A. Pulido Cayuela, Joaquin Sánchez-Soriano

2 - The position value for generalized probabilistic communication situations

Enrique González-Arangüena, Conrado M. Manuel

3 - On a new bankruptcy rule

Mikle Álvarez-Mozos, Mª Gloria Fiestras-Janeiro, Jose Mª Alonso-Meijide

■ MG-26

Monday 17:25-18:45
GSI - S 35

Transportation planning

Chair: *Damien Prot*

1 - Application of transportation model to the fleet operations problem of flour mills of nigeria plc.

Joshua Magbagbeola

2 - Optimizing reserve capacity of urban road networks, by the concurrent design of one-way and two-way links and lane additions

Elnaz Miandoabchi, Reza Zanjirani Farahani

3 - Capacity analysis of railway lines from the perspective of new transport service providers.

David Canca, Alejandro Zarzo, Enelis Palma

4 - Connecting maximum air traffic density and colouration problems

Damien Prot, Sophie Constans, Rémy Fondacci, Christophe Rapine

■ MG-27

Monday 17:25-18:45
GSI - S 21

Auctions

Chair: *Georg Ziegler*

1 - Optimal procurement auctions design with endogenous quantity

Junyi Pu, Lingyau Chan

2 - Xml-based data standard for market clearing mechanisms

Eugeniusz Toczyłowski, Mariusz Kaleta, Kamil Smolira, Piotr Palka, Przemysaw Kacprzak, Izabela Zoltowska, Tomasz Traczyk

3 - Combinatorial versus multicommodity auction for indivisible network resources allocation

Kamil Koltys, Izabela Zoltowska, Eugeniusz Toczylowski, Piotr Palka

4 - On the worst-case efficiency of the combinatorial clock auction

Georg Ziegler, Martin Bichler, Pasha Shabalin

■ MG-28
Monday 17:25-18:45
GSI - S 1

Financial optimization 4

Chair: *Giacomo Patrizi*

1 - Own-company stockholding and work effort preferences of an unconstrained executive

Sascha Desmettre, John Gould, Alexander Szimayer

2 - Dynamic analysis of empirical stochastic financial processes

Laura Di Giacomo, Giacomo Patrizi

3 - Portfolio optimization under the value-at-risk constraint

Traian Pirvu

4 - Dynamic derivative financial management: a certainty equivalent formulation

Giacomo Patrizi, Laura Di Giacomo

■ MG-29
Monday 17:25-18:45
GSI - S 2

Financial aspects of energy topics

Chair: *Steffen Rebennack*
Chair: *Niko Iliadis*
Chair: *Panos Pardalos*

1 - Managing risk through option contracts on the strategic petroleum reserve

Fernando Oliveira, Frederic Murphy

2 - Centralized and decentralized compressed air storage for enhanced grid integration of wind power

Reinhard Madlener, Jochen Latz

3 - Power plant investments under uncertainty

Ralf Schemm

■ MG-30

Monday 17:25-18:45

GSI - S 26

Discrete and global optimization

Chair: *Duan Li*
Chair: *Xiaoling Sun*

1 - **Separable relaxation for nonconvex quadratic integer programming: an integer diagonalization approach**

Xiaoling Sun, Xiaojin Zheng, Duan Li

2 - **Cardinality constrained quadratic optimization**

Jianjun Gao, Duan Li

3 - **Convex relaxation for nonconvex quadratic programming problems: best d.c. decomposition and sdp formulation**

Duan Li, Xiaojin Zheng, Xiaoling Sun

■ MG-31

Monday 17:25-18:45
GSI - S 34

Data mining in finance

Chair: *Steve Frensch*

1 - Data mining for mutual funds' success drivers and future performance

Steve Frensch, Joseph Paradi

2 - Probabilistic delay-accuracy trade-off in trend turning detection of noisy stock time series

Hang Yu

3 - Analyzing financial resource structuring patterns using data mining: evidence from istanbul stock exchange

Banu Esra Aslanertik, Sabri Erdem

4 - Evaluating the impact of adding a new retail to an existing loyalty club

Maximo Bosch, Jose Godoy

■ MG-32

Monday 17:25-18:45
GSI - S 4

Entrepreneurship

Chair: *M E Shah*

1 - Poisson event, exponential decay, information cost and R&D value

Yu Wen Lan, Tze Chin Huang

2 - Black investment holes in id2s

John-Christ Panayiotopoulos, Pavlos Petrantonakis

3 - Design of experiments on ann's training data for predicting Turkish ipos

Sabri Erdem, Aysun Kapucugil-ikiz, Yilmaz Goksen

4 - Value versus growth: a rational expectations exposition

M E Shah

■ MG-33

Monday 17:25-18:45
GSI - S 7

Special topics in global optimization

Chair: *Yaroslav Sergeyev*
Chair: *Eligius M.T. Hendrix*

1 - Global optimization with a set of lipschitz constants for the first derivative

Dmitri Kvasov, Yaroslav Sergeyev

2 - A lexicographic approach on unconstrained optimization

Christina D. Nikolakakou, Theodoula N. Grapsa, Ioannis A. Nikas, George S. Androulakis

3 - Some optimality and duality results for multiobjective measurable subset selection problems under weaker assumptions of convexity

Andreea Madalina Stancu, Ioan Stancu-Minasian

■ MG-34

Monday 17:25-18:45

GSI - S 8

Fuzzy optimization and decision analysis 2

Chair: *Masahiro Inuiguchi*

1 - Efficiencies and their relations in possibilistic data envelopment analysis with interval input-output data

Masahiro Inuiguchi

2 - Mathematical programming appaoraches to efficiency evaluations in possibilistic data envelopment analysis with interval input-output data

Masahiro Inuiguchi, Fumiki Mizoshita

3 - Scheduling in project-management under vagueness and uncertainty

Wolfgang Anthony Eiden

4 - Stock market prediction by combining multiple neural network models for standard technical analysis tools

Tonci Kokan

■ MG-35

Monday 17:25-18:45

GSI - S 9

Facilitated problem structuring ii

Chair: *Leroy White*

1 - The use of multimethodology in practice

Yolanda Brown

2 - Developing visually- enhanced problem structuring methods for wicked problems

Steven Barr

3 - Value priorities in organizations through problem structuring methods

Leroy White

4 - Understanding problem structuring interventions in multi-organizational settings: a frame analytical perspective.

L. Alberto Franco, Ashley Carreras

■ MG-36

Monday 17:25-18:45

GSI - S 11

Dependence modelling

Chair: *Alfred Müller*

1 - A multivariate default model based on lévy-frailty copulas

Jan-Frederik Mai, Matthias Scherer

2 - Valuation of cdo with multifactor and copulae models

Barbara Choros

3 - A generalization of tyler's m-estimators taking account for incomplete data

Gabriel Frahm

4 - Optimal storing strategy

Nils Unger, Marliese Uhrig-Homburg

■ MG-37

Monday 17:25-18:45

GSI - S 12

Applications in revenue management

Chair: *Ayse Kocabiyikoglu*

1 - Salesforce incentives in revenue management

Ayse Kocabiyikoglu, Ioana Popescu

2 - Estimation of cross-price elasticities and markdown optimization in an apparel retailer

Ufuk Kula, Ayhan Demiriz

3 - Revenue management and rail freight transportation

Luce Brotcorne, Ioana Bilegan, Dominique Feillet, Yezekael Hayel

■ MG-38
Monday 17:25-18:45
GSI - S 13

Accounting for lean operations

Chair: *DeWayne Searcy*

1 - **Evaluating the benefits of volume flexibility instruments using design-of-experiments methods**

Matthias Walter, Thomas Sommer-Dittrich, Jürgen Zimmermann

2 - **Providing relevant information in a lean environment:: an empirical model of lean accounting**

Rosemary Fullerton, Frances Kennedy

3 - **Performance benefits of the lean strategy**

Frances Kennedy, Lisa Jackson

4 - **Gaining back-office control using lean principles: action research at amg, inc.**

DeWayne Searcy

■ MG-39

Monday 17:25-18:45
GSI - S 14

Coalitions

Chair: *Kirill Pogorelskiy*

1 - Bargaining schemes in games with fuzzy coalitions

   Tomas Kroupa, Jiří Vomlel

2 - Power and preferences: an experimental approach

   Kirill Pogorelskiy, Fuad Aleskerov, Alexis Belianin

3 - Core membership testing for additive hedonic coalition formation games

   Kouji Suzuki, Shao-Chin Sung

4 - Essential coalitions for stabilities on hedonic coalition formation games

   Kouji Suzuki, Shao-Chin Sung

■ MG-40

Monday 17:25-18:45
GSI - S 27

Development in asian countries

Chair: *Graham Rand*
Chair: *Gerhard-Wilhelm Weber*

1 - Managerial accounting: cost systems in thai organizations

Thanatas Tupmongkol

2 - An exploratory study of supply chain management in China

Lawrence Fredendall, Peter Letmathe, Nadine Uebe-emden

3 - "altruism under pressure: experimental evidence from indonesia"

Laura Marie Schons

■ MG-41

Monday 17:25-18:45

GSI - S 28

OR in agriculture and fisheries

Chair: *Victor Albornoz*

1 - Seafood value chain stochastic optimization model

Yousaf Shad Muhammad, Asgeir Tomasgard

2 - A new methodology to estimate the emissions of pollutant gases of spanish livestock: an aggregate linear programming model

Concepcion Maroto, Carlos Fernández, Baldomero Segura, Paloma García-Rebollar, Javier Alcaraz, Antonio Torres

3 - A total allowable catch quota in the common sardine (strangomera bentincki) and anchovy (engraulis ringens): a multispecies Chilean fishery

Victor Albornoz, Cristian Canales

■ MG-42

Monday 17:25-18:45

GSI - S 3

Health care iii

Chair: *John-Christ Panayiotopoulos*

1 - Bayesian networks to prognoses and management of prostate cancer

Narcisa Teodorescu, Camelia Gavrila

2 - Enhancement of sandwich algorithms for approximating higher dimensional convex pareto sets with applications to imrt

Gijs Rennen

3 - Using simulation to assess a novel public health scheme with spatial complexities

Karen J Cairns, Adele Marshall

4 - Categorizing diseases based on digital protocols

John-Christ Panayiotopoulos, Pavlos Petrantonakis

■ MG-43

Monday 17:25-18:45

GSI - S 10

Cognitive, risk-based, and socio-economical perspectives on sustainable development and climate change

Chair: *Annette Hohenberger*

1 - Cognitive perspectives on future scenarios related to climate change: a cross-cultural turkish-german study

Annette Hohenberger

2 - Risk-based assessment and management of total petroleum hydrocarbon contamination

Aisha Bello-Dambatta, Akbar Javadi

3 - Dynamic simulation of trb1 region : projections and scenarios

Hasan Soyler

■ MG-44

Monday 17:25-18:45
GSI - S 16

Uncertainty in water and energy management

Chair: *John Boland*
Chair: *Julia Piantadosi*

1 - A decomposition approach for stochastic dynamic programming models of reservoir networks

Thomas Archibald

2 - The value of a domestic photovoltaic power station

John Boland

3 - Addressing variability in renewable and decentralised energy systems

Simon Dunstall, Andreas Ernst, Rodolfo Garcia-Flores, Gaurav Singh, Rene Weiskircher

■ MG-45

Monday 17:25-18:45

GSI - S 33

OR in sustainable development modeling

Chair: *Alexis Pasichny*
Chair: *Kateryna Pereverza*

1 - Approach to global modeling which based on signals exchanging

Oleksii Leonov, Olga Trubnikova

2 - Methodology of scenario constructing based on sustainable development data

Kateryna Pereverza

3 - Modelling of the civilizations' break lines in context of their fundamental cultural differences

Alexis Pasichny

■ TA-01

Tuesday 08:00-09:20

Beethoven

Recent advances in combinatorial optimization i

Chair: *Andrea Lodi*
Chair: *Michele Monaci*

1 - Optimal patchings for consecutive ones matrices

    Marc Pfetsch, Giovanni Rinaldi, Paolo Ventura

2 - Integer knapsacks: average behavior of the Frobenius numbers

    Iskander Aliev

3 - Computer aided discovery of families of valid inequalities

    Stefan Ropke, Jean-Francois Cordeau, Gilbert Laporte

4 - A framework for solving sub- and supermodular problems

    Gerald Lach, Marco Lübbecke

■ TA-02

Tuesday 08:00-09:20
Schumann

Online planning in vehicle routing and scheduling

Chair: *Stephan Meisel*

1 - Online planning: challenges and lessons learned

René Schumann, Juergen Sauer

2 - Data provision for time-dependent vehicle routing in city logistics

Jan Fabian Ehmke, Dirk Christian Mattfeld

3 - Methods for the real-time distribution of perishable goods using past request information to forecast future demand

Francesco Ferrucci, Stefan Bock, Michel Gendreau

4 - Approximate dynamic programming for routing a service vehicle with stochastic customer requests

Stephan Meisel, Dirk Christian Mattfeld

■ TA-03

Tuesday 08:00-09:20
Reger

Container terminal planning

Chair: *Jörg Wiese*

1 - Integer programs for designing optimal container yards

Jörg Wiese, Leena Suhl, Natalia Kliewer

2 - Solving a berth allocation problem

Serigne Gueye, Sophie Michel, Adnan Yassine, Philippe Michelon

3 - From simulation to emulation — optimising container terminal operation

Holger Schuett

4 - The impact of truck arrival information on container handling operations at marine terminals

Wenjuan Zhao, Anne Goodchild

■ TA-04

Tuesday 08:00-09:20
Liszt

Online scheduling and batching

Chair: *Sleman Saliba*

1 - **An on-line approach for solving flexible flow shop problems where jobs arrive over time**

Verena Gondek

2 - **Batch scheduling of simple linear deteriorating jobs on a single machine to minimize makespan**

Min Ji, T.C. Edwin Cheng

3 - **A best possible deterministic on-line algorithm for minimizing makespan on parallel batch machines**

Xiwen Lu, Peihai Liu, Yang Fang

4 - **Strategies for the online target date assignment problem**

Sleman Saliba, Sven Krumke, Elisabeth Gassner, Johannes Hatzl

■ TA-05

Tuesday 08:00-09:20
Haydn

Bioinformatics iii

Chair: *Julie Greensmith*

1 - Fuzzy systems in breast cancer treatment decision making

Jonathan Garibaldi, Xiao-Ying Wang

2 - Assessing feasibility of a homoeostatic approach to thermal management of a data centre

Naisan Benatar

3 - An immune inspired real-time detection system

Feng Gu

4 - Cluster interpretation of the self-organising map

Jan Feyereisl

■ TA-06

Tuesday 08:00-09:20
Koch

Networks for forward and returned products

Chair: *Belarmino Adenso-Diaz*

1 - A mathematical model for empty container allocation

Carlos Andres, Salvador Furió, Belarmino Adenso-Diaz, Sebastián Lozano

2 - A vehicle routing problem with flexibility in the delivery dates: a real case

Joaquín Pacheco, Ada Alvarez, Irma García

3 - A single machine scheduling problem with periodic maintenance and sequence-dependent setup times

Francisco R. Angel-Bello, Joaquín Pacheco, Ada Alvarez

4 - Modeling the reverse logistic network for the periodic collection of end-of-life appliances: a case study

Belarmino Adenso-Diaz, Julio Mar-Ortiz, Jose Luis Gonzalez-Velarde

5 - An axiomatic design approach for the reverse logistics networks design

Didem Cinar, Ronay Ak, Y. Ilker Topcu

■ TA-07

Tuesday 08:00-09:20

GSI - S 29

Network design & scheduling

Chair: *Ernesto Cipriani*

1 - Public transport service optimization through an analytical investigation of avm data collection

Stefano Carrese, Sandro Bartolucci, La Spada Simone

2 - Transit network design: a procedure and an application to a large urban area

Ernesto Cipriani, Stefano Gori, Marco Petrelli

3 - The use of pricing revenues for improving public transport services

Luca D'Acierno, Roberta Ciccarelli, Bruno Montella, Mariano Gallo

4 - A bi-level formulation for the optimal transit network design problem

Randy Machemehl, Wei Fan

■ TA-08

Tuesday 08:00-09:20
GSI - S 30

Robust optimization ii

Chair: *Juan A. Mesa*

1 - Robustness of railway rolling-stock schedule: issues about optimization and evaluation

David De Almeida, Francis Sourd, Christian Weber

2 - Robust planning of airport platform busses

Marjan van den Akker, Guido Diepen, Han Hoogeveen, Barbara Pieters

3 - Indexes to evaluate the robustness of a railway network from the passenger point of view

Federico Perea, Alicia De-los-Santos, Juan A. Mesa

4 - Railway network robustness and the complex network science

Juan A. Mesa

■ TA-09

Tuesday 08:00-09:20
GSI - S 5

Human resources management ii

Chair: *Bernd Irlenbusch*

1 - Optimal assignation of public actions for labor insertion

Eugenio Martinez-Falero, Susana Martin-Fernandez

2 - Integrated competency management information system

Nikos Tsotsolas, Eleni Koutsouraki, Dimitrios Drosos

3 - Sabotage in tournaments: evidence from the lab

Bernd Irlenbusch, Christine Harbring

■ TA-10

Tuesday 08:00-09:20

GSI - S 6

Workforce planning

Chair: *Sanjeev Kumar Guleria*

1 - Reducing the workload of modification in small-scale staff scheduling from strategies of optimization

Takuma Kubo, Takeaki Uno

2 - Simulated annealing algorithm for the temporary workforce planning with firm contracts

Muhammad Al-Salamah

3 - Local search for shift and break scheduling

Nysret Musliu, Andreas Beer, Johannes Gaertner, Werner Schafhauser, Wolfgang Slany

4 - Decision support system for planned student scheduling in a backlog supporting institute

Sanjeev Kumar Guleria, A.k. Lal, Daljit Singh Bawa

■ TA-11

Tuesday 08:00-09:20

GSI - S 17

Mcda: theory, computations, and applications i.

Chair: *Diederik J.D. Wijnmalen*

1 - A multiple criteria decision aiding assignment methodology for assisted reproductive

Sara Matias, José Rui Figueira, Maria José Carvalho, Carlos Plancha

2 - A MCDM ranking method based on a dominance measure: computational study

Antonio Jiménez, Alfonso Mateos

3 - Using value systems for the creation of perspective-based criteria weights

Diederik J.D. Wijnmalen

■ TA-12

Tuesday 08:00-09:20
GSI - S 18

Minimax problems with uncertainty

Chair: *Jitka Dupacova*
Chair: *David Morton*

1 - A framework for optimization under ambiguity

David Wozabal

2 - Interdicting smuggled nuclear material

Ned Dimitrov, David Morton

3 - Stability for minimax stochastic programs

Jitka Dupacova

■ TA-13

Tuesday 08:00-09:20

GSI - S 31

Airport and airline networks

Chair: *Amedeo Odoni*
Chair: *Antonio Antunes*

1 - Forecasting airline flight routing network changes under airport capacity constraints

Antony Evans

2 - A queuing model for a network of airports

Amedeo Odoni, Nikolaos Pyrgiotis

3 - An optimization model for the expansion of capacity of an airport network

Miguel Santos, Antonio Antunes, Amedeo Odoni

4 - An optimization model for the allocation of slots in an airport network

João Pita, Antonio Antunes, Amedeo Odoni

■ TA-14

Tuesday 08:00-09:20

GSI - S 32

Stochastic inventory control

Chair: *Sandra Transchel*

1 - A newsvendor model with service and loss constraints

Werner Jammernegg, Peter Kischka

2 - Bicriteria optimization in the newsvendor problem

Francisco Arcelus, Satyendra Kumar, Gopalan Srinivasan

3 - Managing lost-sales inventory systems with batch ordering and non-negligible ordering costs

Alina Curseu, Tom Van Woensel, Nesim Erkip, Jan C. Fransoo

4 - Periodic review inventory-control for perishable products under service-level constraints

Sandra Transchel, Stefan Minner

■ TA-15

Tuesday 08:00-09:20
Einstein

Constrained vehicle routing problems

Chair: *Paolo Toth*

1 - A hybrid algorithm for an inventory-routing problem

M. Grazia Speranza, Claudia Archetti, Luca Bertazzi, Alain Hertz

2 - Vehicle loading optimization with stochastic supply

Thierry Pironet, Yasemin Arda, Yves Crama, David Kronus

3 - An exact algorithm for the pickup and delivery problem with time windows

Enrico Bartolini, Roberto Baldacci, Aristide Mingozzi

■ TA-16
Tuesday 08:00-09:20
Koenig

Set-valued optimization

Chair: *Frank Heyde*

1 - Vector optimization with infimum and supremum

Andreas Löhne

2 - Optimality and duality for convex optimization problems with a set–valued objective

Andreas Hamel

3 - Directional derivative and subdifferential for set-valued convex and proper functions

Carola Schrage

4 - Set-valued optimization in mathematical finance

Frank Heyde, Andreas Hamel

■ TA-17

Tuesday 08:00-09:20
Rheinaue

Cutting and packing 4

Chair: *Yuri Stoyan*

1 - A tutorial in irregular shape packing problems

Julia Bennell, Jose Fernando Oliveira

2 - Mathematical model and efficient algorithm for object packing problem

Tatiana Romanova, Yuri Stoyan, Nikolai Chernov

3 - Optimization packing problem of equal circles

Yuri Stoyan, Andrey Chugay

◼ TA-18

Tuesday 08:00-09:20
LennÃⓒ

Optimization under uncertainty

Chair: *Milan Hladik*

1 - **New framework for supply chain decision making under uncertainty: an analysis of the computational effort**

Abhilasha Aswal, G. N. Srinivasa Prasanna

2 - **Steiner tree problems under interval uncertainty**

Eduardo Álvarez-Miranda, Alfredo Candia-Véjar, Nelson Maculan Filho

3 - **Generalized linear fractional programming under interval uncertainty**

Milan Hladik

■ TA-19

Tuesday 08:00-09:20
Haber

Evolutionary approaches

Chair: *Marcelo Lisboa Rocha*

1 - Storage arrangement on the yard for transshipment containers by meta-heuristics

Etsuko Nishimura, Akio Imai

2 - A memetic algorithm for a stochastic single product network design model with lead time and safety stock considerations

Behzad Bagheri, Mehdi SharifYazdi

3 - GRASP with path-relinking for the tridimensional Euclidean Steiner tree problem

Marcelo Lisboa Rocha, Amit Bhaja, Flávio Montenegro, Nelson Maculan Filho

■ TA-20

Tuesday 08:00-09:20
Mann

DEA methodology iii

Chair: *Alireza Amirteimoori*

1 - Data envelopment analysis: a simultaneous measure of technical and allocative efficiency

Mosbah Ezzeddine

2 - Proposition of the unified dea model including super-efficiency measure

Tohru Ueda, Hirofumi Amatatsu

3 - Two-stage production process in data envelopment analysis

Alireza Amirteimoori

4 - Fuzzy bi-objective generalized data envelopment analysis

Jafar Poumahmoud

■ TA-21

Tuesday 08:00-09:20
Hauptmann

Applications of mathematical logic

Chair: *Ondrej Cepek*

1 - On the chavatal ranks of knapsack problems

Béla Vizvári

2 - Recognition of positive k-interval boolean functions

David Kronus, Ondrej Cepek

3 - A model for analysing microarray data using techniques of boolean functions

Petr Kucera, David Kronus, Ondrej Cepek

4 - Operational use of a lad model

Louis-Philippe Kronek, Nadia Brauner, Sylvain Gravier, Frédéric Meunier

■ TA-22

Tuesday 08:00-09:20

Arndt

Reverse logistics: decision models and their industrial applications

Chair: *Baptiste Lebreton*

1 - **The definition and implementation of a competitive reverse logistics strategy at a plastic films manufacturer.**

Baptiste Lebreton

2 - **A framework for configuration of procurement networks for secondary raw material using a hybrid system**

Alexander Uffinger

3 - **Reverse logistics network design: the impact of lead times and stochstacity**

Kris Lieckens, Nico Vandaele

4 - **A two-stage approach for collection network design and modeling reverse logistics activities in a white goods manufacturer**

Tülin Aktin, Dicle Cevizci, H. Türkan Karaaslan

■ TA-23

Tuesday 08:00-09:20
Planck

Capacity control

Chair: *Claudius Steinhardt*

1 - **Revenue management in a make-to-order environment with forecasting errors**

André Hintsches, Thomas Spengler, Thomas Volling

2 - **A dynamic bid-price approach to reduce risk in make-to-order revenue management**

Kai Wittek, Derya Eren Akyol, Thomas Spengler, Thomas Volling

3 - **Integration of capacity control techniques and vehicle routing**

Joern Schoenberger, Herbert Kopfer

4 - **Revenue management in the car rental industry: a numerical investigation of different modelling approaches**

Claudius Steinhardt, Jochen Gönsch

■ TA-24

Tuesday 08:00-09:20

GSI - S 20

Linear semi-infinite optimization ii

Chair: *Marco A. López-Cerdá*

1 - Sensitivity analysis in linear semi-infinite programming via partitions

Miguel Goberna, Tamas Terlaky, Maxim Todorov

2 - An infinite-dimensional optimization approach to sets separation in normed spaces

Marco A. López-Cerdá

3 - Distance to ill-posedness for convex semi-infinite inequality systems under affine perturbations

F. Javier Toledo-Melero, Maria Josefa Cánovas, Juan Parra

■ TA-25

Tuesday 08:00-09:20
GSI - S 25

Classes of cooperative games

Chair: *Natividad Llorca*

1 - Balanced per capita contributions and level structure of cooperation

Vidal-Puga Juan J., Gómez-Rúa María

2 - Multilinear extensions for cooperative games in generalized characteristic function form

Conrado M. Manuel, Enrique González-Arangüena, Guillermo Owen

3 - Shortest path tree games in wireless multi-hop networks (wmns)

Nayat Horozoglu, Katerina Papadaki

4 - Multi-choice clan games and their core

Natividad Llorca, Mariana Rodica Branzei, Joaquin Sánchez-Soriano, Stef Tijs

■ TA-26

Tuesday 08:00-09:20

GSI - S 35

Travelling salesman problems

Chair: *Ali Eshragh Jahromi*

1 - A modified electromagnetism-like algorithm for travelling salesman problems with time windows

Alkin Yurtkuran, Erdal Emel

2 - The new formulation for the traveling repairman problem

Imen Ome Ezzine, Frédéric Semet, Habib Chabchoub

3 - An exact method for the double TSP with multiple stacks

Jesper Larsen, Richard Lusby, Matthias Ehrgott, David Ryan

4 - A hybrid simulation-optimization algorithm for the Hamiltonian cycle problem

Ali Eshragh Jahromi, Jerzy Filar, Michael Haythorpe

■ TA-27

Tuesday 08:00-09:20

GSI - S 21

Knowledge discovery and data mining 1

Chair: *Luís Cavique*

1 - Cliques of proverbial knowledge

Matthias Funk

2 - Networks in an oral culture study: finding the region of origin for users of proverbs

Armando Mendes, Matthias Funk, Áurea Sousa

3 - An algorithm to find the k-clique minimum cover in an undirected graph

Luís Cavique

■ TA-28

Tuesday 08:00-09:20

GSI - S 1

An introduction to vehicle routing and network planning with the decision support system transit

Chair: *Tore Grünert*

1 - An introduction to vehicle routing and network planning with the decision support system transit

Tore Grünert

■ TA-29

Tuesday 08:00-09:20
GSI - S 2

Computational economics 2

Chair: *Ronald Hochreiter*

1 - Network of firms: an analysis of integrated ownership

Giulia Rotundo, Anna Maria D'Arcangelis

2 - Effectiveness of the monopoly regulation on the basis of rate of return regulation

Michal Fendek, Eleonora Fendekova

3 - Application of the price regulation models in the network industries market in slovakia

Eleonora Fendekova, Michal Fendek

■ TA-30

Tuesday 08:00-09:20

GSI - S 26

Knowledge discovery for decision support i

Chair: *Maria Teresinha Arns Steiner*

1 - Rough sets and principal components analysis: a comparative study on costumer database attributes selection

