

# 27th Workshop on Future Research in Combinatorial Optimization

# FRICO

hosted by the



**September 9 – September 13, 2024**

Workshop venue	Building 03, Room 315 (G03-315) Otto von Guericke University Magdeburg Universitaetsplatz 2, 39104 Magdeburg
Lunch location	Building 27
Website and info	<a href="https://frico2024.ovgu.de">https://frico2024.ovgu.de</a>
Email	<a href="mailto:frico2024@ovgu.de">frico2024@ovgu.de</a>
"Emergency" contact	Kirill Kukharenko, +4915901958793

## Credits

### The FRICO 2024 organization

Kirill Kukharenko, Sarah Feldmann, Jannik Trappe, Ekin Ergen, Lennart Kauther

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**The workshop could not be possible without the help of the sponsors**

**SIEMENS TNG**  **Hannover Re**



**atesio**



## Monday, September 9

8:30-9:00	<b>Registration</b>
9:00-9:30	<b>Opening</b>
9:30-10:00	Totally unimodular matrices in SDP relaxations <i>Regina Schmidt (University of Augsburg)</i>
10:00-10:30	Implied Integrality in Mixed Integer Programs <i>Rolf van der Hulst (University of Twente)</i>
10:30-11:00	<b>Coffee break</b>
11:00-11:30	<b>Elevator pitch session</b> <i>Jan Malte Schürks (University of Bonn)</i> <i>Milko Monecke (TU Berlin)</i> <i>Erik Jansen (TU Darmstadt)</i> <i>Nicole Schröder (University of Bremen)</i>
11:30-12:00	An oracle-based approach to multi stage optimization <i>Maja Hüggling (TU Dortmund)</i>
12:00-12:30	Improved linear programming bounds for doubly constant-weight codes <i>Thomas Hirschmüller (Uni Augsburg)</i>
12:30-14:00	<b>Lunch</b>
14:00-14:30	Linear Bi-objective Parametric Optimization <i>Kezang Yuden (Rheinland-Pfälzische Technische Universität Kaiserslautern-Landau)</i>
14:30-15:00	How to approximate parametric programming problems by transferring multi-objective approaches? <i>Alina Wittmann (Technical University of Munich)</i>
15:00-15:30	Parametric Interdiction For Uncle Scrooge <i>Simon Busam (Rheinland-Pfälzische Technische Universität Kaiserslautern-Landau)</i>
15:30-16:00	<b>Coffee break</b>
16:00-17:00	<b>Open problems session</b>
17:00-18:00	<b>Working on open problems</b>
18:00-	<b>Pizza + pub quiz</b> Conference room (Building 03 Room 315)

## Tuesday, September 10

9:00-9:30	Why I always have the feeling that I don't get enough pizza <i>Torben Schürenberg (University of Bremen)</i>
9:30-10:00	Tariff Zone Assignment: Complexity Results and Solution Approaches <i>Philipp Pabst (RWTH Aachen)</i>
10:00-10:30	The Hazmat Transport Network Design Problem with Uncertainty <i>Vladimir Stadnichuk (RWTH Aachen)</i>
10:30-11:00	<b>Coffee break</b>

11:00-11:30	<b>Elevator pitch session</b> <i>Veljko Toljić (University of Novi Sad)</i> <i>Milica Šobot (University of Bonn)</i> <i>Paula Heinz (University of Bonn)</i> <i>Denise Graafsma (University of Twente)</i> <i>Helena Petri (University of Kaiserslautern-Landau)</i>
11:30-12:00	The Measure of an Empire; Or: Rubber Ducks on the Moon <i>Adrian Rettich (RPTU Kaiserslautern-Landau)</i>
12:00-12:30	Firefighters vs Burning Trees: A Pursuit-Evasion Variant <i>Jamico Schade (Technische Universität München)</i>
12:30-14:00	<b>Lunch</b>
14:00-14:30	Some recent results on Heesch's problem and its variations <i>Aleksa Džuklevski (University of Novi Sad)</i>
14:30-15:00	The Varchenko Determinant for Complexes of Oriented Matroids <i>Sophia Keip (FernUniversität in Hagen)</i>
15:00-15:30	The cost of beauty: How much restricting the types of crossings increases the number of crossings needed to draw a graph <i>Mirko H. Wagner (Universität Osnabrück)</i>
15:30-16:00	<b>Coffee break</b>
16:00-17:30	<b>Working on open problems</b>
18:00-	<b>Open air BBQ</b> In front of Building 18

