

# DETAILED PROGRAM

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## Tuesday, 9:45 - 11:00

### Tu.1.a: Arc Routing 1

Chairperson: C. Prins

*A Variable Neighbourhood Descent Algorithm for a Real Waste Collection Problem with Mobile Depots*

A. Del Pia, C. Filippi

*Arc Routing Problems with Time-Dependent Service Costs*

M. Gendreau, M. Tagmouti, J.Y. Potvin

*Heuristic method for the sectoring-arc routing problem*

P. Lacomme, M.C. Mourão, A.C. Nunes, C. Prins

### Tu.1.b: Supply Chain Management

Chairperson: B.L. Golden

*Analysis and Comparison of Typical Models within Supply Chain Management*

H.J. Jorgensen, A. Larsen, O.B.G. Madsen

*Solving the Concave Cost Supply Scheduling Problem Using a Genetic Algorithm*

X. Wang, B.L. Golden, E. Wasil

## Tuesday, 11:30 - 13:10

### Tu.2.a: Location 1

Chairperson: C. Barnhart

*A Cutting Plane method for the Capacitated Location-Routing Problem*

J.M. Belenguer, E. Benavent, C. Prins, C. Prodhon, R. Wolfler-Calvo

*Solving the Time Constrained Multi-Depot Location-Routing Problem with Lagrangian Relaxation*

Z. Özyurt, D. Aksen

*A GRASP for a Sales Territory Design Problem with Multiple Balancing Requirements*

R.Z. Ríos-Mercado, E. Fernández

*Network-Based Resource Allocation Problems Under Uncertainty*

C. Barnhart, L. Marla

### Tu.2.b: Freight Transportation 1

Chairperson: P. Zuddas

*An optimization model for positioning containers in marine terminals*

L.K. Sibbesen

*Optimal Management of Empty Containers*

M. Di Francesco, A. Manca, A. Olivo, P. Zuddas

*Operational planning of long-haul intermodal freight transportation*

M. Lombardo, V. Recagno, M. Paolucci, S. Sacone, S. Siri

*Single Freight Carrier Collaboration Problem*

S. Hernández, S. Peeta

## **Tuesday, 15:00 - 16:15**

### **Tu.3.a: Arc Routing 2**

Chairperson: E. Fernández

*Exact Solutions of mixed CARP instances*

V. Maniezzo, R. Baldacci

*Prize-collecting Arc Routing Problems and Extensions*

J. Aráoz, E. Fernández, C. Franquesa, O. Meza

*Using Column Generation to Solve Capacitated Arc Routing with Time Windows*

E.J. Johnson, S. Woehlk

### **Tu.3.b: Multiple Agents**

Chairperson: J. Barceló

*An Incentive Compatible Dynamic Mechanisms for Carrier Collaboration*

M. A. Fligliozi

*Applying revenue management to real-time transportation planning*

A.M. Douma, P.C. Schuur

*Preference elicitation in combinatorial reverse auctions for collaborative transportation planning*

G. Pankratz, H. Gehring

## **Tuesday, 16:45 - 18:25**

### **Tu.4.a: Single Vehicle Routing**

Chairperson: J.F. Cordeau

*An exact algorithm for the robust travelling salesman problem with interval data*

R. Montemanni, J. Barta, L.M. Gambardella

*Branch-and-Cut for the Pickup and Delivery Traveling Salesman Problem with LIFO Loading*

J.F. Cordeau, M. Iori, G. Laporte, J.J. Salazar

*The Tour Orienteering Problem with Time Windows*

R. Mansini, M. Pelizzari, R.W. Calvo

*Decremental state space relaxation algorithms for the orienteering problem with time windows*