Fabio Pereira, Renato Sassi, Rafael Espirito Santo

2 - Visual data mining techniques applied to ltaipu dam readings data

Maria Teresinha Arns Steiner, Pedro Steiner neto, Marco Aurelio Silva Neto, Rosangela Villwock, Sergio Scheer, Andrea Sell Dyminski

3 - Adaptive decision making by reasoning based on relevant logics

Jingde Cheng

■ TA-31

Tuesday 08:00-09:20
GSI - S 34

Strategic games

Chair: *Ignacio García-Jurado*

1 - Protective behavior in competitive environments

   Manuel Alfredo Mosquera Rodríguez, Mª Gloria Fiestras-Janeiro

2 - Strategic absentmindedness in finitely repeated games

   Manuel A. Pulido Cayuela, Ignacio García-Jurado, Natividad Llorca, Ana Meca, Joaquin Sánchez-Soriano

3 - Delegation equilibrium in strategic games

   Ignacio García-Jurado, Eyal Winter, Luciano Mendez-Naya, Jose Mendez-Naya

■ TA-32

Tuesday 08:00-09:20
GSI - S 4

Agent-based modelling

Chair: *Massimo Genoese*

1 - Modelling the usage of storage systems in reserve markets

Fabio Genoese

2 - Agent-based simulations in energy markets: the devil is in the details

Augusto Rupérez Micola, Albert Banal-Estanol

3 - A library of agent-based artificial intelligence in anylogic modelling environment

Enrique Kremers, Pablo Viejo, Nicola Apicella

4 - Agent-based modelling of the german electricity market

Massimo Genoese, Dominik Möst, Wolf Fichtner

■ TA-33

Tuesday 08:00-09:20

GSI - S 7

Methods for linear inequalities

Chair: *Sergei Chubanov*

1 - A divide and conquer algorithm for linear inequalities

Sergei Chubanov

2 - Interior-point methods solver based on kernel functions for linear optimization

El Ghami Mohamed, Ivan Ivanov, Steihaug Trond

3 - An infinite version of farkas' lemma and infinite linear programming on a purely linear-algebraic basis

David Bartl

■ TA-34

Tuesday 08:00-09:20
GSI - S 8

Computational statistics

Chair: *Pakize Taylan*

1 - A classification problem of credit risk rating investigated and solved by optimization of the roc curve

Efsun Kürüm, Kasirga Yildirak, Gerhard-Wilhelm Weber

2 - Comparing four methods of handling missing data in partial least square (pls)

Jastini Jamil, James Wallace

3 - Model selection using inductively generated set

Vadim Strijov

■ TA-35

Tuesday 08:00-09:20

GSI - S 9

Mixed methods interventions in forestry

Chair: *Pekka Leskinen*

1 - **Supporting problem structuring by quantitative techniques in the case of regional forest programmes**

   Pekka Leskinen, Teppo Hujala, Jukka Tikkanen, Annika Kangas

2 - **Top-down and bottom-up - combining soft and hard methods in the hierarchical planning of state-owned forests**

   Teppo Hujala, Mikko Kurttila, Veikko Hiltunen, Annika Kangas, Jouni Pykäläinen, Pekka Leskinen

3 - **Mapping indicator models: from intuitive problem structuring to quantified decision making in sustainable forest management**

   Harald Vacik, Bernhard Wolfslehner

■ TA-36

Tuesday 08:00-09:20

GSI - S 11

Reducing customer delays in service operations: modelling approaches

Chair: *Inneke Van Nieuwenhuyse*

1 - **The optimization of an airline check-in area**

   Nico Vandaele, Kris Lieckens

2 - **Appointment-driven queueing systems**

   Stefan Creemers, Marc Lambrecht

3 - **Delay optimization by queueing and simulation**

   Nico van Dijk, Erik van der Sluis

4 - **A survey of literature for an efficient planning of operating theater**

   Arnauld Hanset, Nadine Meskens

■ TA-37

Tuesday 08:00-09:20

GSI - S 12

Multi-objective decision making

Chair: *Hachem Slimani*

1 - An interactive probabilistic multi-criteria sorting algorithm

Aslı Gül Buğdacı, Murat Koksalan

2 - Robustness in multi-objective optimization based on a user perspective

Peter Lindroth, Christoffer Cromvik

3 - Combined dematel technique with vikor method for improving environment watershed plan stragy

Yi-Chun Chen

4 - Characterization of solutions in multiobjective programming under weak invexity

Hachem Slimani, Mohammed Said Radjef

■ TA-38

Tuesday 08:00-09:20
GSI - S 13

Mathematical programs with equilibrium problems

Chair: *Jiri Outrata*

1 - Lifting mpccs

Oliver Stein

2 - On stationarity in a class of mpecs/epecs

Jiri Outrata

3 - On stationarity conditions for an equilibrium problem with equilibrium constraints from an electricity spot market model

Henrion Rene, Jiri Outrata, Thomas Surowiec

■ TA-39

Tuesday 08:00-09:20

GSI - S 14

Bank manager's performance evaluation

Chair: *David Pla-Santamaria*
Chair: *Enrique Ballestero*

1 - Evaluating deposit performance in bank offices

Ana Garcia-bernabeu, Ignacio Gonzalez

2 - Evaluating fund manager's performance

David Pla-Santamaria, Lirios Jorda

3 - Evaluating loan performance in bank offices

Mila Bravo

4 - X-efficiency of russian commercial banks

Veronika Belousova

■ TA-40

Tuesday 08:00-09:20

GSI - S 27

Healthcare management in asian countries

Chair: *Gerhard-Wilhelm Weber*
Chair: *Honora Smith*

1 - A study on waiting time of emergency department services' delivery of ayatollah kashani hospital of isfahan, Iran by simulation

Sima Ajami, Saeedeh Ketabi, M.Hossein Yarmohammadian, Hosain Bagherian

2 - Application of fuzzy set theory and topsis on healthcare failure mode and effects analysis-security of drugs in outpatient services as examples

Chang-tzu Chiang, Chin-Tsai Lin, Li-Ping Huang

3 - Research on application of ccr and ccgss model to efficiency evaluation in navy health organization

Xiaorong Liu

4 - Malaysian boarding school menu planning using genetic algorithm approach

Siti Noor Asyikin Razali

■ TA-41

Tuesday 08:00-09:20

GSI - S 28

OR in agriculture i

Chair: *Marcela Gonzalez*

1 - Modeling farmers' behavior using the cumulative prospect theory

Luis Coelho, Cesaltina Pires, Andreia Dionisio, Amilcar Serrao

2 - Dynamic reserve selection: modeling the land price feedback effect in strategic land retentions in western washington, united states

Sandor Toth, Robert Haight, Luke Rogers

3 - A decision support system based on data envelopment analysis for improving the production process of an apple packing

Marcela Gonzalez, Jonathan Rojas

■ TA-42

Tuesday 08:00-09:20

GSI - S 3

Alternative modelling in macroeconomics

Chair: *Rudolf Tröster*

1 - Modelling a credit crunch in a pure credit economy

Steve Keen

2 - Dynamic analysis and the longterm behavior of economies

Jürgen Kremer

■ TA-43

Tuesday 08:00-09:20

GSI - S 10

Development of bio-energy and bio-technology: economical and ecological aspects

Chair: *Annette Hohenberger*

1 - Economic-ecologic efficiency by bilevel optimization

Gabriela Cristescu

2 - Targeting, timing, and pricing: simulating the effects of marketing activities on the adoption of a novel biomass fuel

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

3 - Long term unit commitment with heating and biomass constraints

Niels Kjeldsen, Marco Chiarandini

4 - Fuzzy hierarchy integral analytic expert decision process in evaluating foreign investment entry-mode selection of bio-tech firms

Hsu-Hua Lee, Tsau-Tang Yang, Chie-Bein Chen, Yen-lin Chen

■ TA-44

Tuesday 08:00-09:20
GSI - S 16

Uncertainty in life-cycle assessment

Chair: *Manfred Lenzen*
Chair: *Thomas McKone*

1 - The UK carbon footprint - an example for handling uncertainty in input-output lca
Manfred Lenzen, Richard Wood, Tommy Wiedmann

2 - Confronting the uncertainties in life-cycle impact assessment comparisons
Thomas McKone

3 - Towards consistent management of uncertainties in life cycle assessment
Ralph Rosenbaum, Andreas Ciroth, Fausto Freire, Reinout Heijungs, Jinglan Hong, Olivier Jolliet, Manfred Lenzen, Thomas McKone

4 - Flaws and structures in ecoinvent data: towards a quality assurance and maintenance suite
Andreas Ciroth

5 - An intelligent system for estimating a large-size matrix in environmental accounting
Ting Yu, Manfred Lenzen

■ TA-45

Tuesday 08:00-09:20

GSI - S 33

I : societal complexity and safety

Chair: *Ludmilla Koshlai*

1 - Operations research techniques of rare use and catastrophes.

María J. García G., José G. Hernández R.

2 - A proposal of primal and dual problems in macro-economics

Eizo Kinoshita

3 - Credit crisis and global safety

Dorien DeTombe

4 - Modeling of large city problems under credit crisis

Ludmilla Koshlai, Mikhail Mikhalevich

■ TB-01

Tuesday 09:35-11:05
Beethoven

Keynote t1

Chair: *Michel Gendreau*
Chair: *Erwin Pesch*

1 - Google's auction for tv ads

Noam Nisan

2 - Airport OR

Ulrich Dorndorf

■ TB-02

Tuesday 09:35-11:05
Schumann

Keynote t2

Chair: *Ulrike Leopold-Wildburger*

1 - Assignment problems

Rainer Burkard

2 - Conic programming relaxations for combinatorial optimization

Franz Rendl

■ TB-03

Tuesday 09:35-11:05
Reger

Keynote t3

Chair: *Peter Letmathe*
Chair: *Roman Slowinski*

1 - Using allocated costs for decision making: reconciling theory with practice

Ramji Balakrishnan

2 - Electre methods: main features and new developments

Bernard Roy, José Rui Figueira

■ TC-01

Tuesday 11:20-12:40
Beethoven

Some recent advances in 0-1 integer programming

Chair: *Monique Guignard-Spielberg*

1 - **New reformulation and hybrid method for the bi-objective max—min knapsack problem**

Raid Mansi, Saïd Hanafi, Christophe Wilbaut

2 - **Recent experimental results on the rlt3 lower bound for the quadratic assignment problem**

Peter Hahn, William Hightower, Monique Guignard-Spielberg, Matthew Saltzman

3 - **A chr heuristic for solving the gqap problem and extensions**

Monique Guignard-Spielberg, Aykut Ahlatcioglu

■ TC-02

Tuesday 11:20-12:40
Schumann

Metaheuristics for transportation planning i

Chair: *Karl Doerner*

1 - Heuristics for the multi-period orienteering problem with multiple time windows

Fabien Tricoire, Martin Romauch, Karl Doerner, Richard Hartl

2 - Solving a multi-objective covering tour model with stochastic demands for disaster relief

Walter Gutjahr

3 - Vehicle routing and the value of postponement

Luc Muyldermans, Gu Pang

■ TC-03

Tuesday 11:20-12:40
Reger

Network optimization

Chair: *Frits Spieksma*

1 - Combining profit maximization and risk management for creating end-to-end bandwidth guaranteed services

Aparna Gupta

2 - The impact of different transportation cost measurements on hybrid hub and spoke network design

Anne Paul

3 - Charlemagne's challenge: the periodic latency problem

Frits Spieksma, Sofie Coene, Gerhard J. Woeginger

■ TC-04

Tuesday 11:20-12:40
Liszt

Genetic algorithms

Chair: *Eva Vallada*

1 - A genetic algorithm for inventory constrained scheduling on a single machine

Dirk Briskorn

2 - A genetic algorithm to minimise the maximum lateness on a single machine family scheduling problem

Lai-Soon Lee, Habibeh Nazif

3 - A genetic algorithm approach for the single machine earliness/tardiness scheduling problem with job-independent penalties

Jorge Valente, Saurabh Bharti, Kunal Prasad

4 - Cooperative and multicore genetic algorithms for the permutation flowshop problem

Eva Vallada, Gema Escrivá

■ TC-05

Tuesday 11:20-12:40
Haydn

Bioinformatics iv

Chair: *Milena Radenkovic*

1 - Metaheuristics for peptide assembly problem

Marcin Borowski, Jacek Blazewicz, Piotr Formanowicz, Tomasz Glowacki

2 - Extended model of building phylogenetic trees

Pawel Kedziora

3 - Network analysis of differential expression for the identification of disease-causing genes

Daniela Nitsch

4 - Gene prioritization in platelets

Francisco Bonachela Capdevila, Patrick De Causmaecker, Hans Deckmyn

■ TC-06

Tuesday 11:20-12:40
Koch

Real life applications of mcdm/mcda

Chair: *Pekka Salminen*

1 - Multi-criteria benefit-risk analysis of viagra, levitra, and cialis

Tommi Tervonen, Douwe Postmus, Hans Hillege

2 - MCDM tools in metsähallitus

Veikko Hiltunen

3 - A multi-criteria evaluation of household energy efficiency in South Africa

Ian Durbach, Stephen Davis

4 - Decision support for centralizing cargo at a moroccan airport hub using stochastic multicriteria acceptability analysis

Risto Lahdelma, Abdellah Menou, Abdelhanine Benallou, Pekka Salminen

■ TC-07
Tuesday 11:20-12:40
GSI - S 29

Network and route design

Chair: *Hilmi Berk Celikoglu*

1 - **Improving the efficiency of swedish paratransit: an application of the dial-a-ride problem**

Carl Henrik Häll, Jan T. Lundgren, Anders Peterson

2 - **A stochastic reduction approach for public transport network design using ant colony optimisation and genetic algorithm**

Bernhard Alt

3 - **Equilibrium traffic assignment models calibration and o-d matrix estimation by aggregate data**

Michele Ottomanelli, Leonardo Caggiani, Domenico Sassanelli

■ TC-08

Tuesday 11:20-12:40
GSI - S 30

Integrated vehicle scheduling

Chair: *Leo Kroon*

1 - Integrating timetabling and vehicle scheduling

Neele Hansen, Sven Krumke

2 - Modeling a simultaneously line network and schedule optimization in public transport

Michael Rittner, Karl Nachtigall

3 - A framework for a flexible vehicle scheduling system

Jozsef Bekesi, Miklos Kresz, David Pash, Andrej Brodnik

■ TC-09

Tuesday 11:20-12:40

GSI - S 5

Production systems

Chair: *Yamani Massim*

1 - The integration of kanban principles in campaign production systems

Jürgen Strohhecker, Rainer Sibbel, Marcel Dick

2 - An integrated simulation based nonlinear integer programming approach for minimization of surplus inventory in selective assembly

Erdal Emel, Mehmet Akansel, Volkan Hacioglu

3 - A fuzzy programming approach for an integrated production and distribution planning problem with uncertain conditions

Bilge Bilgen

4 - Efficient combined immune-decomposition algorithm for optimal buffer allocation in production lines for throughput and profit maximization

Yamani Massim, Farouk Yalaoui, Lionel Amodeo, Eric Chatelet, Abdelkader Zeblah

■ TC-10
Tuesday 11:20-12:40
GSI - S 6

Educational timetabling

Chair: *Wolfgang Brüggemann*

1 - Scheduling college classes at two universities using operations research techniques

Terri Friel, Barry King

2 - A multiobjective mathemetical model for exam-timeslot–room assignment problem

Mujgan Sagir, Zehra Kamisli Ozturk

3 - Optimal preference-based assignment of university students to parallel offered teaching groups

Wolfgang Brüggemann, Henrik Heitmann

■ TC-11

Tuesday 11:20-12:40

GSI - S 17

Algorithmic decision theory i

Chair: *Alexis Tsoukiàs*

1 - Additive conjoint measurement with ordered categories

Denis Bouyssou, Thierry Marchant

2 - What is a decision problem?

Alexis Tsoukiàs, Alberto Colorni

3 - Reaching a decision is great, but it's even better if it is justified

Wassila Ouerdane

4 - Questioning about weights and the strength of coalitions of criteria

Marc Pirlot, Ersek Eda, Philippe Fortemps

■ TC-12

Tuesday 11:20-12:40
GSI - S 18

Risk and dynamics

Chair: *Silvia Vogel*
Chair: *Ralf Wunderlich*

1 - **Multiperiod optimization with stochastic dominance criterion**

   Milos Kopa

2 - **Time consistency for multiperiod risk measures: a reasonable concept?**

   Raimund Kovacevic

3 - **Dynamic portfolio optimization with bounded shortfall risks**

   Ralf Wunderlich, *Jörn Sass*

■ TC-13

Tuesday 11:20-12:40

GSI - S 31

Location and GIS

Chair: *Dolores R. Santos-Peñate*

1 - Choosing a suitable map projection for GIS purposes

Osman Sami Kirtiloglu, I.Bulent Gundogdu

2 - Gis-based spatial interaction allocation using stochastic optimization

Eric Delmelle

3 - A gis-based decision support system for competitive facility location

Burcin Bozkaya, Seda Yanik

4 - A multi-criteria gis based procedure to solve a network competitive location problem

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

■ TC-14

Tuesday 11:20-12:40

GSI - S 32

Supply chain inventories

Chair: *Jörn Grahl*

1 - Inventory planning in standard business software

Thomas I. Maindl, Sascha Herpers

2 - An integrated approach to safety stock optimization in serial supply networks

Daniel Dittmar, Steffen Klosterhalfen, Stefan Minner

3 - Multiple sourcing in multi-echelon inventory systems

Steffen Klosterhalfen, Stefan Minner, Sean Willems

4 - Lower bounds for the cost of strategic safety stocks in multiple echelons

Jörn Grahl

■ TC-15

Tuesday 11:20-12:40
Einstein

Exact approaches for routing problems

Chair: *Andrea Tramontani*

1 - An exact method for the vehicle routing problem with time windows

Roberto Roberti, Roberto Baldacci, Aristide Mingozzi

2 - An integer programming approach for the time dependent travelling saleman problem

Juan Jose Miranda Bront, Isabel Méndez-Diaz, Paula Zabala

3 - An extended formulation for the traveling salesman problem with time windows

Andrea Tramontani, Sanjeeb Dash, Oktay Gunluk, Andrea Lodi

■ TC-16

Tuesday 11:20-12:40
Koenig

Multicriteria routing 1

Chair: *José Santos*

1 - **Multi-criteria shortest paths in road networks with sharc**

Daniel Delling, Dorothea Wagner

2 - **A solution approach for the multicriteria shortest path problem with soft constraints**

Luigi Di Puglia Pugliese, Francesca Guerriero, Janusz Granat

3 - **Parameters to asses the computational effort involved in the multi-criteria shortest path problem**

José Santos, José Paixão

4 - **The bicriterion stochastic knapsack problem**

Kim Allan Andersen, Matthias Ehrgott, Lars Relund Nielsen, Daniele Pretolani

■ TC-17

Tuesday 11:20-12:40
Rheinaue

Cutting and packing 5

Chair: *Reinaldo Morabito*

1 - 3d bin packing problem with fuzzy information

Ugur Eliiyi

2 - A mip approach for solving the stowage problem on board the international space station

Giorgio Fasano, Claudia Lavopa, Maria Chiara Vola, Davide Negri

3 - A fast heuristic for a three-dimensional non-convex domain loading problem

Antonio Sforza, Maurizio Boccia, Claudio Sterle

4 - Optimization models for container loading problems with cargo stability and other considerations

Reinaldo Morabito, Leonardo Junqueira, Denise Yamashita

■ TC-18

Tuesday 11:20-12:40
LennÃⓒ

Nonlinear optimization and applications

Chair: *Ana I. Pereira*
Chair: *Edite M.G.P. Fernandes*

1 - Minimizing wastewater treatment plant costs through a heuristic pattern search augmented lagrangian algorithm

Isabel Espírito Santo, Edite M.G.P. Fernandes

2 - Modified differential evolution for constrained nonlinear programming problems

Md. Abul Kalam Azad, Edite M.G.P. Fernandes

3 - Filter and interior point approaches for an electric power market optimization problem

M. Teresa Torres Monteiro, Helena Sofia Rodrigues

4 - Optimal control with nonlinear programming

Helena Sofia Rodrigues, M. Teresa Torres Monteiro, Delfim F. M. Torres

■ TC-19

Tuesday 11:20-12:40
Haber

Tabu search

Chair: *Nihan Karaca*

1 - Fast tabu search implementations for atsps defined on complete graphs

Diptesh Ghosh, Sumanta Basu

2 - Improving slicing layouts with bottom left positioning of departments

Daniel Scholz

3 - Assembly line balancing with sequence dependent setup times using tabu search algorithm

Nihan Karaca, Rifat Gürcan Özdemir

■ TC-20

Tuesday 11:20-12:40
Mann

DEA methodology iv

Chair: *Dimitris Despotis*

1 - Ranking decision making units with stochastic data

Mohammad Hassan Behzadi, Farhad Hosseinzadeh Lotfi, Mohsen Rostamy-malkhalifeh, Mahnaz Mirbolouki, Zohreh Moghaddas

2 - The error reduction method for ranking units with stochastic data

Mohammad Hassan Behzadi, Mahnaz Mirbolouki, Gholam Reza Jahanshahloo, Farhad Hosseinzadeh Lotfi, Mohsen Rostamy-malkhalifeh, Zohreh Moghaddas

3 - Specialisation versus diversification in dea: a new model for non-homogeneous DMUs

Cecilio Mar-molinero

4 - Ranking based on inefficient frontier in presence of dmv variables

Mohsen Rostamy-malkhalifeh, Zohreh Moghaddas

■ TC-21

Tuesday 11:20-12:40

Hauptmann

Dualization of monotone boolean functions and its applications

Chair: *Khaled Elbassioni*

1 - Monet: algorithmic state of the art (a guided algorithmic tour including practicability stopovers)

Matthias Hagen

2 - Polynomial-time dualization of r-exact hypergraphs with applications in geometry

Imran Rauf, Khaled Elbassioni

3 - Modeling biological signaling networks using ip, sat and monotone boolean functions

Utz-Uwe Haus, Kathrin Niermann, Klaus Truemper, Robert Weismantel

■ TC-22

Tuesday 11:20-12:40
Arndt

Operations of closed loop supply chains (i)

Chair: *Erwin van der Laan*

1 - Network configuration and capacity choice in hybrid manufacturing/remanufacturing systems

David Francas, Stefan Minner

2 - Dynamic buy-back for product recovery in end-of-life spare parts management

Tobias Schulz, Rainer Kleber, Guido Voigt

3 - Maintaining an effective inventory

Manbir Sodhi

■ TC-23

Tuesday 11:20-12:40
Planck

Pricing

Chair: *Demet Cetiner*

1 - Price matching and strategic consumer behaviour in dynamic pricing

Yossi Aviv, Yuri Levin, Mikhail Nediak

2 - A study on discount pricing policy for perishable products with reference price effects

Takeshi Koide, Hiroaki Sandoh

3 - Dynamic switching times from season to single tickets in sports and entertainment

Serhan Duran, Julie Swann

■ TC-24

Tuesday 11:20-12:40

GSI - S 20

Optimization under randomness OR fuzziness

Chair: *Monga Kalonda Luhandjula*

1 - Interactive decision making based on level sets and stochastic programming model for fuzzy random two-level linear programming problems

Kosuke Kato, Masatoshi Sakawa

2 - Embedding theorem for fuzzy random variables and its application to fuzzy stochastic optimization

Monga Kalonda Luhandjula, Stanislas Sakera Ruzibiza

3 - Possibilistic-probabilistic optimization: models, methods, applications

Alexander Yazenin

4 - On infeasibility and pareto-optimality in fuzzy goal programming

Mariano Jimenez-Lopez, Bilbao-Terol Amelia

■ TC-25

Tuesday 11:20-12:40

GSI - S 25

Cooperative games with interval data

Chair: *Sırma Zeynep Alparslan Gök*

1 - Robust allocation rules in dynamic cooperative games

Dario Bauso, Judith Timmer

2 - Monotonicity properties of interval solutions for convex interval games

Mariana Rodica Branzei, Stef Tijs, Elena Yanovskaya

3 - The interval Shapley value: an axiomatization

Sırma Zeynep Alparslan Gök, Mariana Rodica Branzei, Stef Tijs

■ TC-26

Tuesday 11:20-12:40

GSI - S 35

Graphs and networks

Chair: *Agnieszka Rusinowska*

1 - **A game-theoretic approach to combinatorial optimization**

   Thorsten Krempasky, Anita Schoebel

2 - **Connected (n,m)-graphs with maximum zeroth order general Randic index**

   Ljiljana Pavlovic, Mirjana Lazic

3 - **Random combinatorial optimization problems on hypergraph matchings: limiting optimal values and convergence rates**

   Pavlo Krokhmal

4 - **Applying relation algebra and relview to measures in a social network**

   Agnieszka Rusinowska, Rudolf Berghammer, Harrie De Swart

■ TC-27
Tuesday 11:20-12:40

GSI - S 21

Knowledge discovery and data mining 2

Chair: *Nuno Miguel Cavalheiro Marques*

1 - Web access log analysis using a multi-agent approach

António Jorge do Nascimento Morais

2 - Evaluation of segments of credit cards holders

Cristina Martins, Margarida Cardoso

3 - Encoding knowledge in neural networks with probabilistic values

Nuno Miguel Cavalheiro Marques

■ TC-28

Tuesday 11:20-12:40
GSI - S 1

Modelling large mips

Chair: *Oliver Bastert*

1 - Solution strategies for hard mip problems

Oliver Bastert

2 - Schemes of decomposition and parallelisation in modeling: how to go about solving really large problems?

Susanne Heipcke

3 - Matrix approach to enterprise performances optimization

Marko Hell, Stjepan Vidacic, Zeljko Garaca

■ TC-29

Tuesday 11:20-12:40
GSI - S 2

Credit risk modelling

Chair: *Ronald Hochreiter*

1 - A coupled Markov chain approach to cdx pricing and optimization
  Ronald Hochreiter, David Wozabal

2 - A stochastic model for constant proportional debt obligations
  Viviana Fanelli, Silvana Musti

3 - Optimization heuristics for determining internal rating grading scales
  Johannes Paha

■ TC-30
Tuesday 11:20-12:40
GSI - S 26

Knowledge discovery for decision support ii

Chair: *Milos Jovanovic*

1 - Continuous time Bayesian networks for diagnosis of heart disease

Elena Gatti, Enrico Fagiuoli, Davide Luciani, Fabio Pioltini, Fabio Stella

2 - Business intelligence model for electronic documents archive

Dragana Becejski-Vujaklija, Boris Delibasic, Milos Jovanovic

3 - A "white box" data mining platform for decision support in decision tree induction algorithm design

Milos Jovanovic, Boris Delibasic, Milan Vukicevic

4 - Data quality provisioning for uncertain decision support

Sebastian Olbrich, Peter Chamoni

■ TC-31

Tuesday 11:20-12:40

GSI - S 34

Applications of noncooperative games

Chair: *Juan Tejada*

1 - A game theoretic model for channel allocation problems in mobile communication systems

Joaquin Sánchez-Soriano, Javier Gozalvez, Alberto Rodríguez-Mayol

2 - Risk measures of auction models in an electricity market

Juan Tejada, Estrella Alonso

3 - A patrolling game for optimising randomised patrols.

Katerina Papadaki, Alec Morton, Steve Alpern

■ TC-32

Tuesday 11:20-12:40

GSI - S 4

Dmkd advanced applications

Chair: *Yannis Theodoridis*

1 - A temporal text mining application in competitive intelligence

Haralampos Karanikas, Ioannis Kopanakis

2 - Knowledge discovery in marketing databases using rough sets theory and self organizing maps.

