Programme

Wednesday, May 27

8:30–9:00 Registration

9:00–9:10 Welcome and Opening Session

9:10–10:10 Keynote Session [Refectory Hall] (chair: **Werner Römisch**)

Georg Pflug
Stochastic programming: From two-stage to multi-stage to very large-stage

10:10–10:30 Coffee break

10:30–12:10 Invited Session A [Refectory Hall]
■ *Financial Optimization* (chair: **Norbert Trautmann**)

Maximilian Wimmer (Sebastian Utz)
Tri-criterion modeling for constructing more-sustainable mutual funds

Oliver Strub (Philipp Baumann)
Index tracking using unsupervised learning and mixed-binary convex programming

Dirk Banholzer (Jörg Fliege, Ralf Werner)
Enhanced calibration of the Nelson-Siegel and the Svensson model

Norbert Trautmann (Philipp Baumann, Salome Forrer)
Order splitting on a multi-slot machine in the printing industry

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10:30–12:10 Invited Session B [Room S9]
■ *Stochastic Optimization in Energy* (chair: **David Wozabal**)

Nils Löhndorf (Andreas Eichhorn)
Multivariate time series models for stochastic-dynamic optimization

Asgeir Tomasgard (Pernille Seljom)
Short-term uncertainty in long-term energy system models: A case study with focus on wind power in Denmark

Erlon Finardi (Felipe Beltrán, Welington de Oliveira)
Scenario tree reduction via nested distance applied to the hydrothermal scheduling problem

David Wozabal (Nils Löhndorf)
Optimal gas storage valuation and futures trading

10:30–12:10 Contributed Session C [Room A]
■ *Combinatorial Optimization* (chair: **Diego Ruiz-Hernández**)
Chia-Li Wang
Deterministic self-policy for observable queues of heterogeneous customers

Peter Szabó
The Goldbach's conjecture in max-algebra

Beatriz Bernábe (Jorge A. Ruiz-Vanoye, Javier Ramírez-Rodríguez, Rogelio González Velázquez, Abraham Sánchez-López)
A bi-objective proposal to group population without drainage services

Diego Ruiz-Hernández (Mozart Menezes, Renato Guimarães)
The component commonality problem in a real multidimensional space

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14:00–15:00 Keynote Session [Refectory Hall] (chair: **Wolfram Wiesemann**)

Vivek Farias
Online A-B testing

15:00–15:20 Coffee break

15:20–17:00 Invited Session A [Refectory Hall]
■ *Stochastic Programming – Applications and Theory* (chair: **Rüdiger Schultz**)
Judith Klein (Christian Schlechtriem, Rüdiger Schultz)
A dietary burden calculator for fish metabolism studies

Matthias Claus (Rüdiger Schultz)
Weak continuity of risk functionals arising in 2-stage stochastic programming

Pavel Popela (Jakub Kůdela, Michal Touš, Martin Pavlas, Radovan Šomplák)
Approximating stochastic programming models for waste-to-energy problems

Rüdiger Schultz (Matthias Claus)
Distribution sensitivity of stochastic programs with dominance constraints

15:20–17:00 Contributed Session B [Room S9]

■ *Risk Measures and Portfolios* (chair: **Audrius Kabasinskas**)

Vladimír Holý (Kirill Odintsov)
The impact of dynamic portfolio management on long-term value at risk

Niclas Brok
Non-parametric portfolio optimization and commodity prices

Martin Šmíd
Multi-generation multi-portfolio generalization of Vasicek model

Audrius Kabasinskas (Miloš Kopa, Kristina Šutienė, Dalius Strebeika)
Theoretical vs empirical risk measure for mixed-stable, mixed-t and mixed-normal distributions

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15:20–17:00 Contributed Session C [Room A]

■ *Data mining* (chair: **Panos Pardalos**)

Valery Kalyagin (Panos Pardalos)
Robust computation of the market graph

Namdar Shahrokhi Nejad
Comparing the two hierarchical clustering and K-means in the field of auto insurance fraud

João Pires da Cruz (George Overstreet, Peter Beling, Kanshukan Rajaratnam)
Sand pile modeling for machine learning algorithms for economic/financial applications

Panos Pardalos
On structural properties and clustering of market networks

17:00–17:20 Coffee (beer) break

17:20–19:00 Invited Session A [Refectory Hall]

■ *Dynamic Decision Models for Power Plants* (chair: **Stein-Erik Fleten**)

Michal Kaut (Jeanne Andersen, Asgeir Tomasgard)
Stochastic model for short-term balancing of supply and consumption of electricity

Alois Pichler
Switching options for peak power plants: Structural estimation

Stein-Erik Fleten
Linear decision rules for seasonal hydropower scheduling

17:20–19:00 Contributed Session B [Room S9]

■ *Portfolio Selection* (chair: **Kourosh Marjani Rasmussen**)

Stefan Theussl (Ronald Hochreiter)
Constrained portfolio selection based on stock rankings using R/ROI

