Monday

Tuesday

■ TB-03

1 - **Natural disaster management: a two-stage distributionally robust approach**
Mohamed El Tonbari, Alejandro Toriello, George Nemhauser, Natashia Boland

2 - **Learning guarantees under distributional shifts: Wasserstein perturbation and conditional value-at-risk**
Jaeho Lee

Paper moved from session HB-02

3 - **Data-Driven Robust Optimization using Unsupervised Deep Learning**
Jannis Kurtz, Marc Goerigk

Paper moved to session HB-02

Distributionally robust risk minimization in machine learning: models and algorithms
Anthony So, Jiajin Li, Sen Huang

■ TC-06

1 - **Dynamic inventory relocation for a one-way electric car sharing system with uncertain demand**
Rui Liu, Shu Zhang, Ping Chen

Cancellation

Human baby milk delivery in Indonesia
Kate Hughes, Rajavadivel Santhanakrishnan, Chirag Naithani

3 - **Optimal Scheduling of Unmanned Aerial Vehicles for Meal Delivery Services**
Chung-Cheng Lu, Yi-Cheng Lan, Yu-Shyun Chien

4 - **Generating Delivery Plan in Real Time for Vehicle Routing Problem with Dynamic Orders before Cut-off time**
Xiaoying Gou

■ TD-03

1 - **Exact semidefinite relaxations for QCQPs with forest-structured matrices and its applications**
Godai Azuma, Mituhiro Fukuda, Sunyoung Kim, Makoto Yamashita

Cancellation

An interior point algorithm on semi-definite linear complementarity problems: polynomial complexity and local convergence
Chee Khian Sim

3 - **An efficient approach with aggregate sparsity based on second order cone programming relaxations for quadratic constrained quadratic programming problems**
Makoto Yamashita, Heejune Sheen

■ TD-08

1 - **A fuzzy system selector for the container stacking problem under uncertain conditions**
Jana Ries, Leonardo Maretto, Rosa G. GonzÃ¡lez-RamÃrez, Maurizio Faccio

2 - **A multi-perspective knowledge mobilisation framework to support collaborative decision making in agri-food value chains**
Shaofeng Liu, Huilan Chen, Guoqing Zhao

3 - **Studying the generation of decision alternatives in the urban planning domain**
Linda Migliorati, Valentina Ferretti

Cancellation

Negotiating Problem Structuring Processes to Address Water Challenges in India.
Tara Saharan, Lisa Scholten

■ TF-03

1 - **Vehicle routing model for emergency medical services with partial outsourcing**
Nikki Rathore, Pramod Kumar Jain, Manoranjan Parida

2 - **The impact of synchronization in home health and social care services**
Helena Ramalhinho Lourenco, Jesica de Armas, Marcelus Lima

3 - **A hybrid simulation framework to evaluate the patient access to public health in Brazil**
Vivianne Horsti dos Santos, Kathy Kotiadis, Maria Paola Scaparra

Cancellation

Modelling behaviour for health planning
Steffen Bayer

■ TF-04

Paper added to session

1 - **Is Q1 qualification of journals adequate measure of excellence: evidence from JCR Operations Research & Management Science**
Veljko Jeremic, Department of operational research and statistics, University of Belgrade, Faculty of Organizational Sciences, Jove Ilica 154, 11000, Belgrade, /, Serbia, veljko.jeremic@fon.bg.ac.rs, Nikola ZorniÄ, Sandro RadovanoviÄ, Mladen StamenkoviÄ

Journal Impact factor (JIF) has been perceived as the benchmark of quality for journals. Concerning the differences in citation patterns, journals are classified in particular Journal Citation Report (JCR) and rank in a specific category. Accordingly, journals are being classified in one of the Q1-Q4 class, with the Q1 being designated for the most prestigious journals. Being classified as the Q1 is of particular importance since the ARWU Subject Rankings have included solely Q1 journals as the measure of publication output for ranked universities. However, one of the questions arising is whether journals classified as Q1 should be considered equal. This is an especially triggering issue since the citation distribution of articles within journals is skewed, meaning that the JIF of specific journals can be high (even classified as Q1) while heavily relying on the high citation score of a small number of articles. As a possible remedy to the issue, we propose implementing the resampling without replacement approach when calculating JIF. We selected Q1 journals in JCR 2019 report for Operations Research & Management Science and obtained the citation score of each article published in selected journals in 2018 and 2017 (ones included in the JCR 2019 report). Using the approach mentioned above, in 1000 iterations, we calculated the JIF and respected rank of each observed Q1 journals. Results present considerable differences among Q1 journals.

