



Introduction

Downloaded from: <https://research.chalmers.se>, 2026-04-05 05:20 UTC

Citation for the original published paper (version of record):

Qu, X. (2022). Introduction. Computer-Aided Civil and Infrastructure Engineering, In press.
<http://dx.doi.org/10.1111/mice.12922>

N.B. When citing this work, cite the original published paper.



INTRODUCTION

Introduction

The international journal of *Computer-Aided Civil and Infrastructure Engineering* is a rigorously peer-reviewed research journal, devoted to the publication of original research articles describing novel computational algorithms and innovative applications of computers in civil and infrastructure engineering. Issue 37:15, December 2022, is devoted to computational modeling of connected and automated transport systems, following two previous special issues on the same topic, 35:1, January 2020, and 36:7, July 2021. This is a follow-up special issue focusing on opportunities and challenges in the rapidly growing area of connected and automated vehicles (CAVs). Seven papers from four different countries that met the high standards of the journal were finally approved for publication in the special issue. Each paper was reviewed by five to nine reviewers. The special issue covers innovative CAV trajectory control algorithms based on model predictive control, innovative mixed traffic simulation framework, decentralized truck platooning coordination algorithms, collaborative control of traffic signals and variable guiding lane, and three reinforcement learning models for bus control, CAV longitudinal control under communication

failures, and traffic signal optimization under partially observable scenarios in traffic systems. These innovative results have broadened the research vision of CAV and have shown good results in a wide range of practical applications.

We thank the authors of all the papers from the many active research groups who have shared innovative ideas for this series of special issues on CAV. We sincerely thank the many reviewers of the submitted papers for their in-depth reviews and constructive contributions. Finally, we are grateful to the Editor-in-Chief, Prof. Hojjat Adeli, for his encouragement and assistance in producing this special issue.

Guest Editor:

Prof. Xiaobo Qu

School of Vehicle and Mobility, Tsinghua University, Beijing, China. Email: drxiaoboqu@gmail.com

Formerly, Chair Professor of Urban Mobility Systems, Department of Architecture and Civil Engineering, Chalmers University of Technology, Gothenburg, Sweden