

**Scope:**

Transport networks are crucial to the good functioning of our society. A change in their availability, or the way they are operated, brings about losses or discomfort for several stakeholders. In this special issue, we focus on the robustness and resilience of transport systems to major disruptions.

Major disruptions require building contingency plans, implementing mitigation strategies beforehand, understanding the best action to do in the aftermath, and during a disruptive event, and finally analyzing what has been done, and what could have been done differently, in hindsight. Therefore, the development of both predictive and reactive methodologies is essential toward such major disruptions.

A broad range of transportation systems are prone to disruptions and therefore we cover various areas: Private transport, public transport, railways, waterways, airlines, freight and logistics, active modes, as well as shared mobility.

Under this broad concept of transport, we aim to focus on methodological contributions that address robustness and resilience of transport networks built on descriptive, predictive, and prescriptive analytics, based on mathematical models and artificial intelligence techniques also including network science.

**Warren Powell** committed with a paper on "Robust design and control of transportation networks with the universal framework: Modeling uncertainty and four classes of policies".

**Timeline:** Submission will be accepted until 31 July 2021 and the accepted papers will be published upon acceptance as early access.

This special issue is organized in association with [INSTR 2021](#) such that selected extended abstracts submitted to INSTR 2021 will be recommended to be submitted as full papers to this special issue and will go through an independent review.

**Submission link:**

<https://mc.manuscriptcentral.com/oj-its> (choose manuscript type ITSRobust)

Note that, the standard conditions of IEEE OJ-ITS apply to this special issue, see <https://www.ieee-itss.org/oj-its>

**Guest Editors:**

**Bilge Atasoy** (b.atasoy@tudelft.nl) is an Assistant Professor in Transport Engineering and Logistics within the Department of Maritime and Transport Technology at TU Delft, Netherlands. Her research interests lie at the intersection of optimization and behavioral models with applications to transportation systems. More specifically she is interested in improving the efficiency, robustness and sustainability of transportation and logistics by developing predictive models that incorporate the preferences of decision makers. Example applications include on-demand transportation, intermodal freight transportation and transportation over water.

**Francesco Corman** (corman@ethz.ch) holds the chair of Transport Systems at the Institute of Transport Planning and Systems, Swiss Federal Institute of Technology, ETH Zurich, Switzerland. His main research interests are in analytics, quantitative methods and operations research, for improvement of transport systems, especially on the operational perspective of public transport systems, and logistics. He has large experience in railway traffic control and management to reduce delays for the system and its users.

**Gonçalo Correia** (g.correia@tudelft.nl) is an Assistant Professor and the co-director of the hEAT Lab within the Department of Transport & Planning, Faculty of Civil Engineering, TU Delft, Netherlands. His main research interest is in the planning and operations of transport systems in urban environments with the objective of sustainable development. He focuses particularly on studying the use of Transport Demand Management strategies, innovative services, and technologies, such as ridesharing, carsharing and automated vehicles, to tackle urban congestion, which he studies using mainly operations research (mathematical optimization and simulation), data-driven AI methods and behavior modeling. At TU Delft he is looking at the impacts of automated driving on mobility and urban development.

**Lijun Sun** (lijun.sun@mcgill.ca) is an Assistant Professor with the Department of Civil Engineering at McGill University, Montreal, QC, Canada. He received B.S. degree in Civil Engineering from Tsinghua University, Beijing, China, in 2011, and Ph.D. degree in Civil Engineering (Transportation) from the National University of Singapore in 2015. His research centers on urban computing, spatiotemporal modeling for large-scale and high-dimensional mobility and traffic data, public transport systems, and agent-based simulation.