G. Righini, M. Salani

## **Tu.4.b: City Logistics 1**

Chairperson: D. Vigo

*A Demand Model for Freight Movements in City Logistics Applications*

G. Gentile, D. Vigo

*Distribution strategies under urban freight policy pressure*

H. Quak

*Framework of Freight Transport Network Design for City Logistics*

T. Yamada, E. Taniguchi

*Multi-agent modelling for city logistics*

E. Taniguchi, T. Yamada, D. Tamagawa

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## **Wednesday, 9:00 - 11:05**

### **We.1.a: Vehicle Routing 1**

Chairperson: G. Laporte

*A Unified Modelling and Solution Framework for Vehicle Routing and Local Search based Metaheuristics*

S. Irnich

*General Solutions to the Single Vehicle Routing Problem with Pickups and Deliveries*

I. Gribkovskaia, O. Halskau, G. Laporte, M. Vlcek

*A Heuristic approach to the Vehicle Routing Problem with Time Windows and Simultaneous Pick-up and Delivery*

A. Nikolakopoulos, H. Sarimveis

*Pickup and Delivery with Split Loads*

M. Nowak, O. Ergun, C. White

*Solving a Pickup and Delivery Problem with Sequencing Constraints*

H.L. Petersen

### **We.1.b: City Logistics 2**

Chairperson: E. Taniguchi

*Dynamic Incident Handling in Urban Freight Distributions*

V. Zeimpekis, G.M. Giaglis, I. Minis

*Modelling vehicle routing and scheduling with uncertainty of travel times*

E. Taniguchi, T. Yamada and N. Ando

*Vehicle Routing and Scheduling for City Logistics*

R.G. Thompson, K. Hassall

*Vehicle Routing and Scheduling Models, Simulation and City Logistics*

J. Barceló, H. Grzybowska, S. Pardo

*Practical Origin-Destination traffic flow estimation*

R. Gabrielli, A. Guidazzi, M.A. Boschetti, M. Roffilli, V. Maniezzo

## Wednesday, 11:30 - 13:10

### **We.2.a: Inventory Routing**

Chairperson: H.S. Mahmassani

*A Branch-and-Cut Algorithm for a Vendor Managed Inventory-Routing Problem*

C. Archetti, L. Bertazzi, G. Laporte, M.G. Speranza

*Analysis of Direct Shipping Policies in an Inventory Routing Problem with Time Discretization*

L. Bertazzi

*Column Generation and Constraint Programming for solving an Inventory Routing Problem in the Reverse Logistics Context*

E. Grellier, P. Dejax, N. Jussien, Z. Lu

*Real-Time Strategies for the Online Inventory Routing Problem*

R. Giesen, H.S. Mahmassani, P. Jaillet

### **We.2.b: Freight Transportation 2**

Chairperson: C. Bierwirth

*Multiple vehicle flow estimation for determining freight corridors in Mexico City*

A Lozano, J.P. Antún, F. Granados, V. Torres, G. Londoño, A. Zamarripa

*A Coordination Model for Transportation Networks*

S. Berger, C. Bierwirth

*Freight Service Design for an Italian Railways Company*

M. Campetella, G. Lulli, U. Pietropaoli, N. Ricciardi

*The Integrative Freight Market Simulation: Algorithmic Solutions*

E. Thorson, J. Holguín-Veras

## Wednesday, 15:00 - 16:40

### **We.3.a: Vehicle Routing 2**

Chairperson: J.J. Salazar

*A Tabu Search Method for Solving an Urban Transport Model*

M. Laguna, J. Pacheco

*Solving a School Bus Routing Problem*

J. Riera-Ledesma, J.J. Salazar

*Waiting Strategies for Anticipating Customer Service Requests at Known Customer Locations*

B.W. Thomas

*Opportunity costs calculation in agent-based vehicle routing and scheduling*

M.R.K. Mes, M.C. Van der Heijden

## **We.3.b: Hazardous Materials Transportation**

Chairperson: F. Semet

*A Bilevel Approach for the Hazardous Materials Routing Problem*

L. Brotcorne, P. Marcotte, M. Wiar

*A heuristic method for solving a hazardous waste collection routing problem*

C. Boulanger, F. Semet

*A Tactical Planning Model for the Railroad Transportation of Hazardous Materials*

