

Resilience in Cities as Litate

The Dynamic Research Enterprise for Multidisciplinary Engineering Sciences **ZJU-UIUC Joint Research Center** 

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## CIRCLE Distinguished Lecture Series

Dr. Panagiotis Angeloudis

## Eliminating risk from autonomous vehicle deployments

ABSTRACT: Despite substantial R&D efforts, there remain considerable challenges to the deployment of Autonomous Vehicles (AV) on public roads. Dr Angeloudis and his team have developed a suite of AV training scenarios drawn from real-world traffic incidents and camera data. The talk will explore the challenges that remain in the testing and validation process for Autonomous Vehicle deployments, recent regulatory efforts in the domain of certification, and the research by the Transport Systems & Logistics laboratory to address this gap, through a combination of Deep Reinforcement Learning (DRL) and model-based risk metrics.

Bio: Dr Panagiotis Angeloudis is Reader and Head of the Transport Systems and Logistics Laboratory at Imperial College London. His research focuses on the intersection of autonomous vehicles, multi-agent systems modelling, network optimisation and their applications to freight distribution and passenger transportation. His research group specialises in developing high-performance, scalable models that capture the interactions between users, providers, infrastructure and operating regimes. Recent TSL projects have focused on the design of deployment strategies for safe and efficient autonomous transport systems (AVs, drones) for passenger and freight mobility. Panagiotis was recently appointed by the UK Department for Transport to the Expert Panel for Maritime 2050 and has been a member of the Future of Mobility review team for the UK Government Office of Science since 2020. Over the years, he has advised and developed bespoke models for major corporations, government agencies and consultancies worldwide on initiatives related to transport infrastructure, operations management and technology deployment. At Imperial, he leads a team of over 15 researchers and has a broad portfolio of funded research projects, with significant support from EPSRC, InnovateUK, UK and foreign governments and the industry. He is a member of the management committee for the Imperial College Robotics Forum, Director of Teaching for the Transport Section, and transport champion for the Institute for Security Science and Technology.

CIRCLE: The Center for Infrastructure Resilience in Cities as Livable Environments is one of three research themes supported by the joint Dynamic Research Enterprise for Multidisciplinary Engineering Sciences (DREMES), established between the University of Illinois at Urbana-Champaign (UIUC) and Zhejiang University (ZJU). The CIRCLE Distinguished Lecture Series is intended to provide opportunities for faculty and students to meet and interact with internationally renowned experts in the field.

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