Renato Sassi

3 - Mining a large xml based event logging system: a case study in telecom

Sara Safari Vahed

4 - Suppliers development, a comprehensive model

Zahra Sharafi, Jamshid Parvizian

■ TC-33

Tuesday 11:20-12:40

GSI - S 7

Flow problems

Chair: *Hendrik Lambrecht*

1 - Using linear programming to support the investment planning of stochastic flow lines

Katja Schimmelpfeng, Stefan Helber

2 - Solving factorized path problems

Marc Pouly

3 - Security constrained optimal dispatch via network flow model

Aurelio Oliveira, Luciana Casacio, Christiano Lyra

■ TC-34

Tuesday 11:20-12:40
GSI - S 8

Linear and nonlinear regression

Chair: *Pakize Taylan*

1 - Outlier problems in linear regression

Pakize Taylan, Ahmet Kaya

2 - Outlier analysis for quality assurance of data

Secil Yalaz, Ahmet Kaya

3 - Combining regression and exponential smoothing methods for predicting iron ore product grades

Jim Everett

4 - Experiments with robust techniques for regression models with minimal assumptions

Magderie van der Westhuizen, Giel Hattingh, Hennie Kruger

■ TC-35

Tuesday 11:20-12:40

GSI - S 9

Energy prices and consumption

Chair: *Stefan Schmidt*
Chair: *Martin Rainer*

1 - Dealing with uncertainty in energy models using optimization modeling in AIMMS

Ovidiu Listes

2 - Modeling uncertainty of natural gas consumption

Stefan Schmidt

3 - Marginal costs and optimality for cogeneration power systems

Nadia Maïzi, Marc Bordier

◼ TC-36

Tuesday 11:20-12:40

GSI - S 11

Call center performance models

Chair: *Ger Koole*

1 - Queues with waiting-time dependent service

Thomas Bang Nielsen, Ger Koole, Bo Friis Nielsen

2 - Analysis of two-level support systems with time-dependent overflow

Michael Manitz, Raik Stolletz

3 - Control techniques for call centers with abandonments and retrials

Sandjai Bhulai, Dennis Roubos

4 - On service level issues for inbound call centers

Alex Roubos

■ TC-37

Tuesday 11:20-12:40
GSI - S 12

Multi-criteria decision aids - 1

Chair: *Halil Sen*

1 - A better alternative to weighted sum scoring

Chris Tofallis

2 - Fleet replacement policies in theory and practice

Patrick Tobin

3 - Mcda group preferences modeling under incomplete information:

Halil Sen, Ibrahim Cil

■ TC-38

Tuesday 11:20-12:40

GSI - S 13

Bilevel programming: applications

Chair: *Diana Fanghaenel*

1 - A hierarchical approach for water system planning

Carmen Galé, Herminia I. Calvete, Pedro Mateo

2 - Optimization methods with convex and concave support functions in bilevel programming

Oleg Khamisov

3 - Piecewise linear and piecewise quadratic finite-element approximation of hemivariational inequalities

Nina Ovcharova

■ TC-39
Tuesday 11:20-12:40

GSI - S 14

Mergers and acquisitions in the banking sector in Europe

Chair: *Alain Chevalier*

1 - Consolidation in the European pharmaceutical industry

Gupta Jyoti

2 - A systemic approach of the bank crisis in Europe

Alain Chevalier, Pierre Kunsch

3 - Value creation, quality improvement and motivation optimisation: the case of the beer industry concentration in Europe

Alain Chevalier, Pierre Kunsch

4 - The role of the payment methods in m&a deals: the bnp paribas case study

Alain Chevalier, Etienne Redor

■ TC-40

Tuesday 11:20-12:40

GSI - S 27

Business process modelling and simulation

Chair: *Miro Gradisar*

1 - Business process modeling and simulation requirements in project oriented small and medium enterprises (smes)

Igor Perko, Igor Vrecko

2 - Simulation approach for measuring benefits of business process renovation

Jure Erjavec, Miro Gradisar, Peter Trkman

3 - Simulation approach for measuring benefits of cutting stock optimization

Mihael Cesar

4 - Use of simulation in the public sector: a case study

Andrej Kovacic, Bojan Pecek

■ TC-41

Tuesday 11:20-12:40

GSI - S 28

Stochastic project scheduling

Chair: *Zohar Laslo*

1 - A repairing heuristic procedure to multi-mode resource-constrained project scheduling problem

Sonda Elloumi, Taicir Loukil, Philippe Fortemps

2 - Robust resource allocations in temporal networks

Wolfram Wiesemann, Daniel Kuhn, Berc Rustem

3 - Optimizing the modifications regularity in a multi-project system

Zohar Laslo

■ TC-42

Tuesday 11:20-12:40

GSI - S 3

Topics in macroeconomic modelling

Chair: *Claus Neidhardt*

1 - Equilibrium states in market simulation

Claus Neidhardt

2 - The impact of estimation risks on capital allocation

Gabriel Frahm

3 - Keen economics

Jürgen Kremer

4 - Property rights, real options and social asymmetries

Dirk Löhr

■ TC-43

Tuesday 11:20-12:40

GSI - S 10

Building sustainable communities

Chair: *Ali Gökmen*
Chair: *Inci Gokmen*

1 - Solutions through community participation

John Croft, Ali Gökmen

2 - Transformation of a traditional village in Turkey to a economically sustainable community

Ali Gökmen, Inci Gokmen

3 - Education for creating sustainable communities

Inci Gokmen, Ali Gökmen

■ TC-44

Tuesday 11:20-12:40

GSI - S 16

Climate, energy and uncertainty

Chair: *Olivier Bahn*

1 - **Policy making when models disagree**

   Bernard Sinclair-Desgagné, Pauline Barrieu

2 - **A stochastic game approach to the optimal timing of regional climate policies**

   Olivier Bahn, Laurent Drouet, Alain Haurie, Roland Malhamé, Julien Thénié

3 - **The endogenous price dynamics of emission permits in the presence of technology change**

   Marc Chesney, Luca Taschini

4 - **Integrating behavioral pattern uncertainties in techno-economic energy and environmental planning models**

   Gustave Nguene, Emmanuel Fragniere, Roman Kanala, Denis Lavigne, Francesco Moresino

5 - **The simulation and optimization of technology to address climate change**

   Gary Howorth

■ TC-45
Tuesday 11:20-12:40
GSI - S 33

Ii : a societal complexity and sustainable development

Chair: *Fernanda Strozzi*

1 - Ethical aspects of societal complexity: the contribution of discourse ethics

John Mingers

2 - A methodology for sustainable development

Cathal Brugha

3 - Manmade project: diagnosing vulnerability, emergent phenomena, and volatility in man-made networks

Fernanda Strozzi, Eugenio Gutierrez, David Arrowsmith

4 - Triple loop learning - a complementarist systems approach to management

Slavica P. Petrovic

■ TD-01

Tuesday 12:55-14:15
Beethoven

Euro doctoral dissertation award

Chair: *Denis Bouyssou*

1 - Advances in mip - new tricks for the bag

Tobias Achterberg

2 - Heuristics for stochastic vehicle and inventory routing problems

Lars Magnus Hvattum

3 - Interval methods for competitive location problems

Boglarka G.-Toth

■ TD-02

Tuesday 12:55-14:15
Schumann

Metaheuristics for transportation planning ii

Chair: *Karl Doerner*

1 - Ant colony optimization for the order batching problem

Soeren Koch, Gerhard Wäscher

2 - Tabu search and the attribute based hill climber for the order batching in walk-and-pick order picking systems

Sebastian Henn, Gerhard Wäscher

3 - Variable neighborhood search for the dial-a-ride problem

Karl Doerner, Sophie Parragh, Richard Hartl

4 - Ant colony optimization for the single line train scheduling problem

Marc Reimann, Jose-Eugenio Leal

■ TD-03

Tuesday 12:55-14:15
Reger

Wireless sensor networks

Chair: *Kadir Ertogral*

1 - Optimal placement, activity scheduling and routing in wireless sensor networks

I. Kuban Altinel, Yavuz Turkogullari, Necati Aras

2 - Deterministic deployment of wireless sensor networks

Charl Ras, Doreen Thomas, Marcus Brazil

■ TD-04

Tuesday 12:55-14:15
Liszt

Flow-shop scheduling problems

Chair: *M. Rosario Moreira*

1 - Minimizing the number of tardy jobs in a flowshop scheduling problem with setup times and time lags constraints

Emna Dhouib, Jacques Teghem, Taicir Loukil

2 - Flowshop rescheduling under different types of disruptions

Ketrina Katragjini, Eva Vallada, Ruben Ruiz

3 - Attribute based hill climbing for the no-wait flow-shop scheduling problem with flow-time objective

Andreas Fink

4 - Greedy randomized (gr) dispatching heuristics for the single machine scheduling problem with quadratic earliness and tardiness penalties

M. Rosario Moreira, Jorge Valente

■ TD-05

Tuesday 12:55-14:15
Haydn

Bionformatics v

Chair: *Metin Turkay*

1 - Classification of cancers using gene expression signatures

Youssef Masmoudi, Metin Turkay

2 - Mixed-integer model formulation for the image registration problem

Michael Stiglmayr, Kathrin Klamroth

3 - Protein function prediction from protein-protein interactions. new insights using fuzzy logic algorithms

Antonio Gómez, Enrique Querol, Juan Cedano

4 - Classification of protein-protein interactions with the hyper-box approach

Ozge Demiryapan, Metin Turkay

■ TD-06

Tuesday 12:55-14:15
Koch

Humanitarian logistics

Chair: *Begoña Vitoriano*

1 - Mathematical programming in an auction for providing Internet connection in buenos aires city public schools

Guillermo Duran, Rafael Epstein, Jaime Catalan, Flavia Bonomo, Javier Marenco, Alexis Jawtuschenko

2 - Yield uncertainty and information asymmetry in influenza supply chain coordination

Javad Nasiry, Stephen Chick, Sameer Hasija

3 - A fuzzy data-based dss for humanitarian response to natural disasters in developing countries

J. Tinguaro Rodriguez, Begoña Vitoriano, Javier Montero

4 - A lexicographical goal programming model for transport of humanitarian aid in developing countries

Gregorio Tirado, M. Teresa Ortuño, Begoña Vitoriano

■ TD-07

Tuesday 12:55-14:15
GSI - S 29

Robust optimization i

Chair: *Sebastian Stiller*

1 - The exact subgraph recoverable robust shortest path problem
Christina Puhl

2 - Robustness trough branch-and-cut and uncertain set covering problems
Michele Monaci, Matteo Fischetti

3 - Computational considerations of the probability-robustness
Ricardo Garcia, Ángel Marín, Juan A. Mesa, Federico Perea, Doroteo Verastegui

4 - Linear recovery problems with application in train platforming
Sebastian Stiller, Laura Galli, Paolo Toth, Alberto Caprara

■ TD-08
Tuesday 12:55-14:15
GSI - S 30

Lotsizing and scheduling

Chair: *Herbert Meyr*

1 - Simultaneous lotsizing and scheduling for multiple production stages

Florian Seeanner, Herbert Meyr

2 - Product blending and product shipment in an integrated oil company

Sigrid Lise Nonås, Jens Bengtsson

3 - Lot-sizing within internal supply chains

Alexander Dobhan

4 - The economic lot and supply scheduling problem: models and solutions

Heinrich Kuhn, Thomas Liske

■ TD-09

Tuesday 12:55-14:15

GSI - S 5

Quality management

Chair: *Yue Dai*

1 - **The management of processes in maintenance**

   Slavica Jovetic, Nenad Stanisic

2 - **On the optimization of quality and maintenance decisions using a variable-parameter shewhart chart**

   George Nenes, Sofia Panagiotidou

■ TD-10

Tuesday 12:55-14:15
GSI - S 6

Transport timetabling

Chair: *Rodrigo Acuna-Agost*

1 - Determining railway timetables according to users' desires and fleet size constraints

Miguel Angel Pozo, Juan A. Mesa, Francisco A. Ortega

2 - An ant colony algorithm for the train timetabling problem of mrt

Jenyu Huang, Jau-Ming Su

3 - Sapi - a new solution scheme in disruption management

Rodrigo Acuna-Agost, Philippe Michelon, Dominique Feillet, Serigne Gueye

■ TD-11

Tuesday 12:55-14:15

GSI - S 17

MCDA applications in business and management

Chair: *Michael Doumpos*

1 - **An integrated quantitative framework for active equity portfolio engineering**

Panagiotis Xidonas, Fotis Petropoulos, George Mavrotas, Christos Ntanos, Konstantinos Nikolopoulos, Dimitris Askounis, John Psarras, Vasilis Assimakopoulos

2 - **On artificial intelligence and multicriteria decision analytics to engineer a predictive school classification system**

Nina Kajiji, Gordon Dash, Elliot Krieger

3 - **Evolutionary optimization approaches for building outranking models in credit risk rating**

Michael Doumpos, Constantin Zopounidis

■ TD-12

Tuesday 12:55-14:15

GSI - S 18

Approximation and stability

Chair: *Georg Pflug*
Chair: *Silvia Vogel*

1 - Universal confidence sets for constrained decision problems

Silvia Vogel

2 - Stochastic optimization - sample path rate of stability

Petr Lachout

3 - Approximation and optimal scenario generation for stochastic programs

Georg Pflug

■ TD-13

Tuesday 12:55-14:15

GSI - S 31

Location in supply chains

Chair: *H.a. Eiselt*

1 - Contribution to location — allocation problem of supply chain units to the structural industry section

Pericles Fylakis

2 - Location and policy analysis for intermodal transport in belgium

Cathy Macharis, Ethem Pekin

3 - Optimizing subsidies for the location of facilities

H.a. Eiselt, Joy Bhadury

■ TD-14

Tuesday 12:55-14:15
GSI - S 32

Behavioral kernels of inventory management

Chair: *Mirko Kremer*

1 - **Over- and underreaction in time series forecasting**

   Mirko Kremer

2 - **Supply chain coordination with information sharing in the presence of trust and trustworthiness**

   Guido Voigt

3 - **Designing contracts for supply chains with irrational but predictable newsvendors**

   Michael Becker-Peth, Ulrich Thonemann

■ TD-15

Tuesday 12:55-14:15
Einstein

Resource-constrained project scheduling

Chair: *Christian Artigues*

1 - A multi-population genetic algorithm for the resource constrained project scheduling problem

José Fernando Gonçalves

2 - A new fast complete method for resource-constrained project scheduling

Andrei Horbach

3 - Modeling and solving resource-constrained project scheduling problems with ibm ilog cp optimizer

Philippe Laborie

4 - Event-based MILP models for the resource-constrained project scheduling problem

Christian Artigues, Oumar Kone, Pierre Lopez, Marcel Mongeau, Marcel Mongeau

■ TD-16

Tuesday 12:55-14:15
Koenig

Multiple criteria integer programming

Chair: *Ralf Borndörfer*

1 - An exact method to generate the non-dominated set for the moilp problem

Chergui Mohamed El-Amine, Ait-mehdi Meriem, Abbas Moncef

2 - An approximation algorithm to generate the extreme supported nondominated points for multiobjective mixed integer programs

Ozgur Ozpeynirci, Murat Koksalan

3 - Multicriteria optimization in public transportation

Ralf Borndörfer

■ TD-17

Tuesday 12:55-14:15
Rheinaue

Cutting and packing 6

Chair: *Socorro Rangel*

1 - Large scale production planning in the stainless steel industry

Janne Karelahti, Pekka Vainiomäki, Tapio Westerlund

2 - Skiving stock problem

Martina Stuber

3 - Arc-flow model for the two-dimensional cutting stock problem

Rita Macedo, Cláudio Alves, J. M. Valério de Carvalho

4 - The two-dimensional cutting stock problem with saw machine set ups

Socorro Rangel, Gabriela Mosquera, Horacio Yanasse

■ TD-18

Tuesday 12:55-14:15
LennÃ©

Mathematical programming problems in machine learning

Chair: *Annabella Astorino*

1 - Mathematical programming for multiple kernel learning

Alexander Zien

2 - Parallel nonlinear svm regression through gradient-projection methods

Thomas Serafini, Gaetano Zanghirati, Luca Zanni

3 - A new look to the primal problem in svm training

Gaetano Zanghirati, Roger Fletcher

4 - A two phase approach to semisupervised classification

Annabella Astorino, Antonio Fuduli, Manlio Gaudioso, Enrico Gorgone, Diethard Pallaschke

■ TD-19

Tuesday 12:55-14:15
Haber

Location and routing with metaheuristics

Chair: *Mahmut Ali Gokce*

1 - **Motorcycle-courier routing problems in urban areas**

   Tsung-Sheng Chang

2 - **New metaheuristics for the reliability p-median problem**

   Javier Alcaraz, Mercedes Landete, Juan Francisco Monge

3 - **A new capacitated arc routing problem type: formulation and solution approaches**

   Gokhan Kirlik, Aydin Sipahioglu, Osman Parlaktuna, Ahmet Yazici

4 - **A novel GRASP based tabu search with variable neighbourhoods for inventory distribution routing (idrp) problem**

   Mahmut Ali Gokce, Ozgur Akgun, Berkay Beygo, Onur Coskunseda

■ TD-20

Tuesday 12:55-14:15
Mann

DEA methodology v

Chair: *Joseph Paradi*

1 - Finding DEA efficient hyperplanes using molp structure

Mohammad Reza Mozaffari, Farhad Hosseinzadeh Lotfi, Gholam Reza Jahanshahloo, Josef Jablonsky, Javad Gerami

2 - A method for finding strong defining hyperplanes of pps with variable returns to scale technology

Israfil Roshdi, Mostafa Davtalab Olyaie

3 - A simulation analysis to validate a new DEA model for controlling environmental impacts on efficiency measurements

Haiyan Zhu, Joseph Paradi

■ TD-21

Tuesday 12:55-14:15
Hauptmann

Satisfiability and graphs

Chair: *Ewald Speckenmeyer*

1 - Feedback vertex set heuristics based on Markov chains

Mile Lemaic

2 - Level graph formulas

Bert Randerath

3 - Deterministic local search for the k-sat problem: an algorithm and some improvements

Dominik Scheder

■ TD-22

Tuesday 12:55-14:15
Arndt

Operations of closed loop supply chains (ii)

Chair: *Erwin van der Laan*

1 - Integrated production and recycling planning under uncertainty

Jenny Steinborn, Grit Walther, Thomas Spengler

2 - Optimal core acquisition and remanufacturing policies under core quality uncertainty

Ruud Teunter, Simme Douwe Flapper

3 - Push and pull remanufacturing with yield uncertainty

Erwin van der Laan

■ TD-23

Tuesday 12:55-14:15
Planck

Customer behavior

Chair: *Niels Becker*

1 - Robust product line design with pricing

Niels Becker, Brigitte Werners

2 - Decision theory and fuzzy approaches for customer valuation in revenue management

Andreas Hilbert, Tobias von Martens

3 - Estimating unconstrained demand rate functions using customer-choice sets

Alwin Haensel

4 - Single-leg airline revenue management with overbooking

Nursen Aydin, S. Ilker Birbil, J.b.g. Frenk, Nilay Noyan

■ TD-24

Tuesday 12:55-14:15

GSI - S 20

Extremal problems and applications i

Chair: *Adilson Elias Xavier*

1 - Application of nonlinear optimization technique to energy saving problems

Mikhail Mikhalevich, Ludmilla Koshlai

2 - A new predictor-corrector method for optimal power flow

Roy Wilhelm Probst, Aurelio Oliveira

3 - The extended hyperbolic smoothing clustering method: computational results

Adilson Elias Xavier, Vinicius Layter Xavier

■ TD-25

Tuesday 12:55-14:15

GSI - S 25

The Shapley value

Chair: *Yukihiko Funaki*

1 - Population normalized balanced contributions property and the per-capita Shapley value

Takumi Kongo

2 - Axiomatization and implementation of discounted Shapley values

Rene van den Brink, Yukihiko Funaki

3 - A coalition formation value for games in partition function form

Yukihiko Funaki, Michel Grabisch

4 - Computing values and power indices in cooperative land division

Marco Dall'Aglio, Camilla Di Luca

■ TD-26

Tuesday 12:55-14:15

GSI - S 35

Network flow problems

Chair: *Ankit Khandelwal*

1 - Fast estimation of expected maximum flows through reliable networks

Megha Sharma, Diptesh Ghosh

2 - Flow constrained minimum cost flow problem

Sonia

3 - Labeling algorithms for the earliest and latest time-varying maximum flow problems

Dan Sha, Wenhua Yu

4 - Flow enhancement with cost saving in a min cost network flow problem

Ankit Khandelwal, Sonia

■ TD-27

Tuesday 12:55-14:15
GSI - S 21

Assembly line balancing

Chair: *F. Tevhide Altekin*

1 - **Balancing u type assembly lines with heterogeneous workers**

Servet Hasgul, Banu Guner

2 - **Constraint programming for solving the complex-constrained assembly line balancing problem**

Seyda Topaloglu, Latif Salum, Aliye Ayca Supciller

3 - **Simultaneous balancing and scheduling of mixed-model assembly lines with task sequencing and general precedence diagram**

Cemalettin Öztürk, Semra Tunali, Arslan Ornek

4 - **Profit oriented disassembly line balancing with stochastic task times**

F. Tevhide Altekin

◼ TD-28

Tuesday 12:55-14:15
GSI - S 1

Consumer behavior and sales forecasting

Chair: *Winfried Steiner*

1 - Robust forecasting of aggregated sales from weekly scanner data

Kathrin Kagerer, Harry Haupt

2 - Random scaling of nonlinear functions: an application to supermarket scanner data

Peter Wechselberger, Stefan Lang, Winfried Steiner

3 - Modeling time-dependent effects in consumer choice behavior

Winfried Steiner, Thomas Kneib, Bernhard Baumgartner

■ TD-29

Tuesday 12:55-14:15
GSI - S 2

Commodity risk management 1

Chair: *Rita D'Ecclesia*

1 - Energy commodities market correlations and cointegration

Cristina Bencivenga, Rita D'Ecclesia, Giulia Sargenti

2 - A new index for electricity spot markets

Silvana Stefani, Paolo Falbo

■ TD-30

Tuesday 12:55-14:15
GSI - S 26

Energy, oil and gas 1

Chair: *Steffen Rebennack*
Chair: *Przemysaw Kacprzak*
Chair: *Niko Iliadis*

1 - **Oil production optimization - solved by column generation**

Vidar Gunnerud, Bjørn Nygreen, Ken McKinnon, Bjarne Foss

2 - **Profit maximization in the liquefied natural gas value chain**

Kristin Tolstad Uggen, Marte Fodstad, Frode Rømo

3 - **Gas storage valuation: comparison of common valuation approaches**

Bastian Felix

■ TD-31

Tuesday 12:55-14:15

GSI - S 34

Training algorithm for support vector machines

Chair: *Shankar Vembu*

1 - Second-order smo for svm online and active learning

Christian Igel, Tobias Glasmachers

2 - Feature selection combining linear support vector machines and concave optimization

Francesco Rinaldi

3 - Dc programming and spherical separation

Antonio Fuduli, Annabella Astorino, Manlio Gaudioso

4 - Probabilistic structured predictors

Shankar Vembu, Thomas Gaertner, Mario Boley

■ TD-32

Tuesday 12:55-14:15

GSI - S 4

Dmkd methods and techniques

Chair: *Nikos Pelekis*

1 - Inductive generation of foreign exchange forecast models

Roman Sologub

2 - Interesting patterns using goal programming

Yasir Imtiaz Khan, Asim Raza, Syed Hasnain Haider Gilani

■ TD-33

Tuesday 12:55-14:15
GSI - S 7

Integer programming

Chair: *Hilary Paul Williams*

1 - The chvatal dual of a pure integer programme

Hilary Paul Williams

2 - Solving lagrangian relaxations on networks by approximate subgradient methods

Eugenio Mijangos

3 - A new pivoting procedure for strengthening gomory mixed-integer cuts

Franz Wesselmann, Achim Koberstein, Uwe Suhl

■ TD-34

Tuesday 12:55-14:15

GSI - S 8

Business intelligence for risk management in consumer credit

Chair: *Lyn Thomas*

1 - **Collection comparison — differences between in-house collection and agency.**

Anna Matuszyk, Lyn Thomas

2 - **Practical experiences from credit scoring projects for Chilean financial organizations for micro-entrepreneurs**

Sebastian Maldonado, Cristian Bravo, Richard Weber

3 - **Model follow-up in credit scoring projects**

Cristian Bravo, Sebastian Maldonado, Richard Weber

4 - **Modelling credit risk in portfolios of consumer loans: how to uncrunch credit**

Lyn Thomas, Madhur Malik

■ TD-35
Tuesday 12:55-14:15
GSI - S 9

Equilibrium prices

Chair: *Steffen Hitzemann*
Chair: *Martin Rainer*

1 - Dynamic behavior of CO2 spot prices

Steffen Hitzemann, Marliese Uhrig-Homburg

2 - The randomized multicriteria spatial price network problem

Laura Scrimali, Fabio Raciti

3 - Equilibria in markets with non convexities

Gabriella Muratore

■ TD-36

Tuesday 12:55-14:15

GSI - S 11

Stochastic modelling 2

Chair: *Cherkez Aghayeva*

1 - Risk-sensitive average cost optimality in Markov decision chains

Karel Sladky

2 - Simulation of rare and extreme events using nonlinear stochastic differential equations

Bronislovas Kaulakys

3 - Using service life in modeling human mortality

Otilija Sedlak, Dragan Stojic

4 - The necessary condition of optimality for variable structure control systems with delay

Cherkez Aghayeva

■ TD-37

Tuesday 12:55-14:15
GSI - S 12

Multi-criteria decision aids - 2

Chair: *Mahmut Sonmez*

1 - Building a binary outranking relation in uncertain, imprecise and multi-experts contexts: the application of evidence theory

Boujelbene Mohamed Aymen, Yves De Smet, Frikha Ahmed, Habib Chabchoub

2 - Purchasing professional services: which decision criteria?

Mahmut Sonmez

■ TD-38

Tuesday 12:55-14:15

GSI - S 13

Optimization and generalized nash equilibra

Chair: *Andreas Fischer*

1 - Relaxation methods for generalized nash equilibrium problems

Christian Kanzow, Anna von Heusinger

2 - Newton's method for the computation of a normalized nash equilibrium through fixed point formulation

Anna von Heusinger, Christian Kanzow, Masao Fukushima

3 - A new line search inexact restoration approach for nonlinear programming

Andreas Fischer, Ana Friedlander

Computational methods for financial risk management

Chair: *Michael Doumpos*
Chair: *Constantin Zopounidis*

1 - Using fuzzy multicriteria decision analysis and evolutionary intelligent techniques to construct portfolios that outperform benchmark indexes

Nikolaos Thomaidis

2 - Hybrid approach for foreign exchange rate forecasting

Chokri Slim

3 - Modelling banking sector stability with multicriteria approaches

Constantin Zopounidis, Chrysovalantis Gaganis, Fotios Pasiouras, Michael Doumpos

■ TD-40

Tuesday 12:55-14:15

GSI - S 27

Nested simulation in decision making

Chair: *Ivan Krivy*

1 - Reflective simulation models and their use in decision making

Ivan Krivy

2 - Nested models in information systems

Cyril Klimes, Eugene Kindler, Jaroslav Prochazka

3 - Programming languages as tools for description and simulation of systems

Eugene Kindler

4 - Discrete models of social structures

Petr Bulava

■ TD-41

Tuesday 12:55-14:15

GSI - S 28

Scheduling algorithms i

Chair: *Uttarayan Bagchi*

1 - Speeding up the optimal off-line algorithm for solving the k-server problem

Robert Manger, Tomislav Rudec, Alfonzo Baumgartner

2 - Scheduling and due-date assignment problems with job rejection

Assaf Sarig, Gur Mosheiov

3 - Two linear programming formulations for scheduling multi-user periodic arrival tasks

Emmanuel Medernach, Claire Hanen, Philippe Lacomme, Eric Sanlaville

4 - The two- and three-stage assembly flowshop problem

Uttarayan Bagchi

■ TD-42

Tuesday 12:55-14:15

GSI - S 3

Software for or/ms i

Chair: *Bjarni Kristjansson*

1 - Why is maximal software now giving away free development copies of mpl?