Petr Koldanov
On stock selection for portfolio optimization

Malika Babes
Resolving the portfolio problem as a knapsack problem

Kourosh Marjani Rasmussen (Thomas Bjerring, Omri Ross)
Active index allocation with ETFs

17:20–19:00 Contributed Session C [Room A]

■ *Supply Chains and Transportation* (chair: **Carmen Galé**)

Ana Amaro
Colaborative supply chain planning: Enhancing sustainability through flexible decisions

Gabriella Dellino (Teresa Laudadio, Renato Mari, Nicola Mastronardi, Carlo Meloni)
Sales forecasting and order planning for perishable products: A computational study

Ricardo Pérez-Rodríguez (Arturo Hernández,)
An estimation of distribution algorithm-based approach for the order batching problem

Carmen Galé (Herminia I. Calvete, José A. Iranzo, Paolo Toth)
A hybrid evolutionary algorithm for the two-stage fixed-charge transportation problem

19:00–21:00 Concert and Welcome Reception

Thursday, May 28

8:30–9:00 Registration

9:00–10:00 Keynote Session [Refectory Hall] (chair: **Jitka Dupačová**)

Alexander Shapiro
Risk averse and distributionally robust stochastic programming

10:00–10:20 Coffee break

10:20–12:00 Invited Session A [Refectory Hall]
■ *Distributionally Robust Optimization* (chair: **Daniel Kuhn**)
Dimitri Papadimitriou
Learning uncertainty sets

Huifu Xu
A semi-infinite programming approach for robust reward-risk ratio optimization with matrix moments contraints

Wolfram Wiesemann
Two-stage robust integer programming

Daniel Kuhn (Grani Hanasusanto, Vladimir Roitch, Wolfram Wiesemann)
Distributionally robust joint chance constraints with conic dispersion measures

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10:20–12:00 Contributed Session B [Room S9]
■ *Scenario Generation, Reduction and SDDP* (chair: **Ronald Hochreiter**)
Ronald Hochreiter
Open source multi-stage scenario tree generation

Paulo Vitor Larroyd (Vitor de Matos, Erlon Finardi)
Assessment of inflow scenario generation per basin in the long term hydrothermal scheduling

Václav Kozmík (Jitka Dupačová)
SDDP for multistage stochastic programs: Preprocessing via scenario reduction

Davi Valladão (Thuener Silva, Marcus Poggi)
Dynamic asset allocation via SDDP with concealed discrete states

10:20–12:00 Contributed Session C [Room A]

■ *Scheduling I* (chair: **Martin Branda**)

Rajmund Drenyovszki

Comparison of scheduling methods of flexible appliances in consumption admission control algorithm

Murat Kocamaz (Ural Gökay Çiçekli)

Optimization of spreading machines scheduling with a genetic algorithm

Zuzana Němcová

Cost optimizing methods for deterministic queuing systems

Martin Branda

Formulations and solution techniques for a stochastic interval scheduling problem

13:45–14:45 EWGSP Meeting [Refectory Hall] (chair: **Miloš Kopa**)

14:45–16:00 Invited Session A [Refectory Hall]

■ *Large-scale Multistage Stochastic Mixed 0–1 Programs* (chair: **Laureano Fernando Escudero**)

María Araceli Garín (Laureano Fernando Escudero, Celeste Pizarro Romero, Aitziber Unzueta)

Scenario cluster Lagrangean decomposition for large-scale multi-stage mixed 0–1 stochastic problems

Laureano Fernando Escudero (Juan Francisco Monge, Dolores Romero Morales)

Stochastic dynamic programming for multiperiod mixed 0–1 problems under uncertainty with TSD risk averse functional

Unai Aldasoro (Laureano Fernando Escudero, María Merino, Gloria Pérez)

Parallel branch-and-fix coordination based metaheuristic algorithms for solving large-scale multistage stochastic mixed 0–1 problems

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14:45–16:00 Contributed Session B [Room S9]

■ *Stochastic programming theory* (chair: **Shabbir Ahmed**)

Werner Römisch (René Henrion)

Conditioning of two-stage stochastic programming problems

Michal Houda (Jianqiang Cheng, Abdel Lisser)

Chance constrained 0–1 quadratic programs using copulas

Shabbir Ahmed (James Luedtke, Yongjia Song, Weijun Xie)

Nonanticipative duality for chance constrained optimization

14:45–16:00 Contributed Session C [Room A]
■ *Robust and stochastic optimization* (chair: **Francesca Maggioni**)
Carlos Raoni Mendes (Bruno Flach, Marcus Poggi)
A robust risk-mitigation approach for project management

Nalan Gulpinar
Robust asset-liability management for investment products with guarantees

Francesca Maggioni (Marida Bertocchi, Florian Potra)
Stochastic versus robust optimization for a transportation problem

16:00–16:15 Coffee (beer) break

16:15–17:30 Invited Session A [Refectory Hall]
■ *Nominations and Bookings in Gas Transportation* (chair: **Rüdiger Schultz**)
Ralf Gollmer (Rüdiger Schultz, Claudia Stangl)
An approach to nomination validation in gas transport