### Wednesday, September 11

9:00-9:30	Computational aspect of lifted cover inequalities for knapsack with few different weights <i>Cédric Roy (Eindhoven University of Technology)</i>
9:30-10:00	Handling symmetries in stable set problems and perfect mixed graphs <i>Annika Jäger (TU Darmstadt)</i>
10:00-10:30	Column Generation for Generalized Min-Cost Flows <i>Jonas Alker (TU Darmstadt)</i>
10:30-11:00	Exponential Lower Bounds for Many Pivot Rules for the Simplex Method <i>Alex Black (ETH Zurich)</i>
11:00-11:30	<b>Coffee break</b>
11:30-12:00	Partial Inverse Combinatorial Optimization Problems <i>Eva Ley (TU Braunschweig)</i>
12:00-12:30	Optimal Box Selection under Uncertainty and Sparsity <i>Pia Schreynemackers (TU Dortmund)</i>
12:30-14:00	<b>Lunch</b>
14:00-15:00	<b>Industry talk (Hannover Re)</b>
15:00-15:30	<b>Industry talk (atesio)</b>

15:30-16:00	<b>Industry talk (Gurobi)</b>
16:00-16:30	<b>Coffee break</b>
16:30-17:30	<b>Working on open problems</b>
18:00-	<b>Conference dinner</b> At Alex Magdeburg, Ulrichsplatz 2, 39104 Magdeburg

### Thursday, September 12

9:00-10:00	<b>Industry talk (Siemens)</b>
10:00-10:30	<b>Industry talk (IVU)</b>
10:30-11:00	<b>Coffee break</b>
11:00-12:00	<b>Industry talk (TNG)</b>
12:00-12:30	<b>Industry talk (S2data)</b>
12:30-14:00	<b>Lunch</b>
14:00-14:30	A tight approximation scheme for assortment optimization under the nested logit model with heterogenous customers <i>Stefan Rogosinski (RWTH Aachen)</i>
14:30-15:00	Optimizing Delivery with Alternatives: A Mixed-Integer Linear Programming Approach to Pickup and Delivery Problems with Time Windows <i>Chinchet Boonmalert (Thammasat University)</i>
15:00-15:30	Periodic Event Scheduling with Generalized Infrastructure Assignment with Matching: Combinatorial Approaches and Challenges <i>Enrico Bortoletto (Zuse Institute Berlin)</i>
15:30-16:00	<b>Coffee break</b>
16:00-17:00	<b>Working on open problems</b>
17:30-	<b>Social event</b> Boat ride from Petrifoerder 1, 39104 Magdeburg

### Friday, September 13

9:00-9:30	The Days-On-Days-Off Scheduling <i>Fabien Nießen (KU Leuven)</i>
9:30-10:00	Augmenting Packing Dynamic Programs to Handle (Many) Additional Cardinality Constraints <i>Alexander Armbruster (Technical University of Munich)</i>
10:00-10:30	The Bottom-Left algorithm for the Strip Packing Problem <i>Bart Zondervan (University of Bremen)</i>
10:30-11:00	Counting 2-Optimal Tours in Random TSP Instances <i>Jesse van Rhijn (University of Twente)</i>
11:00-12:30	<b>Coffee break, selection of best speaker, closing</b>
12:30-14:00	<b>Lunch</b>
14:00-	<b>Departure</b>