Bjarni Kristjansson, Sandip Pindoria

2 - Solving large-scale mixed-integer models with mops

Uwe Suhl, Veronika Waue

3 - Using an algebraic modeling language for access to advanced solver features

Robert Fourer, David M. Gay

■ TD-43

Tuesday 12:55-14:15
GSI - S 10

Health care and medical services for public, nursing, and school communities

Chair: *Annette Hohenberger*

1 - Headache diagnosis using artificial neural networks

Pedro Steiner neto, Maria Teresinha Arns Steiner, Karina Borges Mendes

2 - Solving multiple scenarios in the combinatorial auction of school meals in chile

Mario Guajardo, Jaime Catalan, Rafael Epstein, Daniel Yung, Cristian Martinez

3 - Policy assessment in air quality management using an integrated bottom-up modeling approach and environmental and public health externalities estimation

Alejandro Builes, Claudia Rave, Cristina Franco

■ TD-44

Tuesday 12:55-14:15
GSI - S 16

Forecasting and geospatial modelling

Chair: *Belinda Chiera*
Chair: *Daniel Zachary*

1 - Problems and errors in up- and down-scaling in environmental modelling for policy decisions

Ulrich Leopold

2 - Sustainability screw: a mathematical perspective on some problems of environmental modelling

Jerzy Filar

3 - Comparative forecasting and a test for persistence in the el nino southern oscillation

Belinda Chiera, Jerzy Filar, Daniel Zachary, Adrian Gordon

4 - Uncertainty from model calibration — global models and regional data

Bas van Ruijven, Jeroen P. van der Sluijs, Detlef van Vuuren, Peter Janssen, Peter Heuberger, Bert J.M. de Vries

■ TD-45

Tuesday 12:55-14:15

GSI - S 33

Iii: societal complexity and healthcare

Chair: *Cor van Dijkum*

1 - The complexity of the communication between gp and patient

Cor van Dijkum

2 - Economic impact of new malaria diagnostic devices on the malaria control program in brazil

Breedge Quinn, Marjan Hummel

3 - The complexity of healthcare handled by clients with the aid of Internet

Cor van Dijkum

■ TE-01

Tuesday 14:30-15:50
Beethoven

Excellence in practice award i

Chair: *Geir Hasle*

1 - Operations research improves quality and

Mikael Rönnqvist

2 - Scheduling the Chilean soccer league by integer programming

Guillermo Duran, Mario Guajardo, Jaime Miranda, Denis Saure, Sebastián Souyris, Andrés Weintraub, Rodrigo Wolf

3 - Sequencing and scheduling in coil coating with shuttles

Marco Lübbecke, Wiebke Höhn, Felix G. König, Rolf Möhring

■ TE-02

Tuesday 14:30-15:50
Schumann

Planning problems with dynamic travel times

Chair: *Karl Doerner*

1 - Performance evaluation of dijkstra's fastest path algorithm on realistic large street network with dynamic travel times

Senthanal Sirpi Manohar, Günter Kiechle

2 - Coverage models with time dependent traveling times

Verena Schmid, Karl Doerner

3 - A dynamic programming approach to multi-objective time-dependent single capacitated vehicle routing problems with time windows

Said Dabia, Tom Van Woensel, Ton de Kok

■ TE-03

Tuesday 14:30-15:50
Reger

Location

Chair: *Alessandro Tomazic*

1 - The center facility location/network design problem with budget constraint

Elena Fernandez, Ivan Contreras, Gerhard Reinelt

2 - Ordered median hub location problems

Justo Puerto, Antonio Manuel Rodríguez-Chía, Ana Bel Ramos-Gallego

3 - Preprocessing connected facility location problems

Alessandro Tomazic, Ivana Ljubic

■ TE-04

Tuesday 14:30-15:50
Liszt

Production scheduling

Chair: *Chih-Wei Chiu*

1 - Minimizing sequence-dependent setup costs under due date restrictions

Stefan Bock, Kathrin Klamroth

2 - Multi-product economic lot scheduling problem with manufacturing and remanufacturing: a new heuristic

Simone Zanoni, Anders Segerstedt

3 - Construct a model for scheduling problem of make-to-order production

Mei-Hsiu Chen, Chun-Hsiung Lan, Hai-Ming Chen, Chih-Wei Chiu

4 - Production scheduling of supply chain system

Chih-Wei Chiu, Chun-Hsiung Lan, Hai-Ming Chen, Mei-Hsiu Chen

■ TE-05

Tuesday 14:30-15:50

Haydn

OR approaches to disease analysis and treatment

Chair: *Erik Kropat*

1 - **Application of pharmacokinetic models to post-contrastographic dce technique for the analysis of vascularization induced by crohn's disease**

Luisa Di Paola, Antonio Fasano, Valentina Russo

2 - **A non-linear observer to forecast the outcome of chemotherapy for avascular solid tumors**

Alfredo Germani, Filippo Cacace, Luisa Di Paola

3 - **Towards prediction of hcv therapy efficiency**

Szymon Wasik, Piotr Formanowicz, Jacek Blazewicz

■ TE-06

Tuesday 14:30-15:50

Koch

OR applications in the public sector and non profit organizations

Chair: *Zilla Sinuany-Stern*

1 - Quadratic model for budget allocation in non profit organization

Zilla Sinuany-Stern

2 - Modeling misclassification of populations in clinical national quality measures that are based on computerized patient records

Gad Rabinowitz, Ron Weitzman

3 - Fast multilevel solver for quadratic optimization under planar density constraints

Dorit Ron, Ilya Safro, Achi Brandt

4 - A research of mapmaking with planning techniques

Omur Esen, I.Bulent Gundogdu

■ TE-07
Tuesday 14:30-15:50
GSI - S 29

Robust vehicle and crew scheduling

Chair: *Natalia Kliewer*

1 - A business perspective to robust airline planning
Ivo Nowak, Ralf Borndörfer, Ivan Dovica, Thomas Schickinger

2 - Column generation approach to robust tail assignment
Ivan Dovica, Ralf Borndörfer, Ivo Nowak, Thomas Schickinger

3 - Stochastic column generation for crew pairing optimization
Viktor Dück, Natalia Kliewer, Leena Suhl

4 - Robust optimization for delay-tolerant vehicle schedules
Stefan Kramkowski, Natalia Kliewer

■ TE-08

Tuesday 14:30-15:50

GSI - S 30

Supply chain planning practice

Chair: *Moritz Fleischmann*

1 - Modelling uncertainties in supply chains — challenges and algorithmic approaches

Simone Gast, Kathrin Klamroth, Mirko Eickhoff, Tobias Gerken, Jens Verstaen

2 - Strategy lifecycle for entering and operating emerging markets

Florian Köhne

3 - Bayaps®-ds - a software tool for generation of a long-term production plan at a bayer site

Thomas Kampmeyer

4 - Optimizing closed loop supply chain network design with sustainability consideration

Vildan Ozkir, Huseyin Basligil

■ TE-09

Tuesday 14:30-15:50

GSI - S 5

Modelling workforce scheduling i

Chair: *Greet Vanden Berghe*

1 - A tractable column-generation based procedure for workforce management optimization

Matthieu Chardy, Nancy Perrot

2 - Formulating rostering problems as sat instances for complexity analysis

Patrick De Causmaecker

3 - Embracing training and recruiting capabilities in (markov) manpower planning modelling

Nikolas Tsantas, Vasileios Dimitriou

4 - Alternative mip formulations for an integrated shift scheduling and rostering problem

Joao Telhada, Ana Godinho

■ TE-10

Tuesday 14:30-15:50

GSI - S 6

Multi-criteria decision models applications on organizations problems

Chair: *Adiel Teixeira de Almeida*

1 - Multicriteria group decision model for rehabilitation of water supply infrastructure

Danielle Morais, Adiel Teixeira de Almeida

2 - Model structure for monitoring critical activities in project management based on multiple criteria decision aid

Caroline M Miranda Mota, Adiel Teixeira de Almeida

3 - Multi-criteria model to aid liquefied petroleum gas distributors in their classification of clients

Ana Paula Costa, Marcos Felipe Sobral

4 - Multicriteria models in outsourcing decision problems

Adiel Teixeira de Almeida, Juliana Regueira Abath

■ TE-11

Tuesday 14:30-15:50

GSI - S 17

Mcda: portfolio decision analysis: cases and applications ii

Chair: *Alec Morton*
Chair: *Jeff Keisler*
Chair: *Ahti Salo*

1 - Buying health care services on behalf of a local population: bridging the divide between theory and practice

Mara Airoldi, Alec Morton, Nikolaos Argyris, Gwyn Bevan

2 - Portfolio analysis in the cost-efficiency evaluation of weapon systems

Jussi Kangaspunta, Juuso Liesiö, Ahti Salo

3 - A portfolio model for the allocation of resources to standardization activities

Antti Toppila, Ahti Salo, Juuso Liesiö

4 - Interrelationships between the funding portfolios of research groups and their scientific outputs

Matti Ollila, Ahti Salo, Antti Silvast

■ TE-12

Tuesday 14:30-15:50

GSI - S 18

Chance constraints

Chair: *Rene Henrion*

1 - Combinatorial patterns for probabilistically constrained optimization problems

Miguel Lejeune

2 - Robust approach for aerospatial optimal control problems

Jean-Philippe Chancelier, Guy Cohen, Pierre Carpentier

3 - A model for dynamic chance constraints in water reservoir management

Laetitia Andrieu, Rene Henrion, Werner Römisch

■ TE-13

Tuesday 14:30-15:50

GSI - S 31

Discrete location models

Chair: *Stefan Nickel*

1 - Lp-rounding and local search techniques to solve a multi-period facility relocation problem

Teresa Melo, Francisco Saldanha-da-Gama, Stefan Nickel

2 - Discrete facility location with nonlinear production costs

Tue Christensen

3 - Combining heuristic and exact approach for the vertex p-centre problem

Abdullah Alharbi, Said Salhi, Maria Paola Scaparra

4 - Hub location problems with capacity choices

Isabel Correia, Stefan Nickel, Francisco Saldanha-da-Gama

■ TE-14

Tuesday 14:30-15:50
GSI - S 32

Inventory

Chair: *Stefan Minner*

1 - How to deal with uncertain inventory control parameters

Elleke Janssen, Leo Strijbosch, Fred Janssen

2 - Stochastic lead time models for inventory management

Thomas Wensing, Heinrich Kuhn

3 - Pharmaceutical supply chain and inventory decisions for a hospital

Peter Kelle, Helmut Schneider, John Woosley, Sonja Wiley-Patton

4 - Warehouse space allocation problem in a carpet factory considering multiple criteria

Banu Soylu, Muammer Ekinci

■ TE-15
Tuesday 14:30-15:50
Einstein

Management and scheduling of R&D projects

Chair: *Boaz Golany*

1 - A Markov decision process based approach for scheduling R&D projects in a stochastic dynamic environment

Philipp Melchiors, Rainer Kolisch

2 - Resource allocation in development projects that yield temporary advantage

Boaz Golany, Moshe Kress, Michal Penn, Uriel G. Rothblum

■ TE-16
Tuesday 14:30-15:50
Koenig

Metaheuristics in multi-objective optimization

Chair: *El-Ghazali Talbi*

1 - A genetic algorithm with local search for reactive power compensation in electrical networks

Carlos Henggeler Antunes

2 - Morphological system design and multicriteria decision making

Mark Sh. Levin

3 - A new data mining based approach for multi-objective optimisation

Jingpeng Li, Edmund Burke, Rong Qu

■ TE-17

Tuesday 14:30-15:50
Rheinaue

Cutting and packing 7

Chair: *A. Miguel Gomes*

1 - Dynamic multi-period scheduling of cutting and sequence-dependent setup operations

Harald Reinertsen, Thomas Vossen

2 - Pallet design and distribution planning for an integrated beverage manufacturer—chain market system

Rifat Gürcan Özdemir, Tülin Aktin, Filiz Avci

3 - Lp-based branching schemes in the orthogonal packing feasibility problem

Gleb Belov

4 - A hybrid approach to the rectangle packing area minimization problem

A. Miguel Gomes, Marisa Oliveira, Mª Eduarda Pinto Ferreira

■ TE-18

Tuesday 14:30-15:50

LennÃ©

Various new achievements in mathematical programming i

Chair: *Basak Akteke-Ozturk*
Chair: *Gerhard-Wilhelm Weber*

1 - Development of a new method for arriving at initial basic feasible solution for optimization problems in engineering

Chandrasekhar Putcha

2 - Pivoting in linear complementarity: two polynomial-time cases

Jan Foniok, Komei Fukuda, Bernd Gärtner, Hans-Jakob Lüthi

3 - Parameter estimation in stochastic differential equations by modern continuous optimization

Gerhard-Wilhelm Weber, Pakize Taylan, Ayşe Özmen, Nuket Erbil, Cem Ali Gökçen

■ TE-19

Tuesday 14:30-15:50
Haber

Neighbourhood search for logistics

Chair: *Celso Ribeiro*

1 - A variable neighborhood search for a practical food distribution problem

Min Wen, Emil Krapper, Jesper Larsen, Thomas Stidsen

2 - On the use of run time distributions to characterize stochastic local search algorithms

Celso Ribeiro, Isabel Rosseti, Reinaldo Vallejos

■ TE-20

Tuesday 14:30-15:50
Mann

DEA applications i

Chair: *Ali Emrouznejad*

1 - Dea in evaluating managerial practices

Juha Eskelinen

2 - Performance comparison between retailing stores using a malmquist-type index

Clara Vaz, Ana Camanho

3 - Performance evaluation of universities from the students' perspective

Regina Schlindwein

4 - Efficiency analysis of islamic banks: a case of gulf cooperation council (gcc)

Abdel Latef Anouze, Ali Emrouznejad

■ TE-21

Tuesday 14:30-15:50
Hauptmann

Ahp i

Chair: *İlker Topcu*

1 - **Multi-attribute decision support for project portfolio of railway infrastructure**

Majda Bastiè

2 - **The analytic hierarchy process for the social complex problems analisys**

Rina Manuela Contini, Antonio Maturo

3 - **Making better decisions by integrating GIS with AHP**

Turan Erden, Ozay Ozaydin, Y. Ilker Topcu

■ TE-22

Tuesday 14:30-15:50
Arndt

Emissions trading

Chair: *Peter Letmathe*

1 - Incentives and burden sharing in post-kyoto climate regimes — a cge analysis with the dart model

Sonja Peterson, Gernot Klepper

2 - Relevance of industrial sectors for emission trading in an optimizing energy system model

Lutz Hillemacher, Christoph Nolden, Dominik Möst, Wolf Fichtner

3 - The decision value of a future fusion power plant in an emissions trading system

Heinz Eckart Klingelhöfer, Peter Kurz

■ TE-23

Tuesday 14:30-15:50
Planck

Networks and alliances

Chair: *Michaela Graf*

1 - An option-based revenue management procedure for strategic alliances

Michaela Graf, Alf Kimms

2 - Nucleolus based revenue allocation in airline alliances

Demet Cetiner, Alf Kimms

3 - Performance measurement in airline network revenue management

Christian Temath

■ TE-24

Tuesday 14:30-15:50

GSI - S 20

Nonlinear and semidefinite programming

Chair: *Olga Kostyukova*

1 - Error bounds property and other types of constraint qualification in perturbed nonlinear programming

Leonid Minchenko

2 - Option pricing under mass and shape constraints via semidefinite programming

Geert Wouters

3 - Robust parameter estimation based on huber estimator in systems of differential equations

Ekaterina Kostina

4 - Immobile indices in study of convex sip and sdp problems

Tatiana Tchemisova, Olga Kostyukova

■ TE-25

Tuesday 14:30-15:50

GSI - S 25

Dynamics and applications

Chair: *Rui Gonçalves*

1 - Difference equations and strongly regular graphs

Luís Vieira

2 - Universality in the stock exchange

Rui Gonçalves, Alberto A. Pinto

3 - Extending the hotelling model: incomplete information and networks

Alberto A. Pinto, Rosa Esteves, Telmo Parreira

4 - Walrasian price in an edgeworthian economy

Bruno M.P. M. Oliveira, Barbel Finkenstadt, Alberto A. Pinto, Athanassios Yannacopoulos

■ TE-26

Tuesday 14:30-15:50
GSI - S 35

Graph theory

Chair: *Dolgor Zambalaeva*

1 - Planar graphs without short cycles OR close triangles are three-colourable.

Aleksey Glebov

2 - Decomposing planar graphs into degenerate subgraphs

Dolgor Zambalaeva, Aleksey Glebov

■ TE-27

Tuesday 14:30-15:50

GSI - S 21

Integer programming

Chair: *Sonja Friedrich*

1 - Mathematical modelling of transition from open pit to underground mining using integer programming

K. Oraee, Arsalan Rahmani, Ezzeddin Bakhtavar, Kourosh Shahriar

2 - Developing and using further higher-order cover cuts from pairs of 0-1 inequalities

John Wilson

3 - Partial reverse search

Sonja Friedrich, Lars Schewe

■ TE-28

Tuesday 14:30-15:50

GSI - S 1

SCM in retailing

Chair: *Waldemar Toporowski*

1 - Analyzing channel structures for the procurement of store brands with a game-theoretic approach

Stephan Zielke, Waldemar Toporowski

2 - Integrative retail logistics

Michael Sternbeck, Heinrich Kuhn

3 - Relational supply contracts

Arnd Huchzermeier, Michaela Hoehn, Martin A. Lariviere

4 - Quality, pricing, and inspection decisions in supply chains

Murat Erkoc, Haresh Gurnani

■ TE-29

Tuesday 14:30-15:50

GSI - S 2

Commodity risk management 2

Chair: *Rita D'Ecclesia*

1 - Electricity price modelling with a regime-switching volatility

Silvana Musti, Viviana Fanelli

2 - An efficient parametric pricing rule for single commodity exchange

Piotr Palka, Eugeniusz Toczyłowski

3 - Stochastically resonating spiking in power markets and its estimation

Carlo Lucheroni

■ TE-30

Tuesday 14:30-15:50
GSI - S 26

Energy, oil and gas 2

Chair: *Jose Herskovits*
Chair: *Bastian Felix*

1 - Evalution of joint balancing of electric energy, options for energy and transmission rights

Przemysaw Kacprzak, Eugeniusz Toczyłowski

2 - Optimization applications in natural gas industry

Steffen Rebennack, Qipeng Phil Zheng, Niko Iliadis, Panos Pardalos

■ TE-31

Tuesday 14:30-15:50

GSI - S 34

Data mining for life sciences

Chair: *Carlotta Orsenigo*

1 - Optimal selection of protein structure models

Fabio Stella, Enrico Fagiuoli, Elena Gatti, Gianluca Negri, Giacomo Tuana, Giacomo Tuana

2 - New challenges for feature selection in the life sciences

Karsten Borgwardt

3 - Kernel methods for imbalanced data

Theodore Trafalis

4 - Cancer microarray data classification by discrete svm with nonlinear kernels

Carlo Vercellis, Carlotta Orsenigo

■ TE-32

Tuesday 14:30-15:50

GSI - S 4

Dmkd frameworks and systems

Chair: *Ioannis Kopanakis*

1 - Learning of adaptation strategies in particle swarm optimization

Tjorben Bogon, Andreas Lattner, Yann Lorion, Ingo J. Timm

2 - Rules-based data warehouse quality framework for data mining

Bradji Louardi, Boufaida Mahmoud

3 - Knowledge acquisition for multi-attribute classification problem solving on the basis of the verbal decision analysis

Eugenia Furems

■ TE-33

Tuesday 14:30-15:50

GSI - S 7

Linear programming

Chair: *Apostolos Panagiotopoulos*

1 - **Least norm solution to large-scale linear programming problems**

Parvin Khosravi, Hamid Reza Navidi, Alaeddin Malek

2 - **Systematic construction of examples for cycling in the simplex method**

Peter Zörnig

3 - **Optimising autoregressive based forecasts through linear programming**

Apostolos Panagiotopoulos, Luc Muyldermans

■ TE-34

Tuesday 14:30-15:50
GSI - S 8

Bi applications

Chair: *Matthias Steinbrecher*

1 - **An empirical comparison of recent fuzzy rule generators based on kernel machines**

Christian Moewes

2 - **Intelligent data analysis for business performance management**

Martin Spott, Detlef Nauck, Detlef Nauck

3 - **Malicious activities classification using adversarial data mining and games of incomplete information**

Gastón L'Huillier

4 - **An application of econometric and fuzzy clustering methods to the it coalescence between selected industries**

Georg Peters, Simon Poon

■ TE-35
Tuesday 14:30-15:50
GSI - S 9

Risk measures and risk management

Chair: *Martin Rainer*
Chair: *Susanne Lind-Braucher*

1 - **Efficient asset allocation for global portfoliomanagement**

   Susanne Lind-Braucher, Edwin O. Fischer

2 - **Portfolio selection under a set of risk measures: the case of var and cvar**

   Eva Alfaro-Cid, J. Samuel Baixauli, Matilde O. Fernández-Blanco

3 - **Risk measures respecting comparative risk aversion**

   Klaas Schulze

■ TE-36

Tuesday 14:30-15:50

GSI - S 11

Stochastic modelling 1

Chair: *Thomas Lee*

1 - Dynamic reliability under preventive maintenance: application to mv/lv power transformers.

Medjoudj Rabah, Djamil Aïssani

2 - Recursive estimation of the parameters of a parch model

Abida Kerdali

3 - Maximum number of blocked terminals and number of collisions in p-persistent csma/cd protocols

Antonio Gomez-Corral

■ TE-37

Tuesday 14:30-15:50
GSI - S 12

Multi-criteria decision aids - 3

Chair: *Boris Yatsalo*

1 - A multiple criteria sorting methodology with multiple classification criteria and an application to country risk evaluation

Aydin Ulucan, Kazim Baris Atici

2 - The use of design research in the validation quali-quantitative in operational research

William Vianna, Leonardo Ensslin, Edilson Giffhorn

3 - Decision support for detection of unauthorized genetically modified organisms in food and feed products

Marko Bohanec, Esther Kok, Martin Znidarsic, Smelt Anita

4 - Decerns sdss: multi-criteria decision support system for analysis of spatial alternatives

Boris Yatsalo, Sergey Gritsyuk

■ TE-38

Tuesday 14:30-15:50

GSI - S 13

Nonlinear optimization

Chair: *Kaiwen Meng*

1 - On characterizations of local error bounds by derivative-like conditions

Kaiwen Meng

2 - On the equivalence of global quadratic growth condition and second-order sufficient condition

Zhangyou Chen

3 - Penalty versus filter methods

Aldina Correia, João Matias, Pedro Mestre, Carlos Serôdio

4 - Weak sharp minima for set-valued vector variational inequalities with an application

Xiaoqi Yang

■ TE-39

Tuesday 14:30-15:50
GSI - S 14

Financial instability

Chair: *Giorgio Consigli*

1 - Endogenous risk factors for discontinuous financial markets

Giorgio Consigli

2 - Scenario models for dynamic optimization during crises periods

Gaetano Iaquinta, Giorgio Consigli

3 - The role of options in hedging portfolios in regimes of high volatility

Francesco Sandrini

■ TE-40

Tuesday 14:30-15:50
GSI - S 27

Simulation decision support in enterprises

Chair: *Davorin Kofjač*
Chair: *Miroljub Kljajic*

1 - **Simulation based inventory control for products with stochastic lead time and demand**

   Miroljub Kljajic, Davorin Kofjač, Tadej Vidic, Valter Rejec

2 - **Job shop scheduling production with makespan criterion - a real case simulation study**

   Davorin Kofjač, Miroljub Kljajic, Andrej Knaflic

3 - **Applying system dynamics to design scenarios and the strategy of a region using quantitative and qualitative information**

   Carlos Legna

■ TE-41

Tuesday 14:30-15:50

GSI - S 28

Project scheduling

Chair: *S.Hossein Hashemi Doulabi*

1 - A new lower bound for the resource-constrained project scheduling problem (rcpsp)

Luis Moreno, Javier Diaz

2 - Evaluation and comparison of the relative performance of projects using Weibull analysis on earned value metrics

Ching Chih Tseng

3 - A lagrangean heuristic to the capacitated planned maintenance problem

Torben Kuschel, Stefan Bock

4 - Resource leveling with activity splitting

S.Hossein Hashemi Doulabi, Abbas Seifi

■ TE-42

Tuesday 14:30-15:50

GSI - S 3

Software for or/ms ii

Chair: *Bjarni Kristjansson*

1 - New coinmp release 1.4: a simple c-api windows dll and unix solver library (lp/mip) based on coin

Bjarni Kristjansson, Sandip Pindoria

2 - Optimization modeling with AIMMS in academia and industry

Frans de Rooij

3 - Rapid application prototyping with GAMS

Lutz Westermann

■ TE-43

Tuesday 14:30-15:50
GSI - S 10

Development dynamics

Chair: *Camilo Olaya*

1 - Laws as models: demobilization and congestion in colombia's justice and peace process

Laura Pardo, Camilo Olaya

2 - A system dynamics model to aid planning and allocation of health resources: a case of prevention and treatment of malaria in uganda

Stephen Tumutegyereize, Theodor Stewart, Juwa Nyirenda, Leanne Scott

3 - Economic growth accounting: model-based policy analysis

John Ansah, Stefan Groesser

4 - The chaotic behavior of prices in the modified kaldor model

Jan Kodera, Quang Van Tran, Miloslav Vosvrda

■ TE-44

Tuesday 14:30-15:50

GSI - S 16

Migration, education and sustainable development 1

Chair: *Hanife Akar*

1 - **An implementation of data envelopment analysis (dea) in Turkish medical schools**

Abdullah Korkut Üstün, Sermet Anagun

2 - **Adaptation of balanced scorecard for Brazilian educational organization third sector - simulation experiment**

William Vianna, Leonardo Ensslin, Edilson Giffhorn

3 - **Equality of opportunity in education, and sustainable development of the urban and rural poor**

Hanife Akar

■ TE-45

Tuesday 14:30-15:50
GSI - S 33

Ethics and OR i

Chair: *Mikael Laaksoharju*
Chair: *Iordanis Kavathatzopoulos*

1 - Organizational structure and ethical behavior in a military organization. implications from a simulation study.

Bent Erik Bakken

2 - Computer supported ethical decision making

Iordanis Kavathatzopoulos, Mikael Laaksoharju

3 - How OR can better contribute to ethics in sustainable development

Jean-Pierre Brans, Pierre Kunsch

■ TF-01

Tuesday 16:05-17:25
Beethoven

Excellence in practice award ii

Chair: *Geir Hasle*

1 - Blood platelet optimization at blood banks

Nico van Dijk, René Haijema, Wim De Kort, Nikky Kortbeek, Cees Th. Smit Sibinga, Jan Van Der Wal

2 - Fair payments for efficient allocations in public sector combinatorial auctions

S. Raghavan, Robert Day

3 - Optimal real-time traffic control in metro stations

Carlo Mannino, Alessandro Mascis

■ TF-02

Tuesday 16:05-17:25
Schumann

Collaborative transportation planning i

Chair: *Giselher Pankratz*

1 - Transport operations planning within a cooperation of complementary producers

Andrea Nagel, Giselher Pankratz, Hermann Gehring

2 - Market-based request re-allocation in collaborative transportation networks

Melanie Bloos, Herbert Kopfer

3 - Ant colony algorithms to solve multi depot vehicle routing problems with interim storages

Ralf Sprenger, Lars Moench

■ TF-03

Tuesday 16:05-17:25
Reger

Network design 1

Chair: *Bernard Fortz*

1 - Properties of a layered extended graph formulation for designing k-edge(arc) disjoint l-paths

Quentin Botton, Bernard Fortz, Luis Gouveia

2 - Networks with unicyclic connected components

Walid Ben-ameur, Adam Ouorou, Makhlouf Hadji

3 - The cost constrained minimum label spanning tree and label constrained minimum spanning tree problems

Zahra Naji Azimi, Majid Salari, Bruce Golden, S. Raghavan, Paolo Toth

■ TF-04

Tuesday 16:05-17:25
Liszt

Scheduling and lotsizing

Chair: *Waldemar Kaczmarczyk*

1 - A new algorithm with shifting representation for hybrid flowline problems

Thijs Urlings, Ruben Ruiz

2 - A dynamic lot size model with two shipping modes

Hiroyuki Wakinaga, Katsushige Sawaki

3 - Scheduling of common setup resources in dynamic multi-machine lotsizing models

Christian M. Steffens

4 - Proportional lot sizing and scheduling problem with identical parallel machines

Waldemar Kaczmarczyk

■ TF-05
Tuesday 16:05-17:25
Haydn

Bioinformatics vi

Chair: *Jacek Blazewicz*
Chair: *Marta Szachniuk*

1 - Multiple sequence alignment for a small number of sequences: general method for improving the quality.

