CMS Program

Tuesday May 29

08:00-	**Registration**			
08:30-09:00	**Opening and welcome** **Room R5**			
09:00-10:30	**Computational Stochastic Optimization** **Chair: Alexei A. Gaivoronski** **Room: R3**	**Empirical modelling of energy markets** **Chair: Sjur Westgaard** **Room: R4**	**Optimization under uncertainty in logistics and transportation** **Chair: Francesca Maggioni** **Room: R5**	**Techno-Economic impact of CO2 reduction policies** **Chair: Paolo Pisciella** **Room: R90**
	Scenario Analysis for Energy Saving and Management Optimization in Complex Water Supply Systems **Jacopo Napolitano**	Business models for power-to-gas: A real options approach **Michael Schuerle**	Dealing with Demand Uncertainty in Service Network and Load Plan Design **Natashia Boland**	Optimization models for the participation of active power distribution networks to the ancillary services **Maria Teresa Vespucci**
	Engineer-to-order project planning with uncertainty in design and task duration **Michal Kaut**	Can Commodities Dominate Stock and Bond Portfolios? **Stein Frydenberg**	A Priori Routing for Time Slot Management in Online Grocery Retailing **Martin Savelsbergh**	Green Investment under Policy Uncertainty and Bayesian Learning **Verena Hagspiel**
	Scenario tree construction driven by heuristic solutions of the optimization problem. **Vit Prochazka**	Estimation of risk neutral moments from WTI crude oil options. **Valeriy Kunst**	Integer Stochastic Path Detection **Stephan Meisel**	Micro-grid expansion a cooperative game theory approach **Sambeet Mishra**
	Inexact cutting plane techniques for stochastic mixed-integer programs **Ward Romeijnders**	Forecasting Price Distributions in the German Electricity Market **Sjur Westgaard**	Optimizing workflow in cell-based slaughtering and cutting of pigs **Johan Oppen**	A Bilevel Programming Approach to Estimating Elasticities of Substitution for Computable General Equilibrium Models **Paolo Pisciella**
15 min break				
10:45-11:45	**Plenary speaker: Andy Philpott** **Professor at University of Auckland** **Competitive Equilibrium with Risk Averse Agents** **Room: R5**			
75 min Lunch break				
13:00-14:30	**Decision modelling in power markets** **Chair: Paolo Falbo** **Room: R3**	**Bounds and approximation methods in stochastic programming** **Chair: Francesca Maggioni** **Room: R4**	**Computational Methods for Markov Decision Processes** **Chair: David Wozabal** **Room: R5**	**Computational Finance** **Chair: Michael Schuerle** **Room: R90**
	Assessment of battery energy storage systems profitability in the Italian electricity wholesale market **Federica Davo'**	Sampling Scenario Set Partition Dual Bounds for Multistage Stochastic Programs **Ilke Bakir**	A Stability Result for Linear Markov Decision Processes **Adriana Kiszka**	Electricity Spot and Derivatives Pricing under Market Coupling **Roland Fuess**
	Interplay of Wind Energy Expansion and Regional Market Premia – A Fundamental Market Model Analysis with Application to Germany **Hannes Hobbie**	Using tropical optimization techniques in multi-criteria decision problems **Nikolai Krivulin**	Extracting 'Greeks' from Multistage Linear Stochastic Optimization: Computing parameter sensitivities in Stochastic Dual Dynamic Programming **Goncalo Terca**	The distortion premium principle: properties, identification and robustness under ambiguity **Daniela Escobar**

