



A Primer on Traffic Control

Antonios Stathopoulos

Professor Emeritus, National Technical University of Athens

Wednesday 12 November, 16:30-18:00 pm

University New Campus – Building ΠΟΛ10 – Room B107



Seminar Description:

The presentation covers the evolution from basic fixed-time traffic signal control to advanced adaptive and game-theoretic methods, highlighting the growing role of artificial intelligence (AI) and reinforcement learning (RL) in optimizing urban traffic flow. It explains key concepts, control strategies, and the importance of data-driven decision-making for smarter, more responsive traffic management systems. Starting from traditional deterministic signal plans based on historical averages, the seminar traces the transition toward actuated and adaptive systems that respond to real-time variations in traffic demand. Participants will gain a comprehensive understanding of the current research frontier and practical deployment challenges, as cities move toward fully integrated, self-optimizing mobility systems.

Biography:

Dr. Antonios Stathopoulos is Professor Emeritus of the National Technical University of Athens (NTUA), School of Civil Engineering, Department of Transport and Infrastructure. He was Professor of Transport Systems and Director of the Railway and Transport and Personal Computer Laboratories (PCLab) of the School of Civil Engineering of NTUA. He is a member of the Steering Committee of the Joint Transport Research Centre of the Organisation for Economic Co-operation and Development (OECD) and the International Transport Forum (ITF) in Paris and a member of the Editorial Board of the International Journal of Transport Science & Technology (IJTST). He has authored/co-authored more than 150 research articles. His research interests cover the areas of Transportation Systems Analysis, Modeling and Control, Port Design and Operation, and Intelligent Transportation Systems.

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