Pawel Wojciechowski, Piotr Formanowicz, Jacek Blazewicz

2 - Doman2 — approach for predicting domains boundaries in proteins

Maciej Antczak, Maciej Milostan, Piotr Lukasiak

3 - Algorithmic aspects of the rna degradation process

Agnieszka Rybarczyk, Jacek Blazewicz

4 - Parallel computing in dna assembly

Piotr Gawron

■ TF-06

Tuesday 16:05-17:25
Koch

Innovative applications of OR in supply chains

Chair: *Ioannis Minis*
Chair: *Vasileios Zeimpekis*

1 - Cross- docking. a managerial innovation in the logistics field and an application to a major greek retailer

Vassilios Vrisagotis, George Kaimakamis, Christina Beneki, Konstantinos Siassiakos

2 - An intelligent fleet management system for real-time courier services

Vasileios Zeimpekis, George Ninikas, Theodore Athanasopoulos, Ioannis Minis

3 - A stochastic model for evaluating the vulnerability of a supply network

Claudia Colicchia, Fernanda Strozzi, Carlo Noe, Ljupco Kocarev

■ TF-07

Tuesday 16:05-17:25
GSI - S 29

Passenger congestion in urban transit

Chair: *Fabien Leurent*

1 - Boarding and alighting in frequency-based transit assignment

Normen Rochau, Steffen Wekeck

2 - A systemic analysis of congestion in a transit network

Fabien Leurent

3 - On congestion phenomena in static models of traffic assignment to transit networks

Fabien Leurent

4 - Schedule-based dynamic assignment models for congested urban transit networks

Umberto Crisalli, Agostino Nuzzolo, Luca Rosati

■ TF-08

Tuesday 16:05-17:25
GSI - S 30

System dynamics

Chair: *Stephan Wagner*

1 - Dns-curves in a production/inventory model

Alois Steindl, Gustav Feichtinger

2 - Drum buffer rope versus anchoring and adjustment approaches in flow shop operations

Alexandra Politou, Patroklos Georgiadis

3 - A framework to model reduction and stability analysis for supply chains

Thomas Makuschewitz, Bernd Scholz-Reiter, Michael Kosmykov, Michael Schönlein

4 - Modeling defaults of companies in multi-stage supply chain networks

Stephan Wagner, Kamil Mizgier, Janusz Holyst

■ TF-09

Tuesday 16:05-17:25
GSI - S 5

Modelling workforce scheduling ii

Chair: *Celia Glass*

1 - Temple — a language for staff scheduling problems

Werner Schafhauser, Andreas Beer, Johannes Gaertner, Nysret Musliu, Wolfgang Slany

2 - Testing while modelling staff scheduling problems

Andreas Beer, Johannes Gaertner, Nysret Musliu, Werner Schafhauser, Wolfgang Slany

3 - Rosters versus rotas for nhs nurses and doctors (in the uk)

Celia Glass

■ TF-10

Tuesday 16:05-17:25
GSI - S 6

Portfolio decision analysis: theory and methods

Chair: *Alec Morton*
Chair: *Jeff Keisler*
Chair: *Ahti Salo*

1 - Era: a framework and interactive scheme for elicitation in resource allocation decisions

Alec Morton, José Rui Figueira

2 - Portfolio decision quality

Jeff Keisler

3 - A new interactive approach for the multicriteria portfolio selection problem

Nikolaos Argyris, José Rui Figueira, Alec Morton

4 - Optimizer's curse in project portfolio selection

Juuso Liesiö, Ahti Salo, Bert De Reyck

■ TF-11

Tuesday 16:05-17:25

GSI - S 17

Multicriteria evaluation, information systems and agents

Chair: *Pascal Oberti*

1 - **Introduce an outranking method as a substitute to a synthetic index in monitoring and evaluation of public policies and programs**

Maud Huaulme, Maurice Baslé

2 - **Actors roles and software interface users rights in a multicriteria evaluation process : state of the art and proposals**

Christophe Paoli, Pascal Oberti

3 - **Multicriteria outranking evaluation of energy options in insular contexts: application of electre models in greece and corsica**

Matteaccioli Paul-François, Pascal Oberti

◾ TF-12

Tuesday 16:05-17:25

GSI - S 18

Tools for stochastic optimization

Chair: *Tamas Szantai*

1 - Successive regression approximations in stochastic programming

Istvan Deak

2 - Bounding the reliability of a stochastic transportation network with random demands and arc capacities

Andras Prekopa, Merve Unuvar

3 - Models for the determination of the irrigation water supply in streamflows

Tamas Szantai, Andras Prekopa

■ TF-13

Tuesday 16:05-17:25
GSI - S 31

Network location models

Chair: *Anita Schoebel*

1 - The uniform capacitated flp on path network

Alexander Kurochkin, Edward Gimadi, Alexander Ageev

2 - Locating facilities in a dense grid network where travel times follow gravitational patterns

Francisco A. Ortega, Juan A. Mesa, Rosario Arriola

3 - Locating speed-up networks

Marie Schmidt, Anita Schoebel

■ TF-14

Tuesday 16:05-17:25

GSI - S 32

Service parts management

Chair: *Matthieu van der Heijden*

1 - Integrated planning of spare parts and service tools

Ingrid Vliegen, Geert-Jan van Houtum

2 - End of life inventory decisions for consumer electronics spare parts

Morteza Pourakbar, J.b.g. Frenk, Rommert Dekker

3 - An integrated approach for level of repair analysis and spare parts stocking using marginal analysis

Matthieu van der Heijden, Rob Basten, Erhan Kutanoglu, Marco Schutten

■ TF-15

Tuesday 16:05-17:25
Einstein

Project scheduling - extensions and applications

Chair: *Jürgen Zimmermann*

1 - Real time planning system for a multi-channel support centre

M.Pilar Lino, M. Angeles Pérez, Sacramento Quintanilla, Vicente Valls

2 - A voting-based heuristic for decentralized multi-project scheduling

Jörg Homberger

3 - Introduction of learning effects in resource-constrained projects

Vincent Van Peteghem, Mario Vanhoucke

4 - Exact methods for the resource levelling problem

Thorsten Gather, Jürgen Zimmermann

■ TF-16

Tuesday 16:05-17:25
Koenig

Multiple objective combinatorial optimization

Chair: *Jochen Gorski*

1 - **Combinatorial optimization with generalized bottleneck objective(s)**

Jochen Gorski, Kathrin Klamroth, Stefan Ruzika

2 - **A linear-time algorithm for the binary bicriteria spanning tree problem**

Stefan Ruzika, Jochen Gorski, Kathrin Klamroth

3 - **On the bicriterion — minimum cost/minimum label — spanning tree problem**

João Clímaco, Maria Eugénia Captivo, Marta Pascoal

4 - **Numerical studies of tchebycheff-type approaches for solving multicriteria optimization problems**

Kerstin Daechert, Jochen Gorski

■ TF-17

Tuesday 16:05-17:25
Rheinaue

Cutting and packing and metaheuristics

Chair: *Marc Sevaux*

1 - Box loading optimization into containers via tabu search

Vitoria Pureza

2 - Enhancement of a commercial software for layout planning by a tabu search algorithm

Axel Hennig, Andreas Bortfeldt, Hermann Gehring

3 - Hybrid parallel genetic approach for one-dimensional bin packing problem

Roman Potarusov, Gilles Goncalves, Hamid Allaoui, Victor Kureychik

■ TF-18

Tuesday 16:05-17:25
LennÃ©

Parallel nonlinear programming algorithms

Chair: *Figen Öztoprak*
Chair: *S. Ilker Birbil*

1 - Parallel programming approaches to nonlinear optimization

Figen Öztoprak, S. Ilker Birbil

2 - A parallel version of the probabilistic method of feasible directions

Art Gorka, Michael Kostreva

3 - On parallelization of ant colony-based algorithms

Andrej Chu

4 - Formulating and solving non-standard model types using gams/emp

Jan-Hendrik Jagla, Michael Ferris, Alex Meeraus

■ TF-19

Tuesday 16:05-17:25
Haber

Metaheuristics in scheduling and logistics

Chair: *Ana Moura*

1 - Climbing depth-bounded discrepancy search for solving two-stage hybrid flow shop scheduling problems

Pierre Lopez, Abir Ben Hmida, Mohamed Haouari, Marie-José Huguet

2 - A matching and pairing based heuristic for scheduling in-flight catering service.

Ada Suk Fung Ng

3 - A genetic algorithm approach to the container loading problem

Ana Moura, Rui Rijo

■ TF-20

Tuesday 16:05-17:25
Mann

DEA applications ii

Chair: *Stella Sofianopoulou*

1 - Thermal power plant efficiency evaluation using data envelopment analysis

Stella Sofianopoulou, Vassilis Dedoussis, Constantinos Constas, Agelos Kasimis

2 - Adjusting for super efficiency and time lags in the regulation of electricity networks

Mette Bjørndal, Endre Bjorndal

3 - Analyzing the performance of Indian maritime states using DEA

Neelangshu Ghosh, Ajit Kr Ray

4 - DEA method in efficiency and productive analysis of Moldavian industry

Tkacenko Alexandra

■ TF-21

Tuesday 16:05-17:25
Hauptmann

Ahp ii

Chair: *Josef Jablonsky*

1 - A two-stage ahp/dea model for evaluation of efficiency

Josef Jablonsky

2 - Design and multiple criteria evaluation of alternative bicycle tracks in the mid-sized metropolitan area.

Jacek Zak, Szymon Fierek, Dawid Nijak

3 - An environmental risk assessment methodology proposal for industrial hazardous materials

Emel Topuz, Ilhan Talýnlý

■ TF-22

Tuesday 16:05-17:25
Arndt

Environmental planing

Chair: *Franz Nelissen*

1 - Targeting the removal of artificial in-stream barriers for the benefit of resident fish

Jesse O'Hanley, Matthew Diebel, Mark Fedora, Jed Wright

2 - Environmental taxes and the choice of pollution-reducing technology

Anton Ovchinnikov

3 - Choice of alternative environmental policies with quadratic costs under uncertainty

Motoh Tsujimura, Makoto Goto

■ TF-23

Tuesday 16:05-17:25
Planck

Social collaboration & network-based decision systems

Chair: *Pascale Zaraté*

1 - E-government: a comparative study of the g2c online services progress using multi-criteria analysis

Denis Yannacopoulos, Panagiotis Manolitzas, Athanasios Spyridakos

2 - Web-based decision support through kernel density estimation and combination

Antonio Rodrigues

3 - Towards a collaboration network for the euro working group on dss (ewg-dss)

Fatima Dargam, Rita Ribeiro, Pascale Zaraté

■ TF-24

Tuesday 16:05-17:25
GSI - S 20

Particle swarm optimization

Chair: *Takeshi Matsui*

1 - A hybrid particle swarm optimisation for mixed discrete nonlinear programming

Salam Nema, John Goulermas

2 - Computational methods through particle swarm optimization for obtaining Stackelberg solutions to two-level nonlinear programming problems

Takeshi Matsui, Masatoshi Sakawa, Kosuke Kato

■ TF-25

Tuesday 16:05-17:25
GSI - S 25

Game theory

Chair: *Flávio Ferreira*

1 - Hotelling's duopoly and location game on the plane

Vladimir Mazalov, Julia Tokareva

2 - Simple bargaining problems and Shapley rule

Francesc Carreras

3 - A game theoretical model of planned behavior

Helena Ferreira, Leandro Almeida, José Cruz, Alberto A. Pinto

■ TF-26

Tuesday 16:05-17:25
GSI - S 35

Graph algorithms i

Chair: *Alireza Ghaffari Hadigheh*

1 - A linear algorithm for computing the biclique cover number of a series-parallel graph

Victor Lepin

2 - An efficient asymptotically optimal algorithm for the maximum-weight m-peripatetic salesman problem in the k-dimensional Euclidean space

Edward Gimadi

3 - Semidefinite optimization approach towards domination number in graphs

Alireza Ghaffari Hadigheh, Behzad Ashayeri, Tamas Terlaky

■ TF-27

Tuesday 16:05-17:25
GSI - S 21

Combinatorial optimization

Chair: *Igor Grebennik*

1 - Integer partitions into arithmetic progresssions

Sadek Bouroubi, Nesrine Benyahia Tani

2 - Robustness tolerances for combinatorial optimization problems.

Marek Libura

3 - Enumeration and constructive tools of generating special combinatorial sets

Igor Grebennik, Yuri Stoyan

■ TF-28

Tuesday 16:05-17:25
GSI - S 1

In-store logistics and demand management

Chair: *Heinrich Kuhn*

1 - Listing, facing and pricing in consumer goods industry

Alexander Hübner, Heinrich Kuhn

2 - Perishable inventory control under handling and storage constraints

Rob Broekmeulen

3 - Identifying the cooperative advertising multi-player game-solution in supply chain using genetic algorithms

Chen Chie-Bein, Yuanchau Liour, Lin Chin-Tsai, Chun Hsien, Yang-Chieh Chin

4 - Channel coordination in a two-period newsboy problem

Cao Linh, Yushin Hong

■ TF-29

Tuesday 16:05-17:25
GSI - S 2

Risk modelling and management

Chair: *Georg Pflug*

1 - Probability unbiased value-at-risk (var) estimators

Florian Herzog

2 - The role of market-implied severity modeling for credit var

Susana Alvarez, J. Samuel Baixauli

3 - Portfolio symmetry and momentum

Ludovic Cales, Dominique Guegan, Monica Billio

4 - Value functions, risk utility functions and their use in concepts for decision making under risk

Kathrin Fischer

■ TF-30

Tuesday 16:05-17:25
GSI - S 26

Nonlinear optimization i

Chair: *Alexander Tarakanov*
Chair: *Jose Herskovits*

1 - Faipa_mdo, a mathematical programming algorithm for multidisciplinary design optimization

Jose Herskovits

2 - First and second directional derivatives of value functions in nonlinear programming problems with perturbations

Alexander Tarakanov

3 - Handling manufacturing restrictions in sheet metal design by mixed integer programming

Ute Guenther, Alexander Martin

4 - A modified relaxation method for mathematical programs with complementarity constraints (mpccs)

Abdeslam Kadrani

■ TF-31

Tuesday 16:05-17:25

GSI - S 34

Knowledge discovery, management and optimization

Chair: *Belen Martin-Barragan*

1 - Self-organizing maps for data mining

Enrique Dominguez

2 - Dimensionality reduction for linear support vector machines using column generation

Richard Weber, Jaime Miranda

3 - Binarized support vector machine and extensions

Belen Martin-Barragan, Dolores Romero Morales, Emilio Carrizosa

■ TF-32

Tuesday 16:05-17:25

GSI - S 4

Data mining methodology

Chair: *Davide Magatti*

1 - Analysing databases of quantitative and qualitative data with missing qualitative values

Fabiola Portillo, Cecilio Mar-molinero

2 - Hierarchical topic extraction

Davide Magatti, Fabio Stella

3 - Misclassification probability bounds in multinomial case

Victor Nedelko

4 - Specification of rank scaled expert estimations using measured data

Anton Strizhov, Vadim Strijov

■ TF-33

Tuesday 16:05-17:25
GSI - S 7

Economic modelling

Chair: *Nicolas Omont*

1 - Multilateralism and regionalism — statistical relationship

Eva Cihelkova

2 - National economy challenges in croatia within global crisis environment

Elza Jurun, Josip Arneric, Lana Kordic

3 - Towards electricity transmission tariffs based on long term marginal pricing

Nicolas Omont, Jérome Dejaegher, Arnaud Renaud

4 - Efficiency of fdi inflows supporting gdp. central European economies.

Vaclava Pankova, Roman Husek

■ TF-34

Tuesday 16:05-17:25

GSI - S 8

Business rules: extraction, modelling and integration

Chair: *Jose C. Gonzalez*

1 - Extraction of business rule from unstructured text

Thierry Declerck

2 - Harnessing business rules in software development processes

Jose C. Gonzalez, José Luis Martínez-Fernández, Paloma Martínez

3 - Protune: rule based policies on the semantic web

Daniel Olmedilla

4 - Success monitoring in transportation

Heribert Kirschfink

■ TF-35

Tuesday 16:05-17:25
GSI - S 9

Commodity prices and procurement

Chair: *Peter Kelle*
Chair: *Martin Rainer*

1 - The framework for evaluation of the communication bandwidth market models

Wojciech Stanczuk, Piotr Palka, Jozef Lubacz, Eugeniusz Toczylowski

2 - A combined capacity reservation and spot market procurement policy under stochastic demand and spot-market price uncertainty

Karl Inderfurth, Peter Kelle

3 - Integrating commodity markets in the optimal procurement policies of a stochastic inventory system

Ankur Goel

■ TF-36
Tuesday 16:05-17:25
GSI - S 11

Stochastic modelling 3

Chair: *Frank Beichelt*

1 - Ordering of utility functions of weighted random variables and its financial application.

Elena Almaraz Luengo

2 - Benefits of partial product flexibility

Ashis Chatterjee, Dipankar Bose

3 - Maximal system availability under cost restrictions

Frank Beichelt

■ TF-37

Tuesday 16:05-17:25
GSI - S 12

Strategic planning and management

Chair: *Jin Young Choi*

1 - Improving the alignment of strategic objectives in the outsourced projects management

Edilson Giffhorn, William Vianna, Leonardo Ensslin, Sandra Ensslin, Rogerio Lacerda

2 - Multi-objective optimization for planning of central it resources with focus on green it

Marc Klages, Hans-Jörg von Mettenheim, Michael H. Breitner

3 - A decision-analytic approach to blue-ocean strategy development

Thorsten Staak, Matthias Raith, Helge Wilker

4 - Developing the tradeoff between personal fulfillment and competitiveness in venture creation

Simon Halberstadt, Matthias Raith, Thomas Zomack

■ TF-38
Tuesday 16:05-17:25
GSI - S 13

Strategic optimization in supply chains and risk management ii

Chair: *Cedric Yiu*

1 - Optimal inventory strategies with fixed order cost under value-at-risk constraint

Shuoyu Wang, Cedric Yiu, Kl Mak

2 - Risk constrained optimal portfolios with jumps

Cedric Yiu, Jingzhen Liu

3 - Optimal policy for an insurer via martingale methods

Jingzhen Liu, Cedric Yiu

4 - Integrated design in service support supply chains

Alexander Richter, Marion Steven

■ TF-39
Tuesday 16:05-17:25
GSI - S 14

Simulation 2

Chair: *Ulf Lotzmann*

1 - Variance reduction methods for t-copula based risk models

Halis Sak, Wolfgang Hörmann, Josef Leydold

2 - Optimizing systems performance exploring the timed state space of coloured petri nets

Miguel A. Mujica, Miquel Angel Piera

3 - Simulating normative behaviour and norm formation processes

Ulf Lotzmann

■ TF-40

Tuesday 16:05-17:25

GSI - S 27

Modeling and simulation for management training and learning in emergency situations

Chair: *Viveca Asproth*
Chair: *Stig C Holmberg*

1 - Simulated decision learning in a multiactor setting

   Viveca Asproth, Stig C Holmberg

2 - Modelling and simulation for training of disaster management

   Andrej Skraba, Miroljub Kljajic

3 - Disaster management simulation debriefing: a prototype of an integrated statistical analysis tool

   Knut Ekker

■ TF-41

Tuesday 16:05-17:25
GSI - S 28

Production and operations management 1

Chair: *Anja Klein*

1 - Minimizing electrical losses in long-term power planning

Mathilde Drouineau, Vincent Mazauric, Nadia Maïzi

2 - Henry ford revisited: one more generalization of the assignment problem

Stanislaw Walukiewicz

3 - Operations research for quality improvement of sensor data

Anja Klein

■ TF-42

Tuesday 16:05-17:25
GSI - S 3

Optimal control ii

Chair: *Raouf Boucekkine*

1 - **Economic modelling of optimal investment into long-term redevelopment in disaster-impacted regions**

Natali Hritonenko, Yuri Yatsenko

2 - **Maintenance and investment in an optimal growth vintage capital model**

Raouf Boucekkine, Fausto Gozzi, Giorgio Fabbri

3 - **Forest management for timber and carbon in the presence of climate changes**

Renan Goetz, Natali Hritonenko, Rubén Javier Mur Torrentó, Yuri Yatsenko, Àngels Xabadia

4 - **Managing level of vendor-managed inventory with manufacturer's warehouse capacity constraint**

Wenyih Lee, Sheng-Pen Wang

■ TF-43

Tuesday 16:05-17:25
GSI - S 10

Application, methodology, and framework

Chair: *Stefan Groesser*

1 - Flower dynamics: fixing unfairness perception among farmers

Camilo Olaya, Hans Jordan

2 - Discrete vs. continuous simulation: when does it matter?

Onur Ozgün, Yaman Barlas

3 - On the necessity of quantitative strategy evaluation in combating industrial counterfeiting and product piracy. a system dynamics approach.

Oliver Kleine, Marcus Schröter

4 - Model-based management (mbm): a research agenda

Stefan Groesser, Markus Schwaninger

■ **TF-44**

Tuesday 16:05-17:25
GSI - S 16

Migration, education and sustainable development 3

Chair: *Gerhard-Wilhelm Weber*
Chair: *Hanife Akar*

1 - **Applying linear response surface analysis to investigate the effects of telecommunication proliferation and other factors on economic growth and social benefits**

Zenzo Polite Ncube, Giel Hattingh, Albert Helberg

2 - **An optimization model to site solar and wind generators in a village electrification project**

Laia Ferrer-Martí, Rafael Pastor

3 - **Coordination of collaborative development processes**

Kerstin Schmidt, Grit Walther, Thomas Spengler, Rolf Ernst

■ TF-45

Tuesday 16:05-17:25
GSI - S 33

Ethics and OR ii

Chair: *Fred Wenstøp*

1 - Ethical values beyond the objective function: towards a theory of behavioral or/ms

Marc Le Menestrel, Luk Van Wassenhove

2 - Facts, values and the rules of institutionalised dialogue.

Emmanuel Picavet

3 - OR and ethics — development trends 1966 — 2009

Fred Wenstøp

■ TG-01

Tuesday 17:40-18:25
Beethoven

Optimization modeling in practice iii

Chair: *Bjarni Kristjansson*

1 - **Roadef/euro challenge 2010: a large scale energy management problem with diversified constraints, proposed by edf**

Christian Artigues, Eric Bourreau, Guillaume Dereu

2 - **Comparing the practice of OR in the private and not-for-profit sectors**

Peter Bell

■ TG-02

Tuesday 17:40-18:25
Schumann

Collaborative transportation planning ii

Chair: *Giselher Pankratz*

1 - Collaborative vehicle routing in less-than-truckload networks
Julia Rieck, Jürgen Zimmermann

2 - Collaborative optimization of last mile networks for parcel and express delivery services
Michael Schwind, Marcel Kunkel

◼ TG-03

Tuesday 17:40-18:25
Reger

Wireless ad hoc networks

Chair: *Mohamed Saad*

1 - Gateway discovery for ad hoc nodes

Adel-aissanou Karima, Djamil Aissani

■ TG-04

Tuesday 17:40-18:25
Liszt

Network design 2

Chair: *Eric Gourdin*

1 - Developing a ring-based optical network structure - a case study

Silvia Schwarze, Marco Caserta, Matthias Fricke, Stefan Voss

2 - A taxonomy of multicommodity flow and related multicut models

Eric Gourdin

■ TG-05

Tuesday 17:40-18:25
Haydn

Anp iv

Chair: *Erdem Aksakal*

1 - A model for personnel selection: an integrated approach with ANP and axiomatic design

Erdem Aksakal, Metin Dagdeviren, Ergun Eraslan

2 - Moderating effect of relationship investment on logistics outsourcing risk

Ming-Chih Tsai, Wan-Ling Zhuang

■ TG-06

Tuesday 17:40-18:25
Koch

Delegation and incentives

Chair: *Christian Hofmann*
Chair: *Peter Letmathe*
Chair: *Jan Bouwens*

1 - Accounting earnings, market price, and decentralized managerial compensation contracts

Christian Hofmann

2 - The economics of full cost transfer pricing

Jan Bouwens

■ TG-07

Tuesday 17:40-18:25

GSI - S 29

Mcda: portfolio decision analysis (panel discussion)

Chair: *Alec Morton*
Chair: *Ahti Salo*
Chair: *Jeff Keisler*

1 - Panel discussion: portfolio decision analysis - bridging theory and practice

Ahti Salo, Alec Morton, Don Kleinmuntz, Valerie Belton, José Rui Figueira, Larry Phillips, Alexis Tsoukiàs

■ TG-08
Tuesday 17:40-18:25
GSI - S 30

Procurement and pricing

Chair: *Christian Lohmann*

1 - The utility of compensatory payments between independent companies of one value network

Christian Lohmann

■ TG-09
Tuesday 17:40-18:25
GSI - S 5

Task/event timetabling

Chair: *O.t. Arogundade*

1 - Insight from visualisation and the travelling tournament problem

Mark Johnston

2 - On demand conference planning

Eric Bourreau

■ TG-10
Tuesday 17:40-18:25
GSI - S 6

Disaggregation theory and applications i

Chair: *Yannis Siskos*

1 - **Toward a satisfaction barometer of mobile telephony in greece.**

Dimitrios Drosos, Yannis Siskos, Nikos Tsotsolas, Antonis Zervos

2 - **Measuring the robustness of multicriteria decision models in uta-type disaggregation procedures.**

Yannis Siskos

■ TG-11

Tuesday 17:40-18:25

GSI - S 17

Clustering techniques for MCDA

Chair: *Yves De Smet*

1 - Multicriteria ordered clustering

Yves De Smet, Philippe Nemery, Ramkumar Selvaraj

2 - Relational multicriteria clustering: the case of valued outranking matrices

Stefan Eppe, Julien Roland, Yves De Smet

■ TG-12
Tuesday 17:40-18:25
GSI - S 18

Location and routing

Chair: *Carlos Ferreira*
Chair: *Rui Borges Lopes*

1 - A lower bound and upper bound for the capacitated location-routing problem

Zhen Yang, Feng Chu, Chen Haoxun

2 - A capacitated location-routing problem: a heuristic approach and decision support

Rui Borges Lopes, Carlos Ferreira, Beatriz Sousa Santos

■ TG-13

Tuesday 17:40-18:25

GSI - S 31

Covering location models

Chair: *Ioannis Giannikos*

1 - Wireless local area network planning robustness

Alexandre Gondran

2 - Partial coverage-based maximal demand covering models

Ioannis Giannikos, Georgios Alexandris

■ TG-14

Tuesday 17:40-18:25
GSI - S 32

Inventory management ii

Chair: *John J. Kanet*

1 - Interpretation of clasical eoq model as the object of discrete control in a spreadsheet

Slobodan Antic, Dragan Vasiljevic

2 - Dynamic planned safety stocks in supply networks

John J. Kanet, Michael Gorman, Martin Stoesslein

■ TG-15

Tuesday 17:40-18:25
Einstein

Multicriteria decision making

Chair: *Boglarka G.-Toth*

1 - "overview algorithms in multicriteria optimization"

Claudia Margarita Villagran de Leon

2 - A reliable method for obtaining the complete weakly efficient set of nonlinear biobjective optimisation problems

Boglarka G.-Toth, Jose Fernandez

■ TG-16

Tuesday 17:40-18:25
Koenig

Multicriteria location and routing

Chair: *Utpal Bhattacharya*

1 - Multicriteria capacitated redistricting problem

Paulo Morelato França, Laura Assis, Fábio Usberti, Vinícius Garcia

■ TG-17

Tuesday 17:40-18:25
Rheinaue

Mathematical programming problems in machine learning 2

Chair: *Adriana Gnudi*
Chair: *Igor Konnov*
Chair: *Elisabetta Allevi*
Chair: *Annabella Astorino*

1 - A convergent hybrid decomposition algorithm model using second order information for svm training

Laura Palagi, Stefano Lucidi, Risi Arnaldo, Marco Sciandrone

■ TG-18

Tuesday 17:40-18:25
LennÃ©

Various new achievements in mathematical programming ii

Chair: *Klaus Meer*
Chair: *Gerhard-Wilhelm Weber*

1 - On a recursive approach to solve some unconstrained quadratic optimization problems

Jose Neto, Walid Ben-ameur

2 - A modified newton direction for unconstrained optimization

Theodoula N. Grapsa

■ TG-19

Tuesday 17:40-18:25
Haber

Ant colony optimization

Chair: *Paola Pellegrini*

1 - Bees algorithm for two-sided assembly line balancing problem

Pınar Tapkan, Lale Özbakır, Adil Baykasoglu

2 - On the behavior of an aco algorithm

Paola Pellegrini, Daniela Favaretto, Elena Moretti

■ TG-20

Tuesday 17:40-18:25
Mann

Ahp vii

Chair: *Alessio Ishizaka*

1 - Does AHP help us make a choice? - an experimental evaluation

Alessio Ishizaka

2 - A quantitative method for administrative audit

Yuji Sato

■ TG-21

Tuesday 17:40-18:25
Hauptmann

Anp v

Chair: *Yi-Chun Chen*
Chair: *Gwo-Hshiung Tzeng*

1 - Fuzzy MCDM approach for selecting the best environment-watershed plan

Yi-Chun Chen, Gwo-Hshiung Tzeng

2 - A novel ANP based MCDM framework for industrial cluster based technological college ic curriculum re-design

Chi-Yo Huang, Gwo-Hshiung Tzeng

■ TG-22
Tuesday 17:40-18:25
Arndt

Sustainability & closed loop supply chains

Chair: *Erwin van der Laan*
Chair: *Jo van Nunen*

1 - Alternative actions for sustainability in a weee closed-loop supply chain in greece

Maria Besiou, Patroklos Georgiadis

■ TG-23
Tuesday 17:40-18:25
Planck

Portfolio management

Chair: *David Wozabal*

1 - Using black & litterman framework for stress testing analysis in asset management

Rosella Giacometti, Domenico Mignacca

◼ TG-24

Tuesday 17:40-18:25
GSI - S 20

Abnormal extrema in nonlinear problems

Chair: *Tatiana Tchemisova*
Chair: *Aram Arutyunov*

1 - Second-order necessary optimality conditions for abnormal problems with equality and inequality constraints

Aram Arutyunov, Dmitry Karamzin, Fernando Pereira

2 - Optimality conditions in discrete optimal control problems: the abnormal case

Boban Marinkovic, Aram Arutyunov

■ TG-25

Tuesday 17:40-18:25
GSI - S 25

Industrial organization

Chair: *Fernanda A. Ferreira*

1 - Duopoly model with technology transfer

Fernanda A. Ferreira

2 - Dumping in an international trade

Flávio Ferreira, Nilanjan Banik, Fernanda A. Ferreira, Alberto A. Pinto

■ TG-26

Tuesday 17:40-18:25
GSI - S 35

Packing problems

Chair: *Vladimir Kotov*

1 - Polynomial optimal algorithm for solving subset vector problem in the space with fixed dimension.