V. Verter, M. Verma, M. Gendreau

*An integrated bicriteria model and a heuristic approach for a hazardous wastes transportation problem*

C. Boulanger, F. Semet, P. Vaca

## **Wednesday, 17:15 - 19:20**

### **We.4.a: Vehicle Routing 3**

Chairperson: M.G. Speranza

*A Dynamic Multi-Period Routing Problem*

E. Angelelli, M. W. P. Savelsbergh, M.G. Speranza

*A Branch and Price approach for the multiperiod service routing problem with time windows*

F. Tricoire, N. Bostel, P. Dejax, P. Guez

*Flexibility and Complexity in Periodic Distribution Problems*

K. Smilowitz, P. Francis, M. Tzur

*Delivery Strategies for Periodic Blood Products Supplies*

K.F. Doerner, R.F. Hartl, V. Hemmelmayr, M.W.P. Savelsbergh

### **We.4.b: Freight Transportation 3**

Chairperson: M. Christiansen

*An aggregated system of transport models for the Mediterranean free trade zone*

F. Russo, V. Assumma

*Complex ship routing and scheduling*

M. Christiansen, K. Fagerholt, Ø. Haugen, E. H. Lund

*Schedule based approach for maritime freight services*

F. Russo, A. Vitetta, C. Rindone, F. Cirianni

*Ship scheduling with flexible cargo quantities: A heuristic solution approach*

J.E. Korsvik, K. Fagerholt, G. Brønmo

*Cargo revenue management: capacity inventory control when demand is not independent*

L. Castelli, R. Pesenti, W. Ukovich

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## Thursday, 9:00 - 11:05

### Th.1.a: Vehicle Routing 4

Chairperson: O.B.G. Madsen

*A Composite Heuristic for the Vehicle Routing Problem with Time Windows and Time-Varying Travel Times*

M. Stickel, B. Seidl, K. Furmans

*An initial solution generating algorithm for the Vehicle Routing Problem with Time Windows*

C. Simón, F. Cano, S. Cano, A. Felipe

*Formulations and exact approaches for the vehicle routing problem with time windows*

B. Kallehauge

*Recent advances in the Vehicle Routing Problem with Time Windows*

B. Kallehauge, J. Larsen, O.B.G. Madsen, M. Solomon

*Routing for Relief Efforts*

A.M. Campbell, D. Vandenbussche, W. Hermann

### Th.1.b: Network Design

Chairperson: B. Gendron

*Exact Methods for Multicommodity Capacitated Fixed Charge Network Design*

M. Chouman, T.G. Crainic, B. Gendron, E. Naudin

*Solving a Network Design Problem*

I. Rodríguez, J.J. Salazar

*Stochastic network design – is there a practical way forward?*

A.G. Lium, T.G. Crainic, S.W. Wallace

*Stochastic Service Network Design: Solving Large Instances Using Metaheuristics*

