

Preface

Logistics is central to world trade. It encompasses a wide range of activities, including the production, handling, storage, and distribution of goods, as well as the use of communication technologies needed for the flow of information to meet consumer demand. In order for these activities to be run in an efficient manner, good, or optimal, decisions are to be taken in relation to various aspects of a logistics system, including the design of the physical and the digital infrastructure on which the logistics network will operate, the interaction between various entities in the network, and the flow of products and information. The breadth and the range of tasks involved in logistics make the management and coordination of the activities complex and challenging, and require advanced methods for the design, planning, and control of the system. This is where computational tools are of competitive advantage, offering ways to capture, store, visualize, and share information to solve complex problems employing optimization techniques, to evaluate systems and policies using simulation, and to enable collaborative schemes through the use of algorithmic mechanisms. The use of computational technology facilitates addressing these challenges within reasonable amounts of computational time and supports decision-making.

The International Conference on Computational Logistics (ICCL) is a forum where recent advances on the topic are presented and discussed. This volume offers a selection of 38 peer-reviewed papers submitted to the 8th International Conference on Computational Logistics (ICCL 2017), held in Southampton during October 18–20, 2017. The papers are indicative of the recent work that is being undertaken in computational logistics, categorized in what emerged as four sufficiently distinct but interrelated areas within computational logistics, and which appear as four sections in the volume:

1. **Vehicle Routing and Scheduling:** The papers in this area address planning problems arising in road transportation, and, in particular, various extensions of the vehicle routing problem describing algorithmic advances as well as applications in route planning for truck drivers, disaster logistics, snow plowing, offshore petroleum wells, and collaborative logistics.
2. **Maritime Logistics:** As a recurring and a popular theme within computational logistics, the papers that fall in this area relate to fleet deployment, routing, scheduling, and inventory problems arising in maritime shipping and in offshore wind farms. This section also presents two survey papers, one in the area of autonomous surface vessels structured in two parts, and the other in the use of fuzzy techniques in maritime shipping operations.
3. **Synchromodal Transportation:** Being an emerging area of research, synchromodal transportation has its unique advantages and challenges. One of the papers that appear in this section presents a framework to classify the problems in this area, whereas another paper reviews the particular aspects of synchromodal

transportation when used within global cold chains. The third paper in this section presents computational tools to solve a scheduling problem arising in the same area.

4. Transportation, Logistics, and Supply Chain Planning: The papers that appear in this section relate to a range of topics concerning various planning problems in transportation, warehouse operations, perishable goods, bike-sharing systems, construction projects, road traffic, container packing, and airport emissions. The section also includes a paper with a tutorial flavor on the use of stochastic programming in supply chains.

ICCL 2017 was the eighth edition of this conference series, following those held in Shanghai (2010, 2012), Hamburg (2011), Copenhagen (2013), Valparaiso (2014), Delft (2015), and Lisbon (2016).

The editors thank all the authors for their contributions and the reviewers for their invaluable support and feedback. We hope that the present volume will help to continue the dialogue within computational logistics and inspire further developments in this exciting area of research.

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