Ivan Rykov, Edward Gimadi, Artem Pyatkin

2 - Approximation algorithms for the k_i partitioning problem

Vladimir Kotov, Hans Kellerer

■ TG-27
Tuesday 17:40-18:25
GSI - S 21

Routing problems

Chair: *Aydin Sipahioglu*

1 - Branch-and-price for a split pickup and split delivery problem

Frank Hennig, Marco Lübbecke, Bjørn Nygreen

2 - A new heuristic for multi-depot & heterogonous fleet capacitated arc routing problem

Aydin Sipahioglu, Gokhan Kirlik

■ TG-28

Tuesday 17:40-18:25
GSI - S 1

Channel coordination

Chair: *Alexander Hübner*

1 - Optimal bundling for single-period inventory problem

Gregory Gurevich, Baruch Keren, Yuval Cohen, Yossi Hadad

2 - Optimal order and production policies in a vmi

Deniz Kubali, Onur Kaya, E. Lerzan Ormeci

■ TG-29

Tuesday 17:40-18:25
GSI - S 2

Computational economics 1

Chair: *Ronald Hochreiter*

1 - A scenario based approach to analyze innovation performance of countries

Gündüz Ulusoy, Fusun Ulengin, Emel Aktas, Sule Onsel, Özgür Kabak

2 - Generating artificial macroeconomic frameworks: an expert-driven approach based on artificial intelligence

Esther Arenas-Arroyo, Carlos Ramón García Alonso, Gabriel M. Pérez-Alcalá

■ TG-30

Tuesday 17:40-18:25
GSI - S 26

Nonlinear optimization ii

Chair: *Abdeslam Kadrani*
Chair: *Paola Zuddas*

1 - Network optimization for decisions under uncertainty conditions

Massimo Di Francesco, Teodor Gabriel Crainic, Paola Zuddas

2 - An interior-point algorithm for mixed complementarity problems

Sandro Mazorche, Jose Herskovits

■ TG-31

Tuesday 17:40-18:25

GSI - S 34

Large scale feature selection and classification

Chair: *Giovanni Felici*

1 - Support vector machine and integer programming for time series predictions

Renato De Leone, Emilia Marchitto, Risi Arnaldo, Riccardo Bilancioni

■ TG-32

Tuesday 17:40-18:25
GSI - S 4

Data mining in production

Chair: *Yulia Rudinskaya*

1 - Usage of business intelligence for the optimisation of the steel research process

Yulia Rudinskaya, Carsten Felden

■ TG-33

Tuesday 17:40-18:25

GSI - S 7

Other scientific computation

Chair: *Suliadi Firdaus Sufahani*

1 - A multicriteria model for the design and arrangement of vehicle's maintenance and repair centers: the case of athens municipality

Athanasios Spyridakos, Panagiotis Kyriazopoulos, Lazaros Vryzidis, Maria Litsardaki, Maria Litsardaki

2 - Fuzzy causal networks application in evaluating tobacco control: case of australia

Sonja Petrovic-Lazarevic, Jian Ying Zhang, Ron Borland, Chung-Hsing Yeh, Sue Bedingfield, Ken Coghill, David Young

3 - A diet planning model for malaysian schools using linear programming

Suliadi Firdaus Sufahani

■ TG-34
Tuesday 17:40-18:25
GSI - S 8

I application of fuzzy logic & real options to corporate management decision-making

Chair: *Mikael Collan*

1 - Economic hysteresis effects and hitting time densities for cir diffusions

José Carlos Dias

2 - A real options game: investment on the project with operational options and fixed costs

Makoto Goto, Ryuta Takashima, Motoh Tsujimura

■ TG-35
Tuesday 17:40-18:25
GSI - S 9

General valuation techniques

Chair: *Martin Rainer*

1 - On the relation between zipf's principle and the maximum entropy principle

Alin Rusu

2 - Derivatives pricing in incomplete markets

Martin Rainer

■ TG-36
Tuesday 17:40-18:25
GSI - S 11

Stochastic modelling 4

Chair: *Srinivas R. Chakravarthy*

1 - A queueing network with bulk service policy

Juan Mejia -Tellez

2 - A disaster queue with markovian arrivals and impatient customers

Srinivas R. Chakravarthy

■ TG-37
Tuesday 17:40-18:25
GSI - S 12

Decision support systems

Chair: *Fábio Romeu de Carvalho*

1 - **Functionalities of machining optimizer system in relation to the decision support system**

   Elesandro Baptista, Luciana Baptista, Nivaldo Coppini

2 - **Decision making method with paraconsistent annotated logic tools and its application in selection of investment by financial institutions**

   Fábio Romeu de Carvalho, Jair Minoro Abe

■ TG-38

Tuesday 17:40-18:25

GSI - S 13

Strategic optimization in supply chains and risk management i

Chair: *Cedric Yiu*

1 - Distributed optimization for a network of cooperative agents

Yapeng Lu, Henry Lau

2 - Immune network theory based multi-objective optimization algorithm with approximate dominance consideration

Wilburn Tsang, Henry Lau

3 - Financial management in global supply chains

Bajis Dodin, Abdelghani Elimam

■ TG-39

Tuesday 17:40-18:25
GSI - S 14

Simulation 1

Chair: *Ion Ioan Ferdinand Lancranjan*

1 - The analysis of the spatial variation of the groundwater level with geostatistical methods

Mevlut Uyan, Tayfun Cay

2 - Numerically investigated of laser passively q-switching regime

Ion Ioan Ferdinand Lancranjan, Camelia Gavrila

■ TG-40

Tuesday 17:40-18:25

GSI - S 27

Simulation based learning of complex system management

Chair: *Mirjana Kljajic-Borstnar*
Chair: *Andrej Skraba*

1 - Developmental aspects of macro-decisions in social systems

Kazimierz Turkiewicz, Dominika Turkiewicz

2 - Business simulator a tool to improve learning process

Mirjana Kljajic-Borstnar, Andrej Skraba, Davorin Kofjač

■ TG-41

Tuesday 17:40-18:25

GSI - S 28

Production and operations management 2

Chair: *Smail Adjabi*

1 - Optimizing the shovel-truck operation in open-pit mine based on fuzzy lp model: cased by chogart iron ore mine

Farhad Samimi Namin, Alireza Cheniany

2 - Value of quality information of returns in product recovery management

Z. Pelin Bayindir, Altan Atabarut

■ TG-42

Tuesday 17:40-18:25
GSI - S 3

Optimal control i

Chair: *Erik Kropat*

1 - Nonsmooth switching optimal control problem

Shahlar Maharramov

2 - Homogenization of differential equations on networks

Erik Kropat

■ TG-43

Tuesday 17:40-18:25
GSI - S 10

Various aspects of system dynamics

Chair: *Stefan Groesser*

1 - Modelling inflation targeting

Ondrej Cizek

2 - Clostridium difficile: system dynamics modelling of hospital infection outbreaks

David Lane

■ TG-44

Tuesday 17:40-18:25
GSI - S 16

Migration, education and sustainable development 2

Chair: *Gerhard-Wilhelm Weber*
Chair: *Hanife Akar*

1 - A systems dynamics model for the creation of a cooperative, non-competitive environment

Luisa Fernanda Rodriguez Valbuena

2 - Index development for performance analysis of accreditation for engineering education

Yong Han Ju, Jin Young Choi, Jin Sook Ahn, So Young Sohn

■ WA-01

Wednesday 08:00-09:20
Beethoven

Airline problems

Chair: *Juan José Salazar González*

1 - A short term approach for the collision avoidance for air traffic management problem

Francisco Javier Martin-Campo, Alba Agustin, Celeste Pizarro Romero

2 - On the collision avoidance for air traffic management problem. a large scale mixed 0-1 program approach

Pablo Olaso, Celeste Pizarro Romero, Francisco Javier Martin-Campo

3 - Cargo and passengers air transport: a hub location problem in brazil

Nélio Pizzolato, Rafael M. A. de Figueiredo, Madiagne Diallo, Morton E. O'Kelly

■ WA-02

Wednesday 08:00-09:20
Schumann

Robust approaches to airline optimization problems

Chair: *Ibrahim Muter*

1 - Robust airline crew pairing model for managing extra flights

Ibrahim Muter, Duygu Tas, Elvin Coban, S. Ilker Birbil, Kerem Bulbul, Guvenc Sahin, Dilek Tuzun Aksu, Husnu Yenigun

2 - Pricing in column generation for a robust airline crew pairing problem

Duygu Tas, Ibrahim Muter, S. Ilker Birbil, Kerem Bulbul, Guvenc Sahin, Dilek Tuzun, Husnu Yenigun

3 - Multi-objective strategic robust airline scheduling

Geert De Maere, Edmund Burke, Patrick De Causmaecker

■ WA-03

Wednesday 08:00-09:20
Reger

Freight transportation

Chair: *Jacek Zak*

1 - A two-level freight distribution problem: formulations and heuristic approach

Claudio Sterle, Teodor Gabriel Crainic, Antonio Sforza

2 - Mathematical and simulation based modeling of the distribution system of goods

Jacek Zak, Hanna Sawicka

■ WA-04

Wednesday 08:00-09:20
Liszt

Scheduling and transportation

Chair: *Sigrid Knust*

1 - Integrated production and distribution scheduling

Christian Viergutz

2 - Optimization of train planning at intermodal terminals

Florian Bruns

3 - Robotic cycles in cyclic flow-shop and job-shop problems without buffers and one transport robot

Sven Groenemeyer, Peter Brucker, Edmund Burke

4 - Online scheduling a fleet of transportation robots

Jens Poppenborg

■ WA-05

Wednesday 08:00-09:20
Haydn

Scheduling applications 1

Chair: *Adam Wojciechowski*

1 - Modelling target volume flows in harvest scheduling subject to maximum area

Maria da Conceicao Fonseca, Miguel Constantino, Isabel Martins, Jorge Cadima, Mujing Ye

2 - A branch-and-price algorithm for harvest scheduling subject to maximum area restrictions

Isabel Martins, Filipe Alvelos, Miguel Constantino

3 - Scheduling of market processes in energy balancing market

Kamil Smolira, Mariusz Kaleta, Eugeniusz Toczyłowski

4 - Optimal maintenance scheduling of multicomponent systems with stochastic life limits

Adam Wojciechowski, Michael Patriksson, Ann-Brith Strömberg

■ WA-06

Wednesday 08:00-09:20
Koch

Cluster-optimization

Chair: *Aysegul Ozturk*

1 - Constrained minimum-k-star clustering and its application to the consolidation of farmland

Steffen Borgwardt, Andreas Brieden, Peter Gritzmann

2 - On the relationship between constrained clustering an voronoi diagrams

Andreas Brieden, Peter Gritzmann

3 - A multiobjective support vector machine based on the one-against-all method maximizing geometric margins for multiclass classification

Keiji Tatsumi, Tetsuzo Tanino

4 - Classification of imbalanced datasets with 1-norm svms

Aysegul Ozturk, Serpil Sayin

■ WA-07

Wednesday 08:00-09:20

GSI - S 29

Vehicle and crew scheduling

Chair: *Natalia Kliewer*

1 - A decomposition approach for the integrated vehicle-crew-rostering problem

Ana Paias, Marta Mesquita, Margarida Moz, Margarida Pato

2 - Aspects of real-world vehicle scheduling problems and their solution

Stefan Bunte, Natalia Kliewer

3 - Vehicle and crew scheduling with irregular timetables

Boris Amberg, Natalia Kliewer

4 - A network flow optimization model for integrated capacity-based crew scheduling

Taieb Mellouli

◼ WA-08

Wednesday 08:00-09:20
GSI - S 30

Supply chain coordination

Chair: *Serra Caner*

1 - **Comparative performance of practical "channel coordinating" contract formats under market-par uncertainties**

Hon-Shiang Lau, Jian-Cai Wang, Amy Hing-Ling Lau

2 - **A contract for coordinating medium term production capacities of a buyer-supplier dyad of manufacturers**

Cristina Araneda-Fuentes, Leonardo Lustosa, Stefan Minner

3 - **Capacity investment under information asymmetry**

Serra Caner, Onur Kaya

■ WA-09

Wednesday 08:00-09:20

GSI - S 5

Transport workforce scheduling i

Chair: *Dilay Çelebi*

1 - Pilot crew rostering at brussels airlines: feasibility study and policy decisions

Broos Maenhout, Mario Vanhoucke

2 - Personnel scheduling problem with high diversity of shifts

Zdenek Baumelt, Premysl Sucha, Zdenek Hanzalek

3 - An introduction to the personnel planning problem of the belgian railways

Burak Bilgin

■ WA-10

Wednesday 08:00-09:20

GSI - S 6

Vector and set-valued optimization i

Chair: *Bienvenido Jiménez*

1 - Efficiency under pseudoinvexity and duality in nonsmoooth multiobjective problems. a characterization

Manuel Arana Jimenez, Gabriel Ruiz-Garzón, Rafaela Osuna-Gómez, Antonio Rufián-Lizana

2 - Characterization of efficient solutions in non-regular vectorial optimization programming problems

Beatriz Hernández, Manuel Arana Jimenez, Rafaela Osuna-Gómez, Antonio Rufián-Lizana

3 - Necessary and sufficient conditions for strict local minima of order m in multiobjective optimization

Marcin Studniarski

4 - Some remarks on strong convexity and optimality conditions in multiobjective programming problems

Bienvenido Jiménez, César Gutiérrez, Vicente Novo

■ WA-11

Wednesday 08:00-09:20

GSI - S 17

Environmental management and MCDA

Chair: *Antonio Boggia*

1 - Implementation of multicriteria modules in a geographic information system: a case study

Antonio Boggia, Gianluca Massei

2 - Water use scenarios assessment using multicriteria analysis

Lucia Rocchi, Antonio Boggia

3 - Measuring sustainability of poultry production systems: a multicriteria approach

Luisa Paolotti, Antonio Boggia, Carla Cortina, Emanuele Novelli

■ WA-12

Wednesday 08:00-09:20

GSI - S 18

Structuring and integrated methodologies for MCDA i.

Chair: *Theodor Stewart*

1 - Adapting and refining in a structured MCDM method

Brendan O'Brien, Cathal Brugha

2 - Geometrical approach to characterization optimality in multiobjective optimization

Yury Nikulin, Marko M. Mäkelä

3 - Structuring risk in multi-criteria terms

Theodor Stewart

■ WA-13

Wednesday 08:00-09:20

GSI - S 31

Planar location models

Chair: *Yoshiaki Ohsawa*

1 - **Order distance in regular point patterns**

Masashi Miyagawa

2 - **Lagrangean relaxation approaches for the multi-commodity capacitated multi-facility Weber problem**

Temel Öncan, I. Kuban Altinel, Mehmet Hakan Akyüz

3 - **Equity-efficiency bicriteria facility location model with squared Euclidean distances**

Yoshiaki Ohsawa, Frank Plastria

4 - **Fuzzy approach to planar multi facility location-allocation**

Amirhossein Sadoghi

■ WA-14

Wednesday 08:00-09:20
GSI - S 32

Inventory management i

Chair: *Armagan Bayram*

1 - Competition and collaboration in a service parts management system

Meriçcan Usta, Secil Savasaneril, Yasemin Serin

2 - A better synchronization in the single-vendor multi-buyer integrated inventory supply chain

Md Abdul Hoque

3 - A state space representation of generalised order up to policies

Anthony White, Michael Censlive

■ WA-15

Wednesday 08:00-09:20
Einstein

Complexity and optimization i

Chair: *Klaus Meer*

1 - Packing cycles in graphs

Dieter Rautenbach

2 - Modelling and solving university timetabling problems

Marco Chiarandini

3 - Approximability of traveling salesman problems

Markus Bläser

4 - An analysis of urban landscapes based on computational geometry algorithms

Yudai Honma, Osamu Kurita

■ WA-16

Wednesday 08:00-09:20
Koenig

Scheduling in sports

Chair: *Michael Trick*

1 - Scheduling the topmost fotball leagues of norway

Truls Flatberg, Eivind Nilssen, Martin Stølevik

2 - Scheduling the Brazilian soccer tournament by integer programming maximizing audience shares under fairness constraints

Celso Ribeiro, Sebastián Urrutia

3 - An AHP analysis to schedule the fixtures of the Malaysian super league

Graham Kendall, Nor Hayati Abdul Hamid, Mujgan Sagir Ozdemir

■ WA-17

Wednesday 08:00-09:20
Rheinaue

Discrete-continuous scheduling

Chair: *Jan Weglarz*

1 - Maximization of the net present value in some discrete-continuous project scheduling problems

Grzegorz Waligora, Jan Weglarz

2 - The problem of allocating resources of a grid to workflow applications.

Marek Mika, Grzegorz Waligora, Jan Weglarz

3 - A deterministic scheduling problem in green computing

Rafal Rozycki

4 - Centralized and decentralized management of limited resources shared among multiple users

Yahya Saleh, Ulku Gurler, Emre Berk

■ WA-18

Wednesday 08:00-09:20
LennÃ©

Semidefinite programming and approximate algorithms

Chair: *Michel Baes*

1 - **Reduction techniques for sdp relaxations of polynomial optimization problems**

Martin Mevissen, Masakazu Kojima

2 - **A fresh view on the multiplicative weights update method**

Michael Bürgisser, Michel Baes

3 - **Approximative estimate sequence schemes**

Michel Baes

■ WA-19

Wednesday 08:00-09:20
Haber

Multiobjective metaheuristics

Chair: *Sebnem Demirkol*

1 - **Use of multiobjective algorithms for scheduling jobs in large scale grid applications**

    Juan Arturo Perez Cebreros

2 - **Multi-objective evolutionary meta-heuristic optimization**

    Sebnem Demirkol, G. Mirac Bayhan

■ WA-20

Wednesday 08:00-09:20
Mann

DEA applications iv

Chair: *Carlos Ramón García Alonso*

1 - Analysing the socio-economic potential of rural areas: a dea-based approach for the valencian region (spain)

Ernest Reig

2 - Travel agency productivity change: a case study in alicante, spain.

Ramon Fuentes

3 - A DEA based clustering approach as a classification tool for multiple criteria decision analysis: an application to world university rankings

Kazim Baris Atici, Aydin Ulucan

4 - Expert-oriented monte-carlo dea: technical efficiency assessment of the agrarian sector

Carlos Ramón García Alonso, Mercedes Torres, César Hervás-Martínez

■ WA-21

Wednesday 08:00-09:20

Hauptmann

Recent developments in optimization for computer vision

Chair: *Ramin Zabih*

1 - Exact energy minimization via sequences of approximations and message passing

Amir Globerson

2 - Discrete optimization in computer vision and pattern recognition based on linear programming

Nikos Komodakis

3 - Boolean optimization methods for linear inverse systems with edge-preserving priors

Ramin Zabih, Endre Boros

■ WA-22

Wednesday 08:00-09:20
Arndt

Ahp iii

Chair: *Demet Bayraktar*

1 - An application of AHP for inventory classification

Demet Bayraktar, Dilay Çelebi

2 - "can AHP be used in highly political organization? the case of energy and mineral resources department in indonesia"

Ebi Junaidi, Tjahjanto Budisatrio

3 - Performance management in healthcare industry: an analytic hierarchy process model for assessing physician performance

Murat Albayrakoglu, Tuba Cullazoglu, Isik Gonenc

■ WA-23

Wednesday 08:00-09:20
Planck

Knowledge management and dss

Chair: *Fatima Dargam*

1 - Knowledge extraction in e-cognocracy

José María Moreno-jimenez, Jesús Cardeñosa, Carolina Gallardo, Juan Aguarón, María Teresa Escobar, Adrian Toncovich, Alberto Turón

2 - Group memory support to collaborative decision making

AbdelKader Adla

3 - Applicability of simple additive weighting method with grey relations and comparison with other grey theory techniques

Edmundas Zavadskas, Arturas Kaklauskas, Tatjana Vilutiene

4 - An evidence-adaptive belief rule-based decision support system for clinical risk assessment in emergency care

Guilan Kong, Dong-Ling Xu, Jian-Bo Yang

■ WA-24

Wednesday 08:00-09:20
GSI - S 20

Extremal problems and applications ii

Chair: *Joao Lauro D. Faco'*

1 - Improved navier-stokes solutions, for global aerodynamical shape's optimization

Adriana Nastase

2 - Time-cost trade off problem in pert networks and sdp relaxation

Mohammad Reza Peyghami

3 - Derivative optimization and design

Hans-Jörg von Mettenheim, Michael H. Breitner

4 - Optimal control approach to crude oil scheduling

Joao Lauro D. Faco', Fabio Fagundez

■ WA-25

Wednesday 08:00-09:20

GSI - S 25

Cooperative games: solutions

Chair: *Irinel Dragan*

1 - Variants of the core which emphasize fairness and non-monotonicity

Alf Kimms, Julia Drechsel

2 - Lexicographic optimization in cooperative game theory

Stef Tijs

3 - Characterization of augmenting systems by greedy algorithms

Encarnación Algaba, Jesus-Mario Bilbao, Manuel Ordoñez

4 - A maschler type algorithm for computing multiweighted Shapley values of tu games

Irinel Dragan

■ WA-26

Wednesday 08:00-09:20
GSI - S 35

Graph algorithms ii

Chair: *Bibiana Obregón*

1 - Optimizing quasi-locally quasi-adjoin graphs

Hacene Ait Haddadene

2 - Levelwise mesh sparsification for point-to-point shortest path queries

Yuichiro Miyamoto, Takeaki Uno, Mikio Kubo

3 - Mixed integer linear formulations for the minimum label spanning tree problem

Maria Eugénia Captivo, João Clímaco, Marta Pascoal

4 - Transport properties of complex networks for different assortativity levels: electric and max-flow

Bibiana Obregón, Lev Guzmán

■ WA-27

Wednesday 08:00-09:20

GSI - S 21

Warehouse design and performance

Chair: *René de Koster*
Chair: *Kees Jan Roodbergen*

1 - Queueing network analysis of a distribution center

Liqiang Liu, Ivo Adan

2 - A facility design approach to improve revenue management of public storage warehouses

Yeming Gong, René de Koster

3 - The order-picking problem in a rectangular warehouse with turn costs

Melih Çelik, Haldun Sural

4 - Modeling goals and deadlines for enhancing worker performance

José Antonio Larco, Kees Jan Roodbergen, René de Koster, Jan Dul

■ WA-28

Wednesday 08:00-09:20
GSI - S 1

Financial optimization 6

Chair: *Griselda Deelstra*

1 - **A regime-switching regression model for hedge funds**

   Christina Erlwein, Marlene Mueller

2 - **Optimal portfolio selection with stochastic exponential utility functions**

   Turan Bulmus, Suleyman Ozekici

3 - **Some optimisation problems in stochastic pension plans**

   Griselda Deelstra

4 - **Real options pricing by numerical methods: an r & d project application**

   Jorge González, Alejandro Andalaft

■ WA-29

Wednesday 08:00-09:20

GSI - S 2

Energy and environmental market modeling

Chair: *Steven Gabriel*

1 - Gasmod-dynamic - a dynamic model of the European natural gas market and network

Franziska Holz

2 - A model for the global crude oil market using a multi-pool mcp approach

Daniel Huppmann

3 - Cooperation among liquefied natural gas suppliers: is rationalization the sole objective?