2 - **Research of influencing factors on employment of university students using network analysis**
Kim HyoJung

3 - **Preference Relation Lattices: Using Asymmetric Relations to Represent Uncertain Assessments**
Christian Carling

4 - **Minimal invasive decomposition of social networks into evenly sized groups**
Bernd Heidergott

■ TF-05

1 - **Sensitivity analysis for the hospitals-residents with consistent couples matching model**
Nitsan Perach, Shoshana Anily

2 - **On Hedonic Coalition Formation with Social Concern Graph**
Erika Momo, Shao-Chin Sung

Cancellation
The role of ideal games in solving multi-person cooperative games
Andrzej Ameljanczyk

■ TF-08

1 - **About the bandwidth reduction on sparse matrices**
Nelson Maculan, Michael Souza, RogÃ©rio Tostas, Webe João Mansur

Cancellation
The Multi-Tiered Vehicle Routing Problem with Global Cross-docking: Models and Metaheuristic Algorithms.
Paolo Toth, Anthony Smith, Lauzanne Bam, Jan van Vuuren

3 - **Solution approaches and managerial insights for truck and drone systems in last mile logistics**
Claudio Sterle, Maurizio Boccia, Adriano Masone, Antonio Sforza

4 - **Multi-wave tabu search for the boolean quadratic programming problem with generalized upper bound constraints**
Zhen Shang, Jin-Kao Hao, Songzheng Zhao, Yang Wang

Wednesday

■ WA-03

Cancellation
Computational decision support for ride-sharing policies: An integrated activity-travel demand and vehicle scheduling approach
Taehooie Kim, Xuesong Zhou, Ram Pendyala

Cancellation
Transit Network Design and Frequency Setting with Ridesharing Services: A case study of the Greater Boston Area
Yifei Sun

3 - **Primal column generation framework for vehicle and crew scheduling problems**
Ilyas Himmich, Issmail El Hallaoui, Francois Soumis

4 - **Evaluating the importance weight on airline selection attributes based on MCDM**
Rogers Kayisinga

■ WE-02

1 - **Partial Vertical Ownership and Information Exchange in a Supply Chain**
Tal Avinadav, Noam Shamir

2 - **Store brand introduction in a two-echelon logistics system under diseconomies of scale**
Shuai Heung, Wei Geng

3 - **Dynamic vs. static pricing in a dual-channel supply chain**
Mengmeng Li, Shinji Mizuno

■ WF-01 has moved to HC-01

■ WG-01

1 - **IFORS History and Beyond**
"David" Chang Won Lee, Nelson Maculan, Sue Merchant, Michael Trick, Janny Leung

Thursday

■ HB-02

1 - **Optimistic likelihood problems using geodesically convex optimization**
Man-Chung Yue, Viet Anh Nguyen, Soroosh Shafieezadeh Abadeh, Daniel Kuhn, Wolfram Wiesemann

2 - **The Dao of Robustness**
Melvyn Sim, Daniel Zhuoyu Long, Minglong Zhou

3 - **Probabilistic Sequential Shrinking: A Best Arm Identification Algorithm for Stochastic Bandits with Corruptions**
Wang-Chi Cheung

Paper moved from session TB-03
4 - **Distributionally robust risk minimization in machine learning: models and algorithms**
Anthony So, Jiajin Li, Sen Huang

Paper moved to session TB-03
Data-Driven Robust Optimization using Unsupervised Deep Learning
Jannis Kurtz, Marc Goerigk