	Scheduling energy and reserves under contingencies in isolated power systems with high presence of electric vehicles **Ruth Dominguez Martin**	Incorporating statistical model error into the calculation of acceptability prices of contingent claims **Martin Glanzer**	Exact converging bounds for Stochastic Dual Dynamic Programming **Vincent Leclère**	Computing Credit Valuation Adjustment using hybrid approaches in the Bates model. **Ludovic Goudenège**
	Spot market, Futures and Risk management in the Generation of Electricity **Paolo Falbo**	Bounds for Probabilistic Constrained Problems **Francesca Maggioni**	Stochastic-dynamic Optimization of a Joint Strategy for Day-ahead Bidding and Intraday Trading **David Wozabal**	Call auctions, money, and equilibrium **Sjur Didrik Flåm**
15 min break				
14:45-15:30	**Semi-plenary speaker: Selvaprabu Nadarajah** **Assistant Professor at University of Illinois at Chicago** **Approximate convex programs for solving intractable operations management problems** **Room: R3**		**Semi-plenary speaker: Jens Arne Steinsbø** **Head of Digitalization and Strategic Analysis at Lyse AS** **Business value from hydropower innovations** **Room: R5**	
15 min break				
15:45-17:15	**Best Student Paper Prize Presentations** **Jury: Miloš Kopa (Chair of the EWGSO), Francesca Maggioni (UniBG), Daniel Kuhn (EPFL), Afzal Siddiqui (UCL)** **Room: R3**	**Model Uncertainty in Finance and Economics** **Chair: Daniel Kuhn** **Room: R4**	**Power System Planning and Operation under Uncertainty** **Chair: Arild Helseth** **Room: R5**	
	Stochastic optimization with importance sampling: using an analytical approximation of the zero-variance distribution **Jonas Ekblom**	Long-term asset allocation under time-varying investment opportunities: Optimal portfolios with parameter and model uncertainty **Alex Weissensteiner**	Forecast-based scenario-tree generation for prices in the Nordic power markets **Ellen Krohn Aasgård**	
	Long-term seasonal component in day-ahead electricity price forecasting with NARX neural networks. Part II - Probabilistic forecasting **Grzegorz Marcjasz**	Robust Multidimensional Pricing: Separation without Regrets **Cagil Kocyigit**	Offshore Grid connection optimisation with uncertain parameters **Harald G Svendsen**	
	A strategic investment model for multinational transmission expansion planning: Comparing competitive and cooperative solutions for a North Sea Offshore Grid **Simon Risanger**	Robust optimization by constructing near-optimal portfolios **Martin Van Der Schans**	Nonconvex Medium-Term Hydropower Scheduling by Stochastic Dual Dynamic Integer Programming **Martin Hjelmeland**	
	Efficient forecasting of electricity spot prices with expert and Lasso models **Bartosz Uniejewski**	Chebyshev Inequalities for Products of Random Variables **Napat Rujeerapaiboon**	Optimal Hydropower Maintenance Scheduling Under Uncertainty **Arild Helseth**	
17:30-18:30	**EWGSO meeting** **Chair: Milos Kopa** **Room: R5**			
19:00-19:30	**Jazz concert in the NTNU Business School**			

Wednesday May 30

08:30-09:15

Semi-plenary speaker: Nils Löhndorf
Assistant Professor at University of Luxembourg

An experimental comparison of tree-based stochastic programming and dual dynamic programming

Room: R3

Semi-plenary speaker: Ruth Misener
Assistant Professor at Imperial College London

Online generation via offline selection of strong linear cuts from QP SDP relaxation

Room: R5

15 min break

09:30-11:00

Managing uncertainty in energy systems and markets	Financial Optimization	Advances In Stochastic Optimization in Theory and Applications	Quantitative Methods for Financial Applications
Chair: Ruud Egging **Room: R3**	**Chair: Giorgio Consigli** **Room: R4**	**Chair: Alois Pichler** **Room: R5**	**Chair: Khine Kyaw** **Room: R90**
Reservation of transmission capacity on interconnectors **Endre Bjorndal**	Portfolio Choice Under Cumulative Prospect Theory: sensitivity analysis and an empirical study **Asmerilda Hitaj**	Stochastic optimization with importance sampling: using an analytical approximation of the zero-variance distribution **Jonas Ekblom**	Joint Estimation of Parameters of Mortgage Portfolio and the Factor Process **Jaroslav Dufek**
Value of information of snow measurements in hydropower scheduling **Jo Eidsvik**	Portfolio selection impact of multivariate dominance rules among financial sectors **Sergio Ortobelli Lozza**	Demand Side Management and the Participation in Consecutive Energy Markets – A Multistage Stochastic Optimization Approach **Markus Fleschutz**	Quantitative Studies in Stationary Gas Nets **Rüdiger Schultz**
Evaluating Security of Supply in the European Natural Gas Market – A Stochastic Programming Approach **Philipp Hauser**	Stochastic optimization with partial stochastic dominance constraints and its application **Zhiping Chen**	Stochastic capacity expansion considering renewables and electric vehicles **Miguel Carrión**	Is market surprised by the surprised? **Khine Kyaw**
Risk aversion in energy markets **Ruud Egging**	Goal-based investing under SSD constraints **Giorgio Consigli**	Multistage multivariate nested distance: an empirical analysis **Sebastiano Vitali**	