Olivier Massol, Stéphane Tchung-Ming

4 - Natural gas grid investment decisions under competitive operations

Marte Fodstad, Asgeir Tomasgard, Yohan Shim, Steven Gabriel

◼ WA-30

Wednesday 08:00-09:20

GSI - S 26

Solution methods in nonsmooth optimization

Chair: *Refail Kasimbeyli*

1 - A derivative free solution algorithm in nonconvex optimization

Refail Kasimbeyli

2 - An efficient algorithm for solving d.c. programs based on the cutting angle method

Albert Ferrer, Gleb Beliakov

3 - Generalized subgradient algorithm for nonsmooth, nonconvex optimization

Adil Bagirov, Julien Ugon, Ali Hakan Tor

4 - Conjugate duality in nonconvex vector optimization

Yalcin Kucuk, Ilknur Atasever, Mahide Kucuk

■ WA-31

Wednesday 08:00-09:20

GSI - S 34

Data mining and decision making 1

Chair: *Lai-Soon Lee*

1 - An experimental comparison of classification algorithms for imbalanced credit scoring data sets

Iain Brown, Christophe Mues

2 - Price forecasting in the used car market

Mariana Listiani, Stefan Lessmann

3 - Loss given default modelling for mortgage loans

Mindy Leow, Christophe Mues, Lyn Thomas

4 - Comparison of single and mixture distribution models for modelling lgd

Jie Zhang

■ WA-32

Wednesday 08:00-09:20
GSI - S 4

Financial modelling

Chair: *Stefan Hirth*

1 - **The stable distributions, their parameter estimation, and financial application**
   Vadym Omelchenko

2 - **Asymptotic expansions for the first four moments of the sparre anderson surplus process**
   Rovshen Aliyev, Vafa Jafarova

3 - **The non-monotonic effect of financing constraints on investment**
   Stefan Hirth, Marc Viswanatha

■ WA-33

Wednesday 08:00-09:20

GSI - S 7

Interval b&b algorithms: theory to applications

Chair: *Frederic Messine*

1 - **On estimating workload in parallel branch-and-bound global optimization algorithms**

Jose Luis Berenguel, L.g. Casado, I. Garcia, Eligius M.T. Hendrix

2 - **Metaheuristic methodology based on interval branch and bound algorithms with a limitation of the memory**

Jordan Ninin, Frederic Messine

3 - **Interval branch and bound algorithms for inverse problems of electromagnetic devices design**

Julien Fontchastagner, Frederic Messine, Yvan Lefevre

4 - **Global optimization via interval equations**

Ioannis A. Nikas, Theodoula N. Grapsa, George S. Androulakis

■ WA-34

Wednesday 08:00-09:20

GSI - S 8

Model selection and optimization techniques in machine learning

Chair: *Sureyya Ozogur-Akyuz*

1 - Support vector machine model selection using strangeness

Zakria Hussain, David Hardoon, John Shawe-Taylor

2 - Multi-task learning via matrix regularization

Andreas Argyriou

3 - Hashing for approximate nonparametric inference

Alex Smola

4 - Association mining analysis of automobile spare parts sales: a case study

Gurdal Ertek, Mehmet Can Arslan

■ WA-35

Wednesday 08:00-09:20
GSI - S 9

Cops and robbers

Chair: *Boting Yang*

1 - Guarding games on graphs

Petr Golovach, Fedor Fomin, Alex Hall, Deniel Lokshtanov, Matus Mihalak, Elias Vicari, Peter Widmayer

2 - Cops-and-robbers on infinite graphs

Gena Hahn

3 - Cops and robbers from a distance

Anthony Bonato

4 - A witness version of the cops and robber game

Nancy Clarke

■ WA-36

Wednesday 08:00-09:20

GSI - S 11

Stochastic modelling and simulation i

Chair: *Andreas Rößler*
Chair: *Erik Kropat*

1 - Financial valuation of guaranteed minimum withdrawal benefit in variable annuities under correlated lévy processes

Kwai-sun Leung

2 - Probabilistic approach of serial multi-level production/inventory systems with finite capacities

Fouzia Baghery

3 - Make-to-order systems with correlated demands

Michael Zazanis

4 - Estimating some effects of prioritizing aircraft landings at over-congested airports

Milan Janic

■ WA-37

Wednesday 08:00-09:20

GSI - S 12

Decision theory and analysis - 1

Chair: *Hermann Jahnke*

1 - Uta — nm: searching for non-monotonic utility functions

Tomas Kliegr, Lucia Nemethyova

2 - Analyzing the effects of decision maker's characteristics on the violations of expected utility theory

Amilcar Serrao

3 - Lower price limits for full-service contracts based on almost stochastic dominance

Hermann Jahnke, Jan Thomas Martini

■ WA-38

Wednesday 08:00-09:20

GSI - S 13

Simulation optimization

Chair: *Gulser Koksal*

1 - Robust simulation-optimization through taguchi's approach and metamodels

Gabriella Dellino, Jack Kleijnen, Carlo Meloni

2 - Multicriteria optimization for the performance of solid roket motor

Elcin Kartal, Inci Batmaz, Gulser Koksal

3 - Constrained optimization in simulation using kriging metamodeling

Inneke Van Nieuwenhuyse, Jack Kleijnen, Wim van Beers

4 - Forecast of possible forest fires in turkey by simulation method

Ceren Erdin Gündogdu

■ WA-39

Wednesday 08:00-09:20
GSI - S 14

Process scheduling

Chair: *Deniz Türsel Eliiyi*

1 - Multi-stage continuous production systems: planning and optimization issues

Krystsina Bakhrankova

2 - Optimisation in food-processing industry: a case study

Veronika Skocdopolova, Josef Jablonsky

3 - A closed-loop approach to continuous process scheduling problems

Christoph Schwindt, Hanno Sagebiel

4 - Operational fixed job scheduling problems with time limitations

Deniz Türsel Eliiyi, Meral Azizolu

■ WA-40

Wednesday 08:00-09:20
GSI - S 27

Governance and development

Chair: *Gerhard-Wilhelm Weber*
Chair: *Honora Smith*

1 - Citizen adoption of e-government systems: a structural equation modelling application

Irfan Emrah Kanat, Sevgi Ozkan

2 - Russian market of refuse collection: problems and perspectives

Mikhail Belousov

3 - The drivers of citations in management science journals

Fang Xu, John Mingers

■ WA-41

Wednesday 08:00-09:20

GSI - S 28

Long term financing and investment 2

Chair: *Thomas Burkhardt*

1 - Product liability as a subject of financial valuation

Peter Kurz, Heinz Eckart Klingelhoefer

2 - The impact of macroeconomic announcements on stocks: why are some firms more sensitive than others?

Georg Bestelmeyer, Dieter Hess

3 - Long term profitability assessment of open pit mining in intransparent markets: perspectives and case study

Thomas Burkhardt, Alexander Hennig

■ WA-42

Wednesday 08:00-09:20

GSI - S 3

Novel opportunities of nonconvex programming for industry and finance

Chair: *Ba Chu*

1 - A deterministic optimization approach for planning a multisensor multizone search for a moving target.

Manh Nguyen Duc, Hoai An Le Thi, Tao Pham Dinh

2 - Optimisation of flexibility and predictability of the air traffic flow management system

Tao Pham Dinh, Trung-Tuyen Hoang

3 - A dc programming approach for feature selection in support vector machines

Mamadou Thiao, Tao Pham Dinh, Hoai An Le Thi

4 - Approximating risk in a large portfolio and empirical applications

Ba Chu

■ WA-43

Wednesday 08:00-09:20

GSI - S 10

Forecasting and risk management

Chair: *Ralph Grothmann*

1 - **Design of cost efficient foreign exchange risk management in exporting companies**

Tanya Mishchenko, Thomas Burkhardt

2 - **Forecasting financial market volatility using high frequency data**

Panagiotis Ballis-Papanastasiou

3 - **Forecasting commodity prices with large recurrent neural networks**

Ralph Grothmann

■ WA-44

Wednesday 08:00-09:20
GSI - S 16

Health care applications of simulation

Chair: *Murat Caner Testik*
Chair: *Banu Yuksel Ozkaya*

1 - Inventory management of hospital blood banks

Banu Yuksel Ozkaya, Murat Caner Testik

2 - Simulation of hospital blood banks for service quality improvement

Volkan Sonmez, Murat Caner Testik, Banu Yuksel Ozkaya

■ WA-45

Wednesday 08:00-09:20

GSI - S 33

Structural equation modeling studies in OR

Chair: *Seren Basaran*
Chair: *Meltem Sari*

1 - **A structural equation modeling study: modeling the relationship between factors affecting students' views about proof and their performance in proof**

Meltem Sari, Seren Basaran

2 - **E-learning systems evaluation: structural equation modeling approach**

Sevgi Ozkan, Refika Koseler

3 - **Empirical investigation of factors moderating it—performance relationship in developed and developing countries**

Ali Asghar Anvary Rostamy

■ WB-01

Wednesday 09:35-11:05
Beethoven

Keynote wm1

Chair: *Endre Boros*
Chair: *Roman Slowinski*

1 - Problem solving by general purpose solvers

Toshihide Ibaraki

2 - The dominance-based rough set approach for decision analysis and operations research

Salvatore Greco

■ WB-02

Wednesday 09:35-11:05
Schumann

Keynote wm2

Chair: *Silvano Martello*
Chair: *Paolo Toth*

1 - Routing in graphs with applications to material flow problems

Rolf Möhring

2 - 2-dimensional packing problems in telecommunications

Andrea Lodi

■ WB-03

Wednesday 09:35-11:05
Reger

Keynote wm3

Chair: *Gerhard-Wilhelm Weber*

1 - Optimal control of manufacturing systems: solution of fluid approximation and tracking by queueing model.

Gideon Weiss

2 - Semi-infinite optimization

Hubertus Th. Jongen

■ WC-01

Wednesday 11:20-12:40

Beethoven

Recent advances in combinatorial optimization ii

Chair: *Andrea Lodi*
Chair: *Michele Monaci*

1 - Intersection cuts revisited

  Egon Balas

2 - A polyhedral approach to the single-row facility layout problem

  Adam Letchford, Andre Amaral

3 - A branch-and-bound algorithm for the multi-type capacitated facility location problem

  Andreas Klose

■ WC-02

Wednesday 11:20-12:40
Schumann

Rich vehicle routing problems

Chair: *Geir Hasle*

1 - The cost of regularity in liner shipping

Jose Fernando Alvarez

2 - A heuristic for maritime inventory routing

Oddvar Kloster, Truls Flatberg

3 - The node edge arc routing problem - applications and heuristics

Geir Hasle, Truls Flatberg, Oddvar Kloster, Eivind Nilssen, Morten Smedsrud

■ WC-03

Wednesday 11:20-12:40
Reger

Traffic management

Chair: *Tobias Pohlmann*

1 - Multivariate stochastic time series model for short-term freeway traffic flow forecasting

Ming-Tsung Lee, Bernhard Friedrich

2 - A soft computing based model for the simulation of pedestrian roadways crossing decision

Leonardo Caggiani, Michele Ottomanelli, Giuseppe Iannucci, Domenico Sassanelli

3 - Short term traffic demand estimation for online control strategies

Tobias Pohlmann, Bernhard Friedrich

■ WC-04

Wednesday 11:20-12:40
Liszt

Job-shop scheduling

Chair: *Kun Yuan*

1 - The flexible blocking job shop with transfer and set-up times

Heinz Gröflin, Reinhard Bürgy

2 - The job-shop scheduling problem with shift-varying production time

Christian Rathjen, Stefan Bock, Simon Goertz

3 - A multi-agent learning approach for the job shop scheduling problem

Yailen Martinez, Ann Nowe

4 - A mixed-integer linear programming model and a lower bound for hybrid flow shop scheduling problems with a special blocking

Kun Yuan, Nathalie Sauer, Christophe Sauvey

■ WC-05

Wednesday 11:20-12:40
Haydn

Scheduling heuristics

Chair: *Prabha Sharma*

1 - Comparison of meta-heuristics for the single machine scheduling problem

Veronique Sels, Mario Vanhoucke

2 - A flexible multi-objective scheduling system based on configurable heuristics

Jorge Pinho de Sousa, Luis Guardao

3 - A hybrid metaheuristic for machine scheduling in cell formation problems

Grammatoula Papaioannou, John Wilson

■ WC-06

Wednesday 11:20-12:40
Koch

Gor dissertation awards

Chair: *Stefan Nickel*
Chair: *Uwe T. Zimmermann*

1 - Extending concepts of reliability

Sebastian Stiller

2 - Waiting time and product age distribution of a (r,s)-inventory policy.

Lars Fischer

3 - Neural networks for simultaneous forecasting and inventory level estimation - an experimental evaluation on synthetic and empirical retail time series

Sven F. Crone

4 - Advanced planning concepts for mixed-model assembly systems

Malte Fliedner

■ WC-07

Wednesday 11:20-12:40

GSI - S 29

Transit network design problems with elastic demand

Chair: *Mariano Gallo*

1 - The transit network design problem with elastic demand and internalisation of external costs

Mariano Gallo, Bruno Montella, Luca D'Acierno

2 - A bus network design procedure with elastic demand

Ernesto Cipriani, Stefano Gori, Marco Petrelli

3 - A heuristic algorithm for optimizing frequencies in a transit network

Eusebio Angulo Sánchez-Herrera, Ricardo Garcia

4 - The route deviation bus model compared to a real low transit demand service management

Antonio Pratelli

■ WC-08

Wednesday 11:20-12:40
GSI - S 30

Capacity planning

Chair: *Youssef Boulaksil*

1 - Permanent and contingent workforce budgeting under stochastic demand

Nico Dellaert, Jully Jeunet

2 - On the optimal product assortment

Simme Douwe Flapper

3 - The contract manufacturer's portfolio management - optimal allocation of production flexibility

Youssef Boulaksil, Martin Grunow, Jan C. Fransoo

■ WC-09

Wednesday 11:20-12:40

GSI - S 5

Rostering in the services industry

Chair: *Jonas Bæklund*

1 - Automatic generation of optimized working time models in personnel planning

Maik Günther, Volker Nissen

2 - Heuristic approach with branch and bound to solving nursing scheduling problem

Lakhdar Djeffal

3 - Nurse rostering - an overview.

Jonas Bæklund

■ WC-10

Wednesday 11:20-12:40

GSI - S 6

Vector and set-valued optimization ii

Chair: *César Gutiérrez*

1 - Box constrained multi-objective optimization: a gradient-like method without "a priori' scalarization

Elena Molho, Enrico Miglierina, Maria Cristina Recchioni

2 - The geometry of strict maximality

Enrico Miglierina, Emanuele Casini

3 - On continuity properties in vector optimization

Ruben Lopez, César Gutiérrez, Vicente Novo

4 - On the characterization of approximate efficiency in vector optimization via approximate solutions of some scalarized problems

César Gutiérrez, Bienvenido Jiménez, Vicente Novo

■ WC-11

Wednesday 11:20-12:40

GSI - S 17

Robust ordinal regression

Chair: *Salvatore Greco*

1 - The most representative value function in robust multiple criteria sorting

Salvatore Greco, Milosz Kadzinski, Roman Slowinski

2 - Non-additive robust ordinal regression with choquet integral

Benedetto Matarazzo, Silvia Angilella, Salvatore Greco

3 - The possible and necessary approach for robustness analysis in decision aid and operations research

Vincent Mousseau, Salvatore Greco, Roman Slowinski

■ WC-12

Wednesday 11:20-12:40

GSI - S 18

Mcda: theory, computations, and applications ii

Chair: *José Rui Figueira*

1 - Some decomposition-coordination methods for multi-objective optimization

Otu Vaarmann, Alar Leibak

2 - Multiobjective decomposition of positive integer matrix: application to radiotherapy

Thibaut Lust, Jacques Teghem

3 - Modifying roc curve for diagnostic systems with more than two classes

Kasirga Yildirak, Efsun Kürüm, Gerhard-Wilhelm Weber

■ WC-13

Wednesday 11:20-12:40
GSI - S 31

Competitive location 1

Chair: *Blas Pelegrin*

1 - A discrete competitive facility location model with variable attractiveness

Hande Kucukaydin, Necati Aras, I. Kuban Altinel

2 - Strategic multi-store opening under financial constraint

Nobuo Matsubayashi

3 - Competitive location modeling for hub-and-spoke transportation systems

Mihiro Sasaki, James Campbell, Mohan Krishnamoorthy, Andreas Ernst

4 - Avoiding the cannibalization effect caused by firm expansion

Blas Pelegrin, Pascual Fernandez, María D. García

■ WC-14

Wednesday 11:20-12:40
GSI - S 32

Inventory management iii

Chair: *Ying Wei*

1 - Optimal inventory policy under supply reliability and demand cancellation
Wee Meng Yeo

2 - Investigating advantages of advanced demand information under heterogeneous demand
Bisheng Du, Christian Larsen

3 - Modeling and managing the variability in supply chains with the peakedness
Ying Wei, Philippe Chevalier, Jean-François Macq, Jean-Christophe Van den Schrieck

■ WC-15

Wednesday 11:20-12:40
Einstein

Complexity and optimization ii

Chair: *Marco Chiarandini*

1 - A new approach to proving the np-hardness of discrete optimization problems

Yakov Shafransky, T.C. Edwin Cheng, C.t. Ng

2 - An improved heuristic algorithm for the set covering

Tsahi Avrahami, Amnon Gonen

3 - Testing membership in the 0, 1/2-closure is strongly np-hard, even for polytopes contained in the n-dimensional 0/1-cube

Sebastian Pokutta, Adam Letchford, Andreas S. Schulz

■ WC-16

Wednesday 11:20-12:40
Koenig

Preference learning from data i

Chair: *Roman Slowinski*

1 - Learning to rank from ordered class information: a new approach based on pairwise classification

Eyke Hüllermeier, Johannes Fürnkranz

2 - Learning of label ordering for ordered and non-ordered classification

Philippe Fortemps, Salvatore Greco, Roman Slowinski

3 - Multi-criteria ranking using dominance-based rough set approach

Marcin Szelag, Roman Slowinski, Salvatore Greco

4 - Preference learning in interactive multiobjective optimization

Roman Slowinski, Salvatore Greco, Benedetto Matarazzo

■ WC-17

Wednesday 11:20-12:40
Rheinaue

Stuctures and algorithms on graphs

Chair: *Marc Demange*

1 - Accelerating a*: smart search for and usage of seglines

Felix Hahne, Curt Nowak, Klaus Ambrosi

2 - Recognising twin-constrained Hamiltonian threshold graphs

Kai Helge Becker

3 - Some caracterization of differents classes of g-graphs

Cerasela Tanasescu

4 - Some inverse chromatic number problems

Yerim Chung, Culus Jean-François, Marc Demange

■ WC-18

Wednesday 11:20-12:40
LennÃ©

Application of mp to spatial systems

Chair: *Igor Konnov*
Chair: *Elisabetta Allevi*
Chair: *Adriana Gnudi*

1 - Average power contracts can mitigate carbon leakage

Giorgia Oggioni, Yves Smeers

2 - Infinite dimensional duality and applications to complex networks

Patrizia Daniele, Antonino Maugeri

3 - Basic mathematical models for evacuation problems in urban areas

Sarah Bretschneider, Alf Kimms

4 - A variational inequality approach for dynamic spatial auction market problems

Adriana Gnudi, Elisabetta Allevi, Igor Konnov

■ WC-19

Wednesday 11:20-12:40
Haber

Traffic information systems

Chair: *Xiaohong Chen*

1 - **Applying geostatistical analyst methods in gis-supported procedures to prevent traffic accidents in urban planning**

I.Bulent Gundogdu

2 - **Estimating traffic data in traffic networks by singular value decomposition and maximum-likelihood**

Ina Seydel, Georg Foerster, Matthias Klingner

3 - **A data mining approach on poi based traffic flow estimation - an industrial case study**

Thomas Liebig

■ WC-20

Wednesday 11:20-12:40
Mann

DEA applications v

Chair: *Yannis Smirlis*

1 - Input-output tables and network dea: efficiency of the 47 prefectures of japan

Hirofumi Amatatsu, Tohru Ueda

2 - An integrated approach of performance management in public parking lot

Gaea Lin, Tzay An Shiau

3 - Evaluating the productive efficiency of highway maintenance operations: environmental and dynamic considerations

Saeideh Fallah-Fini, Konstantinos Triantis

4 - Reducing the size of large scale data envelopment analysis problems using interval DEA

Yannis Smirlis, Lamprini V. Stamati, Dimitris Despotis

■ WC-21

Wednesday 11:20-12:40
Hauptmann

Nonlinear 0-1 optimization

Chair: *Bruno Simeone*
Chair: *Isabella Lari*

1 - Nonlinear 0-1 optimization by reduction to max-cut

Christoph Buchheim, Giovanni Rinaldi

2 - Cones of nonnegative quadratic pseudo-boolean functions and lift-and-project hierarchies

Endre Boros, Miguel Anjos, Michel Minoux, Gabriel Tavares

3 - Some properties of the boolean quadric polytope

Isabella Lari, Endre Boros

4 - Quadratic -1,0,1 optimization

Andrea Lodi, Christoph Buchheim, Alberto Caprara

■ WC-22

Wednesday 11:20-12:40
Arndt

Ahp iv

Chair: *Miroslaw Dytczak*

1 - **Multi-model MCDA approach application for solution of socio-economic problems**

   Grzegorz Ginda, Miroslaw Dytczak

2 - **Intangibility-aware assessment of building systems based on small prefabricated structural components**

   Andrzej Słodziński, Miroslaw Dytczak

3 - **System for validation of real estate value estimation**

   Miroslaw Dytczak, Maciej Szpringier, Grzegorz Ginda

4 - **Intangibility-aware decision-making support for printed works preparation**

   Ewa Kolodziejuk, Miroslaw Dytczak

■ WC-23

Wednesday 11:20-12:40
Planck

Methodologies for dss

Chair: *Pascale Zaraté*

1 - **Patterns as building blocks in decision-tree algorithms**

   Boris Delibasic, Milija Suknovic, Milos Jovanovic

2 - **Consistency in ahp-collaborative decision making**

   María Teresa Escobar, José María Moreno-jimenez, Juan Aguarón

3 - **Academic decisions support systems: a methodology**

   José G. Hernández R., María J. García G.

4 - **A new way of classifying and comparing systemic methodologies**

   Kalliopi Peponi, Argyris Arnellos, Thomas Spyrou, John Darzentas

■ WC-24

Wednesday 11:20-12:40

GSI - S 20

Multiobjective optimization

Chair: *Jorge Sá Esteves*

1 - The call centers staffing problem: a multicriterion approach

Jorge Sá Esteves

2 - A lexicographic approach for multi-objective dynamic portfolio optimization

Bartosz Sawik

3 - The direct support method to solve a multiobjective linear program

Radjef Sonia

4 - New labeling algorithms for minimum-hop bicriteria path problems

Marta Pascoal

◼ **WC-25**

Wednesday 11:20-12:40
GSI - S 25

Graph games

Chair: *Agnieszka Rusinowska*

1 - Tree solutions for graph games

Sylvain Béal, Eric Rémila, Philippe Solal

2 - Random walks on set systems and games with communication graphs

Fabien Lange

3 - Internal slackening scoring methods

Marco Slikker, Peter Borm, Rene van den Brink

■ WC-26

Wednesday 11:20-12:40

GSI - S 35

Transportation and logistics

Chair: *Christian Huber*

1 - Solving the vehicle positioning problem

Carlos Cardonha, Ralf Borndörfer

2 - Automatic generation of continuous queries for event based logistics monitoring

Kerstin Werner

3 - Non-dominated time-window policies in city distribution

Derya Eren Akyol, René de Koster

4 - Throughput analysis of manual order picking systems with blocking

Christian Huber

■ WC-27
Wednesday 11:20-12:40
GSI - S 21

Location and allocation problems in facilities

Chair: *Kees Jan Roodbergen*
Chair: *René de Koster*

1 - Shared stacking policy for stacking export containers at container yards

Amir Hossein Gharehgozli, Yugang Yu, René de Koster, Jan Tijmen Udding

2 - Online disruption management of container terminal operations

Jan Tijmen Udding, Maarten Hendriks

3 - Improving warehouse performance by choosing proper storage and order picking systems

Manolo Mizzi, René de Koster

4 - Managing warehouse empty storage space

René de Koster, Yugang Yu

■ WC-28

Wednesday 11:20-12:40
GSI - S 1

Financial optimization 5

Chair: *Michi Nishihara*

1 - On securitization, market completion and equilibrium risk

Traian Pirvu, Ulrich Horst, Goncalo Dos Reis

2 - Fixed-income portfolio in serbia —hedging against changes in svensson model parameters

Mikica Drenovak

3 - Dynamic evolution for risk-neutral densities

Ana Monteiro, Reha Tütüncü, Luís Nunes Vicente

4 - Real options with multi-dimensional state variables

Michi Nishihara

Short-therm operation and management in energy markets

Chair: *Pilar Vázquez*

1 - **The impact of co2, so2 and other pollutant emissions constraints on the operation of the generation plants: managing emissions limits in the short run**

Inigo Ruperez, Pilar Vázquez

2 - **The influence of wind production on short-term operation of electricity power system and its flexibility requirements**

Pablo Rodilla

3 - **Gas-electricity markets convergence in spain. interaction between both commodities in the short term decission-making process**

Daniel Fernandez

4 - **Design of the bidding curve in uniform-price electricity auctions: princing operational constraints under non-convexity**

Miguel Vazquez, Carlos Vázquez

■ WC-30

Wednesday 11:20-12:40

GSI - S 26

Nonsmooth optimization in mp and its applications

Chair: *Antonio Fuduli*

1 - Separation of convex sets by sets

Diethard Pallaschke, Ryszard Urbanski

2 - A new solution method for equilibrium problems

Massimo Pappalardo

3 - A globally convergent descent method for nonsmooth variational inequalities

Mauro Passacantando, Barbara Panicucci, Massimo Pappalardo

■ WC-31

Wednesday 11:20-12:40

GSI - S 34

Data mining and decision making 2

Chair: *Christophe Mues*

1 - A question of profit

Hsin-Vonn Seow, Lai-Soon Lee

2 - Do novel algorithms pay off? a benchmark of data mining algorithms in management applications

Stefan Lessmann, Stefan Voss

3 - Maximum tolerance and maximum greatest tolerance of strict separating systems

Xavier Molinero, Josep Freixas

■ WC-32

Wednesday 11:20-12:40
GSI - S 4

Portfolio and risk management

Chair: *Peter Letmathe*

1 - Volatility forecast in financial time-series using evolutionary computing techniques

V L Raju Chinthalapati

2 - Generating portfolio selection strategy under the lipschitz constant derivations' scope

George S. Androulakis, Eleni G. Lisgara

3 - Restricted optimal retention in stop-loss reinsurance

Roxana Ciumara, Vasile Preda, Silvia Dedu

4 - Portfolio margining: strategy vs risk

Dmytro Matsypura, Ed Coffman, Vadim Timkovsky

■ WC-33

Wednesday 11:20-12:40

GSI - S 7

Stochastic methods in global optimization

Chair: *Eligius M.T. Hendrix*

1 - Tutorial for stochastic global optimisation algorithms

Eligius M.T. Hendrix

2 - Statistical models for global optimization

Julius Zilinskas, Antanas Zilinskas

3 - Global optimization solution of robust regression using the simulated annealing algorithm

Mevlut Yetkin

4 - Achieving global descent in global optimization

Chi-Kong Ng, Duan Li

■ WC-34

Wednesday 11:20-12:40

GSI - S 8

Multi-view learning in machine learning

Chair: *Zakria Hussain*

1 - On new model selection methods for error correcting output codes (ecoc)

Sureyya Ozogur-Akyuz, Terry Windeatt

2 - Clustering of sequences of different length with a new distance based on the kl divergence

Emilio Parrado-Hernandez, Dar Garcia-Garc, Fernando Diaz-de-Maria

3 - Re-mining positive and negative associations: does pricing matter?