Claudia Stangl (Benjamin Hiller, Robert Schwarz)
Building nominations for real-life gas transportation networks

Sabrina Nitsche (Rüdiger Schultz)
Checking feasibility in gas networks for balanced entry and exit flows

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16:15–17:30 Contributed Session B [Room S9]
■ *Finance – Solvency, Pensions* (chair: **Giorgio Consigli**)
Sebastiano Vitali (Miloš Kopa, Vittorio Moriggia)
Pension fund optimal investment policy

Jakub Černý
Impact of the change of survival function on CVA

Giorgio Consigli
Solvency II-compliant dynamic risk control: A case study of a P/C insurance portfolio

16:15–17:30 Contributed Session C [Room A]

■ *Energy* (chair: **Maria Teresa Vespucci**)

Emre Tokgöz (Iddrisu Awudu)
Cost effective energy optimization by solving facility allocation on Riemannian manifolds

Paula Carroll (Damian Flynn, Alexander Melhorn, Mingsong Li)
Unit commitment benchmark data and MILP computational performance

Maria Teresa Vespucci (Diana Moneta, Paolo Pisciella, Giacomo Viganò)
Optimization models for the operation of medium-voltage AC networks

18:45–22:00 Boat Trip and Conference Dinner

Friday, May 29

8:30–9:00 Registration

9:00–10:40 Contributed Session A [Room S8]
■ *Computational Finance* (chair: **Sergio Ortobelli**)
Troels Martin Range (Lars Peter Østerdal)
Finite first order dominance: A network-flow characterization and an algorithm for the bivariate case

Kanshukan Rajaratnam (Peter Beling, George Overstreet)
Consumer loan scoring and regulatory capital decisions in the context of uncertain economic conditions

Barbora Zuzáková
Multistage portfolio optimization with risk premium constraints

Sergio Ortobelli (Tommaso Lando)
On the use of conditional expectation estimators

9:00–10:40 Contributed Session B [Room S9]
■ *Stochastic programming* (chair: **Petr Lachout**)
Vadym Omelchenko
The valuation of the gas storage by means of ADP, machine learning and the stable Ornstein Uhlenbeck model

Paolo Pisciella (Maria Teresa Vespucci)
A demand side management model for load scheduling in healthcare facilities

Vlasta Kaňková
Empirical data in stochastic optimization problems: survey and open questions

Petr Lachout
Optimal gain from a controlled kin tree

9:00–10:40 Contributed Session C [Room S10]
■ *Computational Statistics* (chair: **Karel Sladký**)
Pavel Boček
Free software tools for directional multiple-output quantile regression
Jan Voříšek
Bimodality testing of diffusion processes
Jiří Rozkovec
Simulations as a computational tool for discrete Markov chains
Karel Sladký
Risk-sensitive optimality in Markov decision processes: Policy and value iterations
10:40–11:00 Coffee break

11:00–12:00 Keynote Session [Room S9] (chair: **Daniel Kuhn**)
Dick den Hertog
Two ways to solve a robust nonlinear optimization problem: via the primal or the dual

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14:00–15:40 Contributed Session A [Room S8]
■ *Simulations* (chair: **Ladislav Lukáš**)
Radek Hendrych
Recursive calibration of conditionally heteroskedastic models
Hana Tomášková (Petra Marešová, Jitka Kühnová)
A simulation model of the evolution of the population with Alzheimer's disease
Felipe Baesler
Simulation optimization for operating room scheduling
Ladislav Lukáš
Numerical realization of discrete time European option pricing with underlying asset obeying a subdiffusion process in Mathematica

14:00–15:40 Contributed Session B [Room S9]

■ *Decision Analysis* (chair: **Francisco Javier Santos-Arteaga**)

Richard Cimler (Martin Gavalec, Hana Tomášková)
Optimization algorithms in the online decision support with preference matrix

Javier de Frutos (Guiomar Martin-Herran)
Pollution control in a multiregional setting: A differential game with spatially distributed controls

Francisco Javier Santos-Arteaga (Debora Di Caprio, Madjid Tavana)
Modelling sequential information acquisition behavior in rational decision making

Karel Lavička
Temporal decomposition of chance constraints in portfolio selection problem

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14:00–15:40 Contributed Session C [Room S10]

■ *Scheduling II* (chair: **Nikolai Krivulin**)

Jufang Li (Xiaogeng Chu, Ting Xi, Zhongxiang Chang, Wei Wang)
Joint mission planning of multiple satellites for searching maritime target

Zang Yuan (Song Liu, Jufang Li, Wei Zhang, Shuzhao Yang)
Generating high quality initial solutions based on data for agile Earth observation satellites mission scheduling

Zhongshan Zhang (Pei Wan, Renjie He, Jufang Li)
Research on method about task planning of clock synchronization between satellite and ground of GNSS

Nikolai Krivulin
Tropical optimization problems: Solution methods and application examples