■ HC-01 has moved from WF-01

Thursday, 12:00-13:40
Room 1

Keynote: Mihaela van der Schaar
Cluster: Keynotes
Invited session
Chair: *Wouter Verbeke*

1 - **Quantitative epistemology: conceiving a new human-machine partnership**
Mihaela van der Schaar

■ HC-05

1 - **Customized Nonparametric Hedging Model for Electric Utilities: Suitable Basis Selection to Ensure Robustness**
Takuji Matsumoto, Yuji Yamada

2 - **Efficient Distribution of Compressed Natural Gas for Sabarmati Gas Limited Fueling Stations in Gujarat, India, with Simulation**
Goutam Dutta, Ramesh Kumar, , Sumeetha Natesan, Debjit Roy

3 - Seasonally adaptive methods for the short-term load forecasting in South Korea
Geun-Cheol Lee

Paper added to session

4 - Development of strategic deployment methodology for hydrogen charging stations
Hyunjoon Kim, Industrial and Management Engineering, Pohang University of Science and Technology (POSTECH), 77 Cheongam-Ro, Nam-Gu, Pohang, Gyeongbuk, Korea, Republic of, dnwjd2355@postech.ac.kr, *Myungeun Eom, Byung-In Kim*

The Republic of Korea plans to expand the use of hydrogen vehicles and has set yearly targets for distribution by 2040. Hydrogen charging stations are very important for expanding the use of hydrogen vehicles. This study attempts to solve the hydrogen charging stations location problem. Due to the high installation cost of hydrogen charging stations, it is difficult to install enough number of hydrogen charging stations that cover all the planned hydrogen vehicles simultaneously. Korea plans to install a limited number of hydrogen charging stations yearly. Because a limited number of hydrogen charging stations with certain capacity cannot accommodate all hydrogen vehicles within a certain distance, it is important to strategically determine where to install the stations. In this study, we aim to locate the hydrogen charging stations to maximize the number of covered hydrogen vehicles as well as to minimize the sum of the travel time between the hydrogen vehicles and the hydrogen charging stations. We will describe how the estimated number and location of hydrogen vehicles are determined in residential areas and express highways. To solve the location problem, we propose two-stage sequential mixed integer programming models and an improvement heuristic algorithm. The results for 2022 to 2040 will be presented.

■ HD-06

1 - Branch and price for the time-dependent green vehicle routing problem with time windows in real road network
Qu Wei, Guido Perboli, Mariangela Rosano

2 - Joint distribution optimization problem for small and medium-sized restaurants
Yuyang Zhou, Congying Zhao, Yuchen Jia, Zhenlin Xu, Jie Yu, Xiping Cong, Yang Wang

3 - Two-Echelon Open Vehicle Routing Problem with Autonomous Mobile Lockers
Jun Li, Hamidreza Ensafian, Abdollah Zare Andaryan, Michael Bell, Glenn Geers

Cancellation
Optimal Allocation of Air Cargo Capacity to Local Agents for Profit Maximization
Kwanghun Chung, Seungbeom Kim

■ HD-07

1 - Forecasting of number of international immigrants in Turkey's sea lane
BaÅak Gever, Fatma Ãarman ÃevÄ°k, Nihat Tak, Tahir Khaniyev

2 - A failure-based data-driven approach for advancing preventive maintenance
Heletje van Staden, Laurens Deprez, Robert Boute

Paper moved from session FD-11

3 - Guiding AI and machine learning models through the economic cycle
Joseph Breeden, Eugenia Leonova

4 - Data-Driven Robust Dual-Sourcing Inventory Management Under Purchase Price and Demand Uncertainties
Xing Xiong, Yanzhi Li, Wenguo Yang, Huaxiao Shen

Friday

■ FA-09

1 - Understanding departure time choice behavior affected by social influence for hurricane evacuation planning
Hyeong Suk Na

Cancellation
Media information and reputational damage: A case study of Japan in disaster
Youngkyoung Seo, Yusuke Horikawa