Ayhan Demiriz, Gurdal Ertek, Ahmet Cihan

4 - High-dimensional non-linear variable selection through hierarchical

Francis Bach

■ WC-35

Wednesday 11:20-12:40

GSI - S 9

Searching digraphs and perfect graphs

Chair: *Gena Hahn*

1 - Mixed and edge search number of some perfect graph classes

Rodica Mihai, Pinar Heggernes

2 - Network discovery and verification

Matus Mihalak, Zuzana Beerliova, Alex Hall, Michael Hoffmann, Thomas Erlebach

3 - Digraph searching

Boting Yang

■ WC-36

Wednesday 11:20-12:40

GSI - S 11

Stochastic modelling and simulation ii

Chair: *Zeev (Vladimir) Volkovich*

1 - Statistical games approach to machine learning

Michael Khachay

2 - On asymptotical equivalence of statistical criteria in discrete problems

Alexander Grusho, Elena Timonina, Zeev (Vladimir) Volkovich, Zeev Barzily

3 - Measure valued differentiation and series expansions in positive systems

Fazia Aoudia-rahmoune

4 - K-nearest neighbors' stochastic models in the cluster stability problem

Zeev (Vladimir) Volkovich, Zeev Barzily, Renata Avros

Decision theory and analysis - 2

Chair: *Mauricio Ruiz-Tagle*

1 - **Performance indicators for the motorway infrastructure concession considering the users' requirements**

Mariana Brochado, Javier Faulin

2 - **Measuring bank customer behavior**

Maria Mavri, Vassilis Angelis, Katerina Dimaki

3 - **Perturbation results for retrieving priority vectors from pairwise comparison matrices**

Esther Dopazo, Mauricio Ruiz-Tagle, Myriam Serrano

4 - **A model for computing a group priority vector under incomplete information**

Mauricio Ruiz-Tagle, Esther Dopazo

■ WC-38

Wednesday 11:20-12:40
GSI - S 13

Derivative pricing

Chair: *Susanne Kruse*

1 - Pricing and hedging asian basket spread options

Michèle Vanmaele, Griselda Deelstra, Alexandre Petkovic

2 - A stochastic approach to the valuation of barrier options in heston's stochastic volatility model

Susanne Griebsch, Kay Frederik Pilz

3 - A robust regression Monte Carlo method for pricing high-dimensional american-style options

Christian Jonen

4 - Dynamic limit order books in financial markets with liquidity risk

Jocelyne Bion-Nadal

■ WC-39

Wednesday 11:20-12:40

GSI - S 14

Flexible manufacturing systems

Chair: *Mustafa Yuzukirmizi*

1 - A capacity allocation problem with tooling costs in flexible manufacturing systems

Selin Özpeynirci, Meral Azizolu

2 - Production scheduling with alternative process plans

Roman Capek, Zdenek Hanzalek, Premysl Sucha

3 - Optimal production strategy under fluctuating demands: technology versus capacity

Yang Liu, Chi To Ng

4 - Multi-class closed queueing network models for flexible manufacturing systems with finite capacities

Mustafa Yuzukirmizi

■ WC-40

Wednesday 11:20-12:40

GSI - S 27

Sustainable energy systems

Chair: *Erik Pruyt*

1 - Nuclear phase-out in belgium: is it sustainable?

Pierre Kunsch

2 - To biofuel OR not? how to evaluate it, that is the question!

Cathy Macharis, Laurence Turcksin

3 - Towards a sustainable energy system? contribution and potentiality of European bio-energy

Erik Pruyt

■ WC-41

Wednesday 11:20-12:40

GSI - S 28

Public applications of simulation

Chair: *Murat Caner Testik*
Chair: *Banu Yuksel Ozkaya*

1 - A new approach to electricity spot market modeling

Marcus Hildmann, Florian Herzog

2 - Proposal to facilitate the process of adaptation of the balanced scorecard in the third sector for Brazilian educational organization third sector

William Vianna, Leonardo Ensslin, Edilson Giffhorn

3 - Application of rfid technology to baggage handling system

Stefano Carrese, Marialisa Nigro, Stefano Saracchi

4 - Simulation-based consideration of demand forecast performance evaluations

Catherine Cleophas, Natalia Kliewer

■ WC-42

Wednesday 11:20-12:40

GSI - S 3

Recent developments from nonconvex programming

Chair: *Rafael Lopez*

1 - A dc programming approach for solving the symmetric eigenvalue complementarity problem

Mahdi Moeini, Hoai An Le Thi, Tao Pham Dinh

2 - An efficient discretization method in semi-infinite optimization

Mohand Ouanes

3 - Approximating the probability density function of the optimal point of non convex functions

Rafael Lopez

■ WC-43

Wednesday 11:20-12:40

GSI - S 10

Capital markets and control

Chair: *Wolfgang Bessler*

1 - Are private equity investors boon OR bane for an economy? - a theoretical analysis

Christian Koziol

2 - Currency-dependent differences in the implied probabilities of default of euro and us-dollar denominated foreign currency sovereign bonds

Andreas Rathgeber

3 - Capital markets and corporate control: empirical evidence from hedge fund acitivism in Germany

Wolfgang Bessler

■ WC-45

Wednesday 11:20-12:40

GSI - S 33

Modeling and analyzing social/behavioral/technical OR problems

Chair: *Sevgi Ozkan*
Chair: *Seren Basaran*

1 - Examining university graduates' entrepreneurship through the design and application of an OR survey model

Vassilis Kostoglou

2 - Modelling personal learning in the use of modern technologies

Jo Smedley

■ WD-01

Wednesday 12:55-14:15
Beethoven

Industrial optimization

Chair: *Nivaldo Coppini*

1 - Optimization for siplace placement systems

Petra Bauer

2 - Mathematical models for margin calculation

Dmitry Krushinsky, Boris Goldengorin

3 - A new cutting tool wear detection method using the lifting technique

Nivaldo Coppini, Fabio Pereira, Elesandro Baptista

4 - A new relaxation scheme for mpecs

Sonja Veelken, Michael Ulbrich

■ WD-02

Wednesday 12:55-14:15
Schumann

Heuristic aproaches for transportation planning

Chair: *Frank Schultmann*

1 - **A greedy algorithm for vehicle routing problems with simultaneous pickup and delivery**

Bourguiba Moncef, Rebai Abdelwaheb

2 - **Particle swarm optimization for real-life vehicle routing problem**

Daniela Ponce, Martin Gavalec

3 - **A cross entropy based heuristic for solving the vehicle routing problem with time windows**

Tai-Yu Ma

■ WD-03

Wednesday 12:55-14:15
Reger

Traffic control

Chair: *Bernhard Friedrich*

1 - **Data fusion techniques for traffic state estimation - dino within dmotion**

Daniel Schmidt, Bernhard Friedrich

2 - **Practical offset optimization in urban road networks based on cell transmission model and genetic algorithms**

Jannis Rohde, Bernhard Friedrich

3 - **Concept for a decentralized adaptive traffic signal control in urban networks based on c2i-communication data and adaptive dynamic programming (adp)**

Christian Priemer

■ WD-04

Wednesday 12:55-14:15
Liszt

Parallel machine scheduling

Chair: *Müge Muhafýz*

1 - Parallel machine scheduling with preparation times

Wafaa Labbi, Mourad Boudhar

2 - New algorithms for unrelated parallel machine scheduling problem

Ruben Ruiz, Luis Fanjul Peyro, Thijs Urlings

3 - An anticipative scheduling approach with controllable processing times

Sinan Gürel, M. Selim Akturk, Ersin Körpeoğlu

4 - Dynamic lead time management

Müge Muhafýz, Arslan Ornek, Selin Özpeynirci, Cemalettin Öztürk, Ozge Oktay, Ufuk Dumanli

■ WD-05

Wednesday 12:55-14:15
Haydn

Railway scheduling

Chair: *Syed Hasnain Haider Gilani*

1 - Scheduling trains in single-line working

Francis Sourd, Christian Weber

2 - Rail track inspection scheduling

Sebastien Lannez, Christian Artigues, Michel Gendreau, Nicolas Marcos

3 - Vehicle scheduling for rail freight services

Hanno Schülldorf

4 - An optimization of multi objective single track train scheduling problem

Syed Hasnain Haider Gilani, Asim Raza, Yasir Imtiaz Khan

■ WD-06

Wednesday 12:55-14:15
Koch

Gor diploma awards

Chair: *Stefan Nickel*
Chair: *Alf Kimms*

1 - Optimization and simulation of traffic flows in the case of evacuating urban areas

Klaus-Christian Maassen

2 - Distance-constrained vehicle routing

Markus Reuther

3 - Branch-and-price algorithms for the traveling tournament problem (ttp)

Ulrich Schrempp

■ WD-07

Wednesday 12:55-14:15

GSI - S 29

Public transportation network design

Chair: *Leo Kroon*
Chair: *Anita Schoebel*

1 - Optimisation of public transportation network configuration and frequency

Hiroshi Shimamoto, Fumitaka Kurauchi, Jan-Dirk Schmoecker, Michael Bell

2 - Designing complementary networks of public transport

Mireia Roca-Riu, Miquel Estrada

3 - Link restoration for rapid transit network incidences

Esteve Codina, Ángel Marín

4 - Effectiveness of control strategies for transit line operation

Konstantinos Gkoumas, Giuseppe Bellei

■ WD-08

Wednesday 12:55-14:15

GSI - S 30

Supply chain planning and forecasting

Chair: *M.Furkan Uzar*

1 - A multistage supply chain planning with price dependent stochastic demand

Cheng-Chang Lin, Hui-Xuan Wang

2 - A demand substitution estimation framework for configurable products

Emel Aktas, E. Alper Murat, Ratna Babu Chinnam, Gint Puskorius, Dingzhou Cao

3 - Distribution planning of bulk lubricants at an energy company

M.Furkan Uzar, Bülent Çatay

■ WD-09

Wednesday 12:55-14:15

GSI - S 5

Transport workforce scheduling ii

Chair: *Willem-Jan van Hoeve*

1 - Tactical crew planning at Turkish state railways

  Birol Yuceoglu, Guvenc Sahin

2 - Truck driver scheduling and regulation (ec) no 561/2006

  Asvin Goel

3 - Bus driver rostering problem: confronting bi-objective heuristic approaches

  Margarida Moz, Margarida Pato, Ana Respicio

4 - Domain filtering for the intersection of set variables

  Willem-Jan van Hoeve, Ashish Sabharwal

■ WD-10

Vector and set-valued optimization iii

Chair: *Elvira Hernández*

1 - A general approach for studying duality in multiobjective optimization

Sorin-Mihai Grad, Radu Ioan Bot

2 - Graphical differentiation in vector analysis and its application in optimization

Miguel Sama, Bienvenido Jiménez, Vicente Novo

3 - Subgradients of set-valued maps and set optimization

Elvira Hernández, Luis Rodriguez-Marin

■ WD-11

Wednesday 12:55-14:15
GSI - S 17

Promethee & Gaia : tutorial

Chair: *Bertrand Mareschal*

1 - The promethee & Gaia multicriteria decision aid methods

   Bertrand Mareschal, Yves De Smet, Quantin Hayez

2 - D-sight: a new promethee-based software

   Quantin Hayez, Yves De Smet, Bertrand Mareschal

■ WD-12

Wednesday 12:55-14:15

GSI - S 18

Stochastic programming models

Chair: *Rüdiger Schultz*

1 - A stochastic model for fixed-income securities portfolio selection with transaction costs and default probabilities

Larraitz Aranburu, Laureano Fernando Escudero, M. Araceli Garín, Gloria Pérez, Gloria Pérez

2 - Contamination techniques for mixed stochastic programming problems

Martin Branda

3 - Stochastic dominance constraints induced by mixed-integer linear recourse

Rüdiger Schultz

■ WD-13

Wednesday 12:55-14:15
GSI - S 31

Competitive location 2

Chair: *Knut Haase*

1 - Competitive discrete facility location problem with residual demand and distance threshold

Arifusalam Shaikh, Said Salhi, Malick M. Ndiaye

2 - Simultaneous decisions in competitive discrete location problems

Joana Matos Dias, Pedro Godinho

3 - Competitive location models using a threshold-sensitive customer choice rule

Dolores R. Santos-Peñate, Rafael Suárez, Pablo Dorta-González

4 - Discrete location planning

Knut Haase

■ WD-14

Wednesday 12:55-14:15
GSI - S 32

Inventory management iv

Chair: *Baris Balcioglu*

1 - Optimal policy for a capacitated assembly problem

Alexandar Angelus

2 - Optimal ordering policies with stochastic demand and price processes

Kimitoshi Sato, Katsushige Sawaki

3 - Modeling multi-echelon inventory systems with several repair modes under non-stationary demands

Yael Perlman, Eugene Levner

4 - Strategies for a single product m/g/1 multi-class make-to-stock queue

Baris Balcioglu, Hossein Abouee-Mehrizi, Opher Baron

■ WD-15

Wednesday 12:55-14:15
Einstein

Fairness in sports

Chair: *Dirk Briskorn*

1 - Scheduling sports tournaments on a single court minimizing waiting times

Sigrid Knust

2 - A study of fairness in fourball golf competition

Patrick Siegbahn, Donald Hearn

3 - Does the carry-over effect exist?

Dries Goossens, Frits Spieksma, Frits Spieksma

4 - A hybrid heuristic for minimizing weighted carry-over effects in round robin tournaments

Allison Guedes, Celso Ribeiro

■ WD-16

Wednesday 12:55-14:15
Koenig

Preference learning from data ii

Chair: *Krzysztof Dembczynski*

1 - Learning intransitive preference relations with regularized least-squares

Willem Waegeman, Tapio Pahikkala, Evgeni Tsivtsivadze, Bernard De Baets, Tapio Salakoski

2 - Three approaches to ordinal classification

Krzysztof Dembczynski, Wojciech Kotlowski

3 - Learning of preference rules in variable consistency dominance-based rough set approaches

Jerzy Blaszczynski, Salvatore Greco, Roman Slowinski, Marcin Szelag

4 - The classification methods decision tree and proaftn: a comparative study

Nabil Belacel, Feras Al-Obeidat

■ WD-17

Wednesday 12:55-14:15
Rheinaue

Combinatorial optimisation for microelectronics

Chair: *Nadia Brauner*

1 - Scan chain optimization for integrated circuits testing: an operations research perspective

Zaourar Lilia, Yann Kieffer

2 - Automatizing the sharing of bist-blocks for low-power testing of embedded memories

Yann Kieffer, Zaourar Lilia, Jihane Alami-Chentoufi

■ WD-18

Wednesday 12:55-14:15
LennÃ©

Mathematical programming in networks 1

Chair: *Armin Fügenschuh*
Chair: *Gerhard-Wilhelm Weber*

1 - Piecewise linear approximation methods for the layout optimization in recovered paper production

Christine Hayn, Armin Fügenschuh

2 - Experimental design techniques applied to the measurement of traffic in large networks

Guillaume Sagnol, Mustapha Bouhtou, Stephane Gaubert

3 - The coolest path problem

Armin Fügenschuh, Martin Frank, Michael Herty, Lars Schewe

■ WD-19

Wednesday 12:55-14:15
Haber

Metaheuristics i

Chair: *Edilson Castro*

1 - **Using a greedy random adaptative search procedure to solve the cover printing problem**

Tuyttens Daniel, Arnaud Vandaele

2 - **Self-regulated multiple simulated annealing: minimizing input parameters dependency and increasing solutions space exploration**

Edilson Castro, Ademir Constantino, Silvio Araujo

■ WD-20

Wednesday 12:55-14:15
Mann

DEA applications iii

Chair: *Heinz Ahn*

1 - DEA software evaluation and development

Kersten Hentrich, Heinz Ahn

2 - New features and capabilities of data envelopment analysis online software (deaos)

Mohammad Reza Alirezaee, Ali Niknejad, Nassrin Alirezaee

3 - Performance improvement management software for the advanced user

Ali Emrouznejad, Emmanuel Thanassoulis

4 - Evaluation of school of law efficiency in Turkey by using data envelopment analysis

Erhan Berk

■ WD-21

Wednesday 12:55-14:15
Hauptmann

Theory of boolean functions

Chair: *Gyorgy Turan*

1 - The complexity of sign matrices

Hans Simon

2 - Nondisjoint decompositions of boolean functions

Jan Corstiaan Bioch

3 - Statistical query learning and strong sq dimension for some formula classes

Balazs Szorenyi

4 - A restricted boolean consensus method for the transitive closure of a digraph

Bruno Simeone, Endre Boros, Stephane Foldes, Peter L. Hammer

■ WD-22

Wednesday 12:55-14:15
Arndt

Ahp v

Chair: *Coskun Hamzaçebi*

1 - Stock selection in food sector

Coskun Hamzaçebi, Sedat Erdogan

2 - Application of AHP and fuzzy multicriteria linear programming in selecting suppliers and determining purchasing quotas

Tunjo Peric, Zoran Babic

■ WD-23

Wednesday 12:55-14:15
Planck

Distributed dss

Chair: *Pascale Zaraté*

1 - A multi-agent framework for a web dss applied to manufacturing system

Taghezout Noria

2 - Participating in competitive online games: analyzing competitive and hedonic decision elements

Thomas Weiss, Claudia Loebbecke

3 - Distributed decision making goes multiscale

Christian Wernz

■ WD-24

Wednesday 12:55-14:15

GSI - S 20

Convex programming and applications

Chair: *Domingos Cardoso*

1 - Truncated codifferential method for nonsmooth convex optimization

Adil Bagirov, Ali Hakan Tor

2 - Recente results on graphs with convex quadratic stability number

Maria F Pacheco, Domingos Cardoso

3 - An upper bound on the 2-club number of a graph

Carlos J. Luz

Cooperation in assignment and inventory situations

Chair: *Judith Timmer*

1 - The maximum and the addition of assignment games

Silvia Miquel, Marina Nunez

2 - Cooperation in stochastic inventory models with continuous review

Judith Timmer

3 - Inventory transportation networks: benefits by collaboration

Ana Meca, Mª Gloria Fiestras-Janeiro, Ignacio García-Jurado, Manuel Alfredo Mosquera Rodríguez

■ WD-26

Wednesday 12:55-14:15

GSI - S 35

Lot sizing ii

Chair: *Jan Christian Lang*

1 - Mip-based heuristics for capacitated lot-sizing with sequence-dependent setups and substitutions

Jan Christian Lang

2 - Lot sizing by considering purchase discount in mrp system

Fahimeh Shamsaei, Mehdi Heydari

3 - Heuristics for the multi-item capacitated lot-sizing with lost sales

Nabil Absi, Boris Detienne, Stéphane Dauzere-peres

■ WD-27

Wednesday 12:55-14:15

GSI - S 21

Analytical models in facilities logistics

Chair: *Sunderesh Heragu*

1 - Analytical models for automated warehouses

Sunderesh Heragu, Cai Xiao, Ananth Krishnamurthy, Charles Malmborg

2 - Design insights for an autonomous vehicles-based storage and retrieval system

Ananth Krishnamurthy, Debjit Roy, Sunderesh Heragu, Charles Malmborg

3 - Shared storage assignment policy in a compact storage system

Nima Zaerpour, Yugang Yu, René de Koster

■ WD-28

Wednesday 12:55-14:15

GSI - S 1

Economic lot scheduling problem

Chair: *Erik van der Sluis*

1 - **Big-bucket lotsizing problems with synchronization**

Christian Almeder, Bernardo Almada-Lobo

2 - **Capacitated lotsizing and scheduling with non triangular sequence-dependent setup times and costs**

Bernardo Almada-Lobo, Alistair Clark

3 - **A heuristic to solve the economic lot scheduling problem even when there is a high utilization of the facility**

Erik van der Sluis, Anders Segerstedt

■ WD-29

Wednesday 12:55-14:15
GSI - S 2

Energy models and ethical implications

Chair: *Michael Lueken*

1 - **Analysis of emission trading markets with system dynamics**

Stefan Pickl

2 - **Epistemic uncertainties in climate predictions: a challenge for epistemology and ethics**

Rafaela Hillerbrand

3 - **Measuring efficiency in complex energy systems**

Bo Hu

4 - **Distributive impacts of technological flexibility — an application of environmental system modeling**

Michael Lueken, Nico Bauer, Brigitte Knopf, Marian Leimbach, Ottmar Edenhofer

■ WD-30

Wednesday 12:55-14:15

GSI - S 26

Applications of nonsmooth optimization techniques

Chair: *Julien Ugon*

1 - Conic functions in classification problems

Gurkan Ozturk, Refail Kasimbeyli

2 - Multiobjective portfolio optimization problem and solution methods

Ozden Ustun, Refail Kasimbeyli

3 - Applying nonsmooth optimization to analyse nonsmooth sleep signals

Nadezda Sukhorukova

4 - A novel piecewise linear classifier based on polyhedral conic and max-min separabilities

Julien Ugon, Adil Bagirov

■ WD-31

Wednesday 12:55-14:15

GSI - S 34

Various topics on data mining and decision making

Chair: *Christophe Mues*

1 - Virtual web services

Hassina Talantikite, Djamil Aissani

2 - Towards conflict resolution in agent systems

Jair Minoro Abe, Fábio Romeu de Carvalho

■ WD-32

Wednesday 12:55-14:15

GSI - S 4

Taxation and public finance

Chair: *Takashi Shibata*

1 - A mathematical model to optimize the taxation on transfering income to a gmbhs share-holder

Jörg Kalcsics, Stephan Meyering

2 - Optimization of public co-financing of investment projects under crisis circumstances

Vadim Arkin, Aleksandr Slastnikov

3 - Consolidated government-sector budget identity and total seinorage.

Zlatica Ivanicová

4 - Employees' provident fund (epf) of singapore, malaysia, India and sri lanka: a comparative study

Siti Aida Sheikh Hussin, Diana Roman, Gautam Mitra

■ WD-33

Wednesday 12:55-14:15

GSI - S 7

New methods in global optimization

Chair: *Leocadio G. Casado*

1 - From infeasibility in lp to global optimization

Paula Amaral

2 - On partitioning simplices and covering by spheres

Leocadio G. Casado, Eligius M.T. Hendrix, I. Garcia

3 - Global optimization of a generalized linear multiplicative program

Claudio Sodini, Riccardo Cambini

4 - A practical approach for derivative-free simulation-based constrained optimization

Benoit Couet, Hugues Djikpesse, David Wilkinson

■ WD-34
Wednesday 12:55-14:15
GSI - S 8

Data mining in healthcare informatics

Chair: *Nazife Baykal*

1 - **Toward effective information retrieval in medical domain**

Mohammed AL Zamil

2 - **Data mining and knowledge discovery at the sleep laboratory studies in psychophysiological and paradoxical sleep apnea patients**

Beyza Kaymakoglu, Akin Akyuz, Sureyya Ozogur-Akyuz, Nazife Baykal, Fuat Ozgen

3 - **Fraud in healthpayment; a streamline from business intelligence to data mining**

Alp Timurhan Cevik, Gulsultan Dogan

■ WD-35

Wednesday 12:55-14:15

GSI - S 9

Simulations and forbidden minors

Chair: *Nancy Clarke*

1 - Searching simulations: from digraphs to hypergraphs to graphs

Paul Hunter

2 - Forbidden minor constructions for 4-searchable graphs

Oznur Diner, Danny Dyer, Boting Yang

3 - Playing games and proving theorems

Isolde Adler

Stochastic modelling and simulation iii

Chair: *Evelyn Buckwar*

1 - **Empirical estimates in stochastic optimization via special cases**

   Vlasta Kaňková

2 - **Insensitivity bounds for the moments of the sojourn times in m/gi systems under state-dependent processor sharing**

   Manfred Brandt, Andreas Brandt

3 - **Linear stability analysis for stochastic theta-methods applied to systems of sodes**

   Evelyn Buckwar

■ WD-37
Wednesday 12:55-14:15
GSI - S 12

Simulation metamodeling

Chair: *Inci Batmaz*

1 - A statistical approach for comparing performances of alternative metamodels

Inci Batmaz, Elcin Kartal

2 - Comparison of linear and robust regression methods for metamodeling complex systems

Ayca Donmez, Elcin Kartal, Inci Batmaz, Bayindir Kuran

3 - A modification of mars by tikhonov regularization and conic quadratic programming for modeling quality data

Fatma Yerlikaya Ozkurt, Pakize Taylan, Inci Batmaz, Gulser Koksal, Gerhard-Wilhelm Weber

■ WD-38

Wednesday 12:55-14:15

GSI - S 13

Financial mathematics and stochastic control

Chair: *Alexander Szimayer*

1 - A worst-case approach to continuous-time portfolio optimization

Ralf Korn

2 - Optimal leverage factor for the constant proportion debt obligations: a martingale approach

Aysegul Iscanoglu, Ralf Korn, Ömür Ugur

3 - Numerical methods for nonlinear black-scholes equations

Pascal Heider

■ WD-39

Wednesday 12:55-14:15
GSI - S 14

Multi-mode project scheduling

Chair: *Abbas Seifi*

1 - Project scheduling with flexible resources: formulation and inequalities

Francisco Saldanha-da-Gama, Isabel Correia, Lidia Lourenço

2 - Multi-mode project scheduling problem with flexible resource constraints

Jiyin Liu, Bing Wu, Ronggui Luo

3 - An efficient heuristic method for multi-mode resource constrained project scheduling with resource vacation and activity splitting

Abbas Seifi, Mohammad Khalighi Sikaroudi

4 - Ant colony system strategies for solving the resource-constrained project scheduling problem (rcpsp)

Juan Carlos Rivera Agudelo

■ WD-40

Wednesday 12:55-14:15

GSI - S 27

Methodologies in complex systems

Chair: *Alfred Fettweis*

1 - Approximate asymptotic methods for modelling complex dynamical systems

Lyudmila Kuzmina

2 - Communications, fluid dynamics, and some fundamental issues in physics

Alfred Fettweis

■ WD-41

Wednesday 12:55-14:15

GSI - S 28

Private sector applications of simulation

Chair: *Murat Caner Testik*
Chair: *Banu Yuksel Ozkaya*

1 - Simulation analysis of a cold-standby system

   Ebru Yüksel, Guldal Guleryuz

2 - Evaluation of var and cvar as decision criteria in supply contracts

   Berrak Dag, Paul Liston, Cathal Heavey

3 - A hybrid forecasting approach for a rental company's purchasing decisions

   Ruohui Yang, Peter Cowling, Keshav Dahal

■ WD-42

Wednesday 12:55-14:15

GSI - S 3

Novel opportunities of dc programming and dca for industry and finance

Chair: *Anh Son Ta*

1 - Dc programming approach for berth scheduling

   Babacar Mbaye Ndiaye, Tao Pham Dinh, Hoai An Le Thi

2 - Dc programming approach for portfolio decision with higher order moments

   Yi-Shuai Niu, Tao Pham Dinh

3 - Dca for solving continuous min max problem for single period portfolio selection

   Hoai An Le Thi, Duc Quynh Tran

4 - Optimal spectrum balancing in multi-user dsl network by d.c programming and dca

   Anh Son Ta, Hoai An Le Thi, Tao Pham Dinh, Tho Le Ngoc

■ WD-43

Wednesday 12:55-14:15

GSI - S 10

Long term financing and investment 1

Chair: *Ursula Walther*

1 - **The profitability of investment certificates in different tax systems ? do structured products benefit from taxation?**

Peter Scholz, Ursula Walther

2 - **Credit dynamics in a first-passage time model with jumps**

Natalie Packham

3 - **Financing a privately owned home - a time oriented risk analysis of combined savbings and financing acitivities**

Ursula Walther, Thomas Burkhardt

■ WD-44

Wednesday 12:55-14:15

GSI - S 16

Meeting of the euro wg in OR in agriculture and forest management

Chair: *LluisM Pla*

1 - Euro wg in OR in agriculture and forest management

LluisM Pla

■ WD-45

Wednesday 12:55-14:15
GSI - S 33

Various topics of OR in education

Chair: *Annette Hohenberger*
Chair: *Heiner Müller-Merbach*
Chair: *Seren Basaran*

1 - Management sciences and quantitative methods in management education in the uk

Alberto Paucar-Caceres, Rosane PAgano

2 - Using a problem-based approach in the design of an OR course: targeting management student-workers

Joao Miranda

3 - Children born of war and the compram methodology

Ingvill Constanze Mochmann, Dorien DeTombe

4 - The OR process: five item analysis

Heiner Müller-Merbach

■ WE-01

Wednesday 14:30-16:00
Beethoven

Keynote wa1

Chair: *Gerhard J. Woeginger*

1 - Prime numbers and circuits

Nitin Saxena

2 - Combinatorial optimization in chip design

Jens Vygen

■ WE-02

Wednesday 14:30-16:00
Schumann

Keynote wa2

Chair: *Graham Kendall*
Chair: *Jacek Blazewicz*

1 - New cutting and packing methodologies and their commercial application

Edmund Burke

2 - Sports scheduling and advances in integer and constraint programming

Michael Trick

■ WE-03

Wednesday 14:30-16:00
Reger

Keynote wa3

Chair: *Rolf Möhring*

1 - Gor science award

Award Winner

■ WF-01

Wednesday 16:15-17:00
Beethoven

Closing session

Chair: *Erwin Pesch*
Chair: *Gerhard J. Woeginger*

1 - Closing session

    Erwin Pesch