Johannes Gutenberg-Universität Mainz Prof. Dr. Stefan Irnich Jakob-Welder-Weg 9 D-55128 Mainz Seminar in Logistikmanagement

(SoSe 2024)
M.Sc. Stefan Faldum
M.Sc. Carolin Hasse
M.Sc. André Hessenius
M.Sc. Laura Lüke
M.Sc. Jeanette Schmidt
Prof. Dr. Stefan Irnich

# Themen Seminar Logistikmanagement

## • Operations Research/Management Science:

**Thema 1** (Bin packing and cutting stock problems: Mathematical models and exact algorithms) Delorme et al. (2016)

**Thema 2** (The Fixed Charge Transportation Problem: An Exact Algorithm Based on a New Integer Programming Formulation)
Roberti et al. (2015)

**Thema 3** (The Three-Dimensional Bin Packing Problem) Martello et al. (2000)

**Thema 4** (*The 0-1 Knapsack Problem*) Pisinger and Toth (1998)

**Thema 5** (A branch and bound algorithm for cutting and packing irregularly shaped pieces) Alvarez-Valdes et al. (2013)

**Thema 6** (Maximum-weight stable sets and safe lower bounds for graph coloring) Held et al. (2012)

**Thema 7** (A Branch-and-Repair Method for Three-Dimensional Bin Selection and Packing in E-Commerce)

Fontaine and Minner (2023)

Thema 8 (Scattered storage assignment: mathematical model and valid inequalities to optimize the intra-order item distances)
Albán et al. (2023)

**Thema 9** (The impact of order batching and picking area zoning on order picking system performance)

Yu and De Koster (2009)

**Thema 10** (Variable Neighborhood Search for the Set Orienteering Problem and its application to other Orienteering Problem variants)
Pêniĉka et al. (2019)

**Thema 11** (Timetable synchronization of the last several trains at night in an urban rail transit network)

Zhang et al. (2024)

Thema 12 (Hybrid branch-and-price-and-cut algorithm for the two-dimensional vector packing problem with time windows)
Gao et al. (2023)

#### • Transportlogistik:

**Thema 13** (An adaptive large neighborhood search approach for multiple traveling repairman problem with profits)

Avci and Avci (2019)

**Thema 14** (A Branch-and-Price-and-Cut Algorithm for the Vehicle Routing Problem with Two-Dimensional Loading Constraints)

Zhang *et al.* (2022)

**Thema 15** (A Compact Arc-Based ILP Formulation for the Pickup and Delivery Problem with Divisible Pickups and Deliveries)

Jargalsaikhan et al. (2021)

**Thema 16** (A Branch and Price Algorithm for the Heterogeneous Fleet Multi-Depot Multi-Trip Vehicle Routing Problem with Time Windows)

Şahin and Hande (2022)

**Thema 17** (An exact algorithm for the vehicle routing problem based on the set partitioning formulation with additional cuts)

Baldacci et al. (2008)

**Thema 18** (A Branch-and-Cut Algorithm for the Symmetric Generalized Traveling Salesman Problem)

Fischetti et al. (1997)

**Thema 19** (A New Exact Algorithm for Single-Commodity Vehicle Routing with Split Pickups and Deliveries)

Li et al. (2023)

**Thema 20** (Branch-Cut-and-Price for the Time-Dependent Green Vehicle Routing Problem with Time Windows)

Liu et al. (2023)

**Thema 21** (An exact Price-Cut-and-Enumerate Method for the Capacitated Multitrip Vehicle Routing Problem with Time Windows)

Yang (2023)

**Thema 22** (A Branch-Cut-and-Price Approach for the Single-Trip and Multi-Trip Two-Echelon Vehicle Routing Problem with Time Windows)

Marques et al. (2022)

**Thema 23** (Nested column generation for split pickup vehicle routing problem with time windows and time-dependent demand)

Wu et al. (2024)

### • Standortplanung:

**Thema 24** (Median and Covering Location Problems with Interconnected Facilities) Cherkesly et al. (2019)

**Thema 25** (Revisiting the Hamiltonian p-median problem: A new formulation on directed graphs and a branch-and-cut algorithm)

Bektaş *et al.* (2019)

**Thema 26** (Compact MILP formulations for the p-center problem)

Ales and Sourour (2018)

## Literatur

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