A. Hoff, A. Lokketangen, T.G. Crainic, A.G. Lium

*Colour-coding heuristic approaches for the balanced path problem*

P.Cappanera, G. De Pascale, M.G. Scutellà

## Thursday, 11:30 - 13:10

### Th.2.a: Vehicle Routing 5

Chairperson: R.W. Eglese

*A Branch-and-Cut algorithm for the Capacitated Open Vehicle Routing Problem*

A.N. Letchford, J. Lysgaard, R.W. Eglese

*Branch-and-Cut-and-Price for the Pickup and Delivery Problem with Time Windows*

S.Ropke, J.F. Cordeau

*Lower Bounds and an Exact Method for the Capacitated Vehicle Routing Problem*

R. Baldacci, A. Mingozzi

*Worst-Case Analysis for Split Delivery Vehicle Routing Problems*

C. Archetti, M.W.P. Savelsbergh, M.G. Speranza

## **Th.2.b: Routing/Scheduling**

Chairperson: G. Ghiani

*Real-time Fleet Management in the Courier Industry*

J. Bregman, G. Ghiani, E. Manni, A. Quaranta, R. Musmanno

*Robust Optimization for Empty Repositioning Problems*

A.L. Erera, J.C. Morales, M.W.P. Savelsbergh

*The Vehicle Routing Problem with Trailers and Transshipments*

M. Drexler

*Real-time Schedule Recovery under Vehicle Breakdown*

J.Q. Li, P.B. Mirchandani, D. Borenstein

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## **Friday, 9:00 - 11:05**

### **Fr.1.a: Vehicle Routing 6**

Chairperson: G. Desaulniers

*Structure Guided Local Search for Vehicle Routing Problems*

A. Cardeneo

*A Heuristic Approach to Planning Service Technician Operations for a Utility Company*

B. Bozkaya, B. Cao

*A memetic algorithm with population management for the heterogeneous fleet VRP*

N. Labadi, P. Lacomme, C. Prins

*Comparison of Heuristic Approaches for the Multi-Depot Vehicle Scheduling Problem*

G. Desaulniers, A. Hertz, A.S. Pepin, G. Dereu

*Optimising Environmental Routes using ALGACEA-3*

J. San Miguel, D. Monje, S. Úbeda, F. Faulín

### **Fr.1.b: Terminal Management**

Chairperson: T.G. Crainic

*Optimal control of maritime container terminals for tactical-operational planning*

A. Alessandri, S. Sacone, S. Siri

*A discrete event simulation model for a container terminal*

A. Carteni, S. De Luca

*The Allocation of Storage Space for Transshipment in Vehicle Distribution*

Dirk C. Mattfeld

*Integrated Seaside Operations Planning in a Container Terminal*

F. Meisel, C. Bierwirth

*Extreme-Point-Based Heuristics for Three-Dimensional Packing Problems*

T.G. Crainic, G. Perboli, R. Tadei

## Friday, 11:30 - 13:10

### Fr.2.a: Vehicle Routing 7

Chairperson: M.W.P. Savelsbergh

*Multilevel Refinement for the Vehicle Routing Problem*

D. Rodney, A. Soper, C. Walshaw

*Abstraction and Aggregation Techniques for Solving Real-life, Huge-Scale Vehicle Routing Problems*

G. Hasle

*A Robust Optimization Framework for the Vehicle Routing Problem with Uncertain Demands and Duration Constraints*

J.C. Morales, A.L. Erera, M.W.P. Savelsbergh

*Capacitated Vehicle Assignment-Routing Problem with Due Dates*

M. Albareda, E. Molina, C. Simón, A. Alonso

### Fr.2.b: Intermodal Transportation

Chairperson: M. Gendreau

*Intermodal Freight Transportation Demand Estimation using Neural Networks*

I. Bilegan, T.G. Crainic, M. Gendreau

*Optimizing intermodal transfers*

J. Andersen, T.G. Crainic, M. Christiansen

*Modelling Intermodal Networks*

J.H.R van Duin

*Determining optimal flows in sea-land intermodal transport*

N.L. Ma, E. Hadjiconstantinou

## Friday, 15:00 - 16:15

### Fr.3.a: Location 2

Chairperson: A. Marín

*The Capacitated and Distance Constrained Plant Location Problem*

M. Albareda-Sambola, E. Fernández, G. Laporte

*A reduced formulation for the multiple allocation p-hub location problem*

M. Landete, A. Marín

*Robust Capacitated International Sourcing Problem*

J.L. González-Velarde, R. Martí

### Fr.3.b: Inventory Routing/Disaster Response

Chairperson: S. Peeta



*A new start with a cyclic distribution strategy*

B. Raa, W. Dullaert

*Strengthening the Links of a Stochastic Network for Disaster Response*

F. Sibel Salman, K. Viswanath, S. Peeta