3 - A framework of multi-stakeholder coordination in humanitarian operations: A case study of Merapi Volcano eruption
Sekar Sakti, Bertha Maya Sopha, Hilya Mudrika Arini

■ FD-05

1 - Probabilistic forecasting of an air quality index
Jooyoung Jeon, James Taylor

2 - Mixed-Integer Nonlinear Programming techniques for the European entry-exit gas market system
Lars Schewe

3 - Speeding up optimizing energy system models — lessons learned from heuristic approaches, parallel solvers and large scale models
Manuel Wetzel, Karl-KiÃªn Cao, Kai von Krbek, Hans Christian Gils, Yvonne Scholz, Frieder Borggrefe

Paper added to session

4 - Considering decentralized storage and renewable investments in transmission expansion planning: a bi-level approach.
Isaac Camilo Gonzalez Romero, Instituto de Investigaci$\tilde{A}^3$n Tecnol$\tilde{A}^3$gica, Universidad Pontificia Comillas, Escue aICAI, Calle Santa Cruz de Marcenado, 26, 28015, Madrid, Ma

The growing penetration of renewable technologies, as well as the increasing need for storage technologies, comprise new challenges for electricity market design. In this context, decentralized generation companies decide their investments by maximizing their own profit, while centralized TSOs decide network expansion, by aiming to maximize the overall social welfare. This already challenging environment is further complicated by renewables intermittency and the short- and long-term dynamics of storage technologies, which may permit generation companies to exercise new forms of market power. However, traditional (and widely utilized) cost minimization planning models do not account for these types of strategic interactions, and neither account for the introduction of new transmission merchant investors that are sometimes needed to comply with the full integration of isolated renewables to the system. We study the policy implications of planning the system, either by a merchant investor or a traditional cost-minimization approach, instead of a proactive framework that accounts for distinctive degrees of competition. We present a bi-level proactive transmission framework, in which a centralized TSO takes network investment decisions by anticipating the reaction of decentralized generation companies, as well as a merchant investor that maximizes congestion rents. Finally, we carry out a comprehensive analysis of a 3-node greenfield case, and we extract more general insights from

■ FD-11

1 - Automated vehicle fleet management in manufacturing environments combining network analysis, parameter prediction and optimization techniques
J$\tilde{A}^o$lia Bergmann, D$\tilde{A}$¡vid Gyulai, J$\tilde{A}^3$zsef V$\tilde{A}$!'ncza

2 - Data mining methods used for designing the acceleration model of creativity competence development

Magdalena Graczyk-Kucharska, Robert Olszewski, Maciej Szafranski

Paper added to session

3 - ICT as a determinant of inefficiency: An efficiency measurement in education of selected OECD countries

Muhammad Mujiya Ulkhaq, UniversitÃ degli Studi di Brescia, Italy, Brescia, Italy, m.ulkhaq@unibs.it, *Kristof De Witte, Giorgia Oggioni, Rossana Riccardi*

The role of information and communication technologies (ICT) in education is well established. There seems to be a consensus among scholars and practitioners that ICT enables the educational process to be managed efficiently. Regarding the efficiency measurement of educational institutions, there is a large literature examining this issue. However, the role of ICT as a determinant of inefficiency is scarcely addressed. This paper aims to investigate the efficiency of selected 24 OECD countries in terms of education by including ICT as a determinant of inefficiency. Using the OECD PISA data of 2009 to 2018, we used the parametric approach of efficiency measurement, namely, stochastic frontier analysis, to accomplish the objective of the study. Four random components of the stochastic frontier model, i.e., statistical noise, individual heterogeneity, persistent inefficiency, and time-varying inefficiency, were incorporated into the model. This study represents the first attempt of an efficiency analysis in an international comparison by modelling the four-component heteroscedastic model, where the ICT plays as a determinant of the inefficiency. This study is expected to allow more purposeful policy recommendations as well as expand the literature regarding efficiency measurement in education.

Paper moved to session HD-07

Guiding AI and machine learning models through the economic cycle

Joseph Breeden, Eugenia Leonova