15 min break

11:15-12:15

NORS Plenary: Stein Wallace
Professor at Norwegian School of Economics

High-dimensional dependent stochastic speeds in vehicle routing

Room: R5

75 min Lunch break

13:30-15:00

Efficient Algorithms for Decision-Making under Uncertainty	Energy forecasting	Advances In Stochastic Optimization in Theory and Applications 2	Financial Market Models and Multi-Criteria Portfolio Optimization
Chair: Wolfram Wiesemann **Room: R3**	**Chair: Rafal Weron** **Room: R4**	**Chair: Alois Pichler** **Room: R5**	**Chair: Sebastian Utz** **Room: R90**
Fast Bellman Updates for Robust MDPs **Ho Clint Chin Pang**	Comparing the Forecasting Performances of Linear Models for Electricity Prices with High RES Penetration **Angelica Gianfreda**	Two-stage Stochastic Programming under Multivariate Risk Constraints **Nilay Noyan**	Socially Responsible Index Tracking **Maximilian Wimmer**
Epsilon-Net Technique for a Class of Robust Optimization and its Applications in Wireless Communication **Yue Man-Chung**	Efficient forecasting of electricity spot prices with expert and Lasso models. **Bartosz Uniejewski**	Generation of scenarios for multiscale stochastic optimization problems **Georg Pflug**	Risk-Based Inclusion of ESG Ratings into Portfolio Optimization **Annette Krauss**
Valuing Portfolios of Interdependent Real Options under Exogenous and Endogenous Uncertainties **Sebastian Maier**	Conformal Prediction Interval Estimations in Day-Ahead and Intraday Power Markets **Florian Ziel**	Advances on time consistency of risk measures **Ruben Schlotter**	Not Necessary to Overfocus on Financial Performance in Strong Sustainability Investing: Evidence from a GABV Bank Case Study **Sebastian Utz**

	Distributionally Robust Risk-Averse Optimization over Structured Wasserstein Ambiguity Sets **Viet Anh Nguyen**	Forecasting the spread between the spot and the intraday market prices. **Katarzyna Maciejowska**	Approximation of Stochastic Processes **Alois Pichler**	
15 min break				
15:15-16:45	**Solution methods for mixed-integer SP** **Chair: Trine Krogh Boomsma** **Room: R3**	**Energy Forecasting 2** **Chair: Rafał Weron** **Room: R4**	**Robust and Distributionally Robust Optimization** **Chair: Wolfram Wiesemann** **Room: R5**	**Real options and Energy Markets** **Chair: Verena Hagspiel** **Room: R90**
	Bilevel Programming Investment Problems with Lower-Level Primal and Dual Variables **Henrik Bylling**	Modeling electricity price series with vector hidden Markov model **Carlo Lucheroni**	Distributionally Robust Inverse Covariance Estimation: The Wasserstein Shrinkage Estimator **Daniel Kuhn**	Pricing Perpetual Options with Stochastic Stopping Opportunities **Kristian Støre**
	Multi–Period Probabilistic Set Covering Problem **Konstantin Pavlikov**	Long-term seasonal component in day-ahead electricity price forecasting with NARX neural networks. Part II - Probabilistic forecasting **Grzegorz Marcjasz**	Robust Reformulations of Ambiguous Chance Constraints with Discrete Probability Distributions **İhsan Yanıkoğlu**	Technology driven capacity expansion of aluminum smelters **Maria Lavrutich**
	Utilizing strengthened lift-and-project cuts in decomposition methods to solve two-stage stochastic programming problems with binary first-stage variables **Pavlo Glushko**	Bayesian Electricity Price Forecasting. Models with Jumps or Stochastic Volatility **Maciej Kostrzewski**	Decision rules for adjustable integer robust optimization problems via branch-and-bound **Krzysztof Postek**	The effects of possible policy withdrawal on investment timing and investment size **Roel Nagy**
	A Scalable Solution Framework for Strategic Investment Problems via Progressive Hedging **Vladimir Dvorkin**	Modelig a non-linear impact of renewable energy forecasts on intra-day electricity prices **Sergei Kulakov**	Data size modulation and risk requirement in scenario optimization **Simone Garatti**	Photovoltaic Smart Grids in the prosumers investment decisions: a real option model. **Sergio Vergalli**
17:30-18:30	**Guided tour and organ concert in Nidaros Cathedral**			
19:00	**Conference Dinner**			

Thursday May 31

	Computational Methods for Applications **Chair: Pavlo Glushko** **Room: R3**	**Chance constrained optimization** **Chair: Abdel Lisser** **Room: R4**	**Stochastic and decentralized optimization for the management of smart grids** **Chair: Michel De Lara** **Room: R5**	**Modern tools for portfolio optimization** **Chair: Milos Kopa** **Room: R90**
09:15-10:45	A randomized method for probabilistic problems **Csaba Fabian**	Strong Convexity for Mean-Risk Models with Complete Linear Recourse **Matthias Claus**	A strategic investment model for multinational transmission expansion planning: Comparing competitive and cooperative solutions for a North Sea Offshore Grid **Simon Indrøy Risanger**	Regularization Methods for Cardinality-Constrained Optimization Problems with an Application in Sparse Robust Portfolio Optimization **Martin Branda**
	Solving Stochastic Equilibrium Problems with Stochastic Gradient Methods: Analysis of Collaborative Service Provision in the Telecommunication Sector **Denis Becker**	Stochastic program with decision dependent randomness for determining the optimal interest rate of a loan **Tomáš Rusý**	Congestion management in an integrated cross-border intraday market : XBID **Somayeh Rahimi Alangi**	Robust Reward-Risk Ratio Portfolio Optimization **Ruchika Sehgal**
	Is it possible to increase the stability under parallelepiped uncertainty in robust portfolio optimization? **Güray Kara**	A Second-order cone programming formulation for two player zero-sum games with chance constraints **Vikas Vikram Singh**	Hierarchical control of microgrids using multi-time-scales stochastic dynamic optimization **Tristan Rigaut**	A BFC based matheuristic algorithm for solving stochastic mixed convex problems using SQP methods **Eugenio Mijangos**
	A Stochastic Dynamic Programming Approach for Near Real-Time, Residential Demand Response: Application to the Texas Power Market **Steven Gabriel**	An Adaptive Model with Joint Chance Constraints for a Hybrid Wind-Conventional Generator System **Bismark Singh**	Bounds on stochastic Bellman functions by decomposition into nodal value functions on a graph. Application to the decentralized optimization of urban micro-grids. **Michel De Lara**	Decreasing absolute risk aversion stochastic dominance in portfolio optimization **Milos Kopa**
15 min break				
11:00-12:00	**Plenary Speaker: Jörgen Blomvall** **Professor at Linköping University** **What can optimization tell us about finance?** **Room: R5**			
75 min Lunch break				
	NORS session **Chair: Peter Schütz** **Room: R3**	**Equilibrium modelling in energy markets** **Chair: Pierre Pinson** **Room: R4**	**Energy and Logistics — Theory and Applications** **Chair: Daniel Kuhn** **Room: R5**	
13:15-14:45	Improving customs operations at Norwegian land border checkpoints **Maria Fauske**	To build or not to build. A game theory based model for generation & transmission capacity planning **David Pozo**	Robust Dual Dynamic Programming **Wolfram Wiesemann**	
	Quantifying the utility of war to increase deterrence capability of small states **Mona Sagsveen Guttelvik**	On risk averse competitive equilibrium **Henri Gerard**	A Multi-Scale Decision Rule Approach for Multi-Market Multi-Reservoir Management **Kilian Schindler**	
	Disjunctive conic cuts: the good, the bad, and implementation **Julio C Goez**	Meeting Corporate Renewable Power Targets **Alessio Trivella**	Distributionally Robust Capacitated Vehicle Routing **Shubhechyya Ghosal**	
	Are we too optimistic? Emission reduction from fleet operation after introducing Maritime Emissions Trading Scheme **Yewen Gu**	High-dimensional modelling and forecasting for renewable energy generation **Pierre Pinson**	Reducing lifecycle cost of electric vehicles by optimizing vehicle to grid strategies **Dirk Lauinger**	

15 min break				
15:00-16:30	**NORS session 2** **Chair: Peter Schütz** **Room: R3**	**Multistage stochastic optimization - theory and applications** **Chair: Milos Kopa** **Room: R4**	**Managing uncertainty in smart houses and smart grids** **Chair: Ruud Egging** **Room: R5**	
	Recruitment from the basic military service to the Norwegian Armed Forces **Petter Kristian Køber**	Optimal timing for sending pigs to the abattoir: a stochasting programming approach **Adela Pagès Bernaus**	A Battery per House or a Big One for All? The Value of Cooperation between Prosumers in Microgrid Communities **Jan Martin Zepter**	
	Solving reallife decision problems with multi criteria decision analysis **Alf Christian Hennum**	Multi-stage emissions management of a steel Company **Martin Šmíd**	Impact of redesigning electricity markets time-frames on distributed batteries facing wind uncertainty **Pedro Crespo del Granado**	
	Optimal hedging for Salmon Producers **Peter Schütz**	Stochastic Programs for Engineering Problems: Challenges and Recommendations **Pavel Popela**	Computational Challenges in Prosumer Flexibility Operation and Scheduling **Sigurd Bjarghov**	
		Modelling Long-term And Short-term Uncertainty In Power Market Investments **Asgeir Tomasgard**	Towards Zero Emission Neighborhoods: Implications for the Electricity Infrastructure **Stian Backe**	