



Nikolas Geroliminis

Nikolas Geroliminis is a very dynamic and active researcher in the field of urban transportation systems. His research is highly cited and his work in the area of an urban-scale macroscopic fundamental diagram has been revolutionary. He is definitely a rising star and we look forward to see many of his new innovations in the near and far future.”—This is how Professor Hesham Rakha, director of the Center for Sustainable Mobility at Virginia Tech Transportation Institute (VTTI), testifies about the credibility of this promising researcher in the field of Intelligent Transportation Systems. Dr. Geroliminis directs the Urban Transport Systems Laboratory at

Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland. At the same time he is working as an Assistant Professor in the School of Architecture, Civil and Environmental Engineering. He is an active member of the steering committee of European Association of Transport Research (hEART) and the traffic flow theory committee of Transportation Research Board (TRB). He also serves as an Associate Editor of Transportation Research part C and



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in the editorial board of many international journals. His research interests focus primarily on modeling, monitoring and controlling urban transportation systems (Figure 1), traffic flow theory, optimization of large-scale networks, public transportation and logistics etc. Nikolas’ research targets to operate traffic in cities in a way that was not possible until now. He believes that mobility should advance through the integration of big data, the understanding of mobility patterns, the coordination and optimization of travel for people and goods. This is challenging because the metropolitan cities involve highly complex transportation systems. Nevertheless,

cities can be made smarter in ways that enable us to monitor, analyze, and improve the quality of life in real time. A fundamental change in the scientific approach is required through a multidisciplinary combination of physics, engineering and optimization. This is what Nikolas’ research offers. Before joining EPFL, he was an Assistant Professor of Civil Engineering at the University of Minnesota.

As Nikolas stated “My approach to improve mobility is to understand dynamic physical patterns of aggregated models for different levels of

scale, city structures and demand profiles. My research shows that by developing realistic network based aggregated models of congestion we don’t need to know the exact position of every particle in a city and all parameters of our models are observable quantities. Thus, we need to develop efficient methodologies to partition cities in a number of regions with well defined macroscopic relations and then develop a multi-level hierarchical control that might treat differently each mode of transport such as cars, buses, trams etc. A multi-level hierarchical control of the network integrates smart techniques, such as coordinated traffic signal control, public transport priority, parking management and car sharing options. While this is a tall order, we have made significant progress towards this direction. The validation of the modeling methodologies and the traffic management schemes are conducted in various and complex city structures scenarios using data from field experiments and micro-simulations.”

Dr. Geroliminis has authored and co-authored over 40 peer-reviewed journal articles which were published in the most prestigious and highest impact factor journals in the field of Transportation; including *Transportation Research Part B*, *IEEE Transactions on ITS*, *European Journal of Operations Research*, *Journal of Urban Economics*, etc. Many of his papers were listed

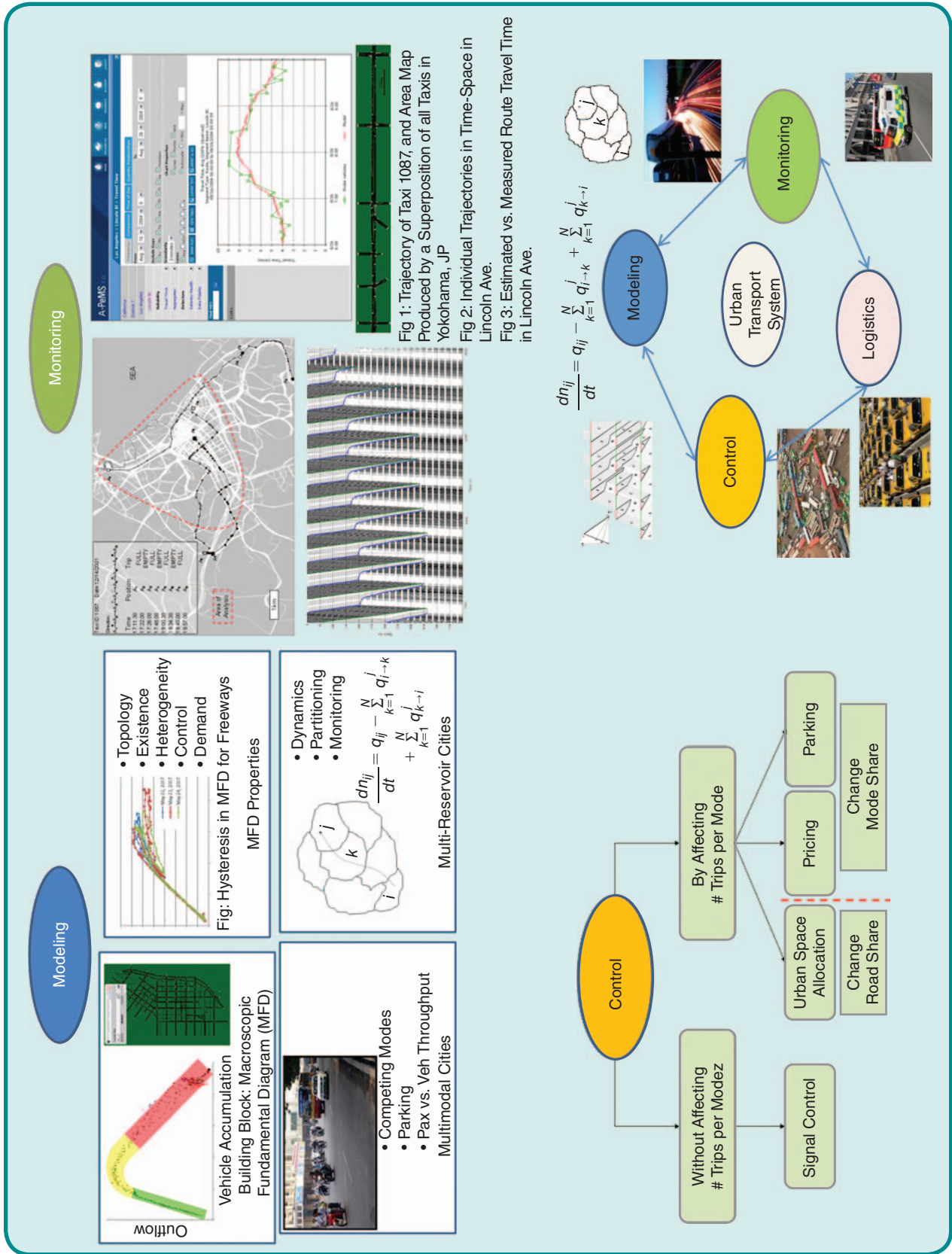


FIG 1 Modeling, monitoring and control of Urban Transport Systems.

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ITSS Governance and Recent Elections

Each year the ITS Society elects a portion of the Board of Governors (BOG), and a portion of the Executive Committee (made up of the society officers). The Board of Governors is the administrative body that guides the Society Policy and Financial decisions. The BOG is made up of 15 members elected by the Society at large, and 10 officers on the Executive committee, making a total of 25 members on the BOG. The election of BOG members from the Society at large is done in a vote that is balloted by IEEE (watch for your ballot if you have not already voted) and the executive committee is, in turn, elected by the entire standing BOG.

The Executive Committee (EXCOM) election is held at the fall BOG

meeting often in association with the annual IEEE Intelligent Transportation Systems Conference (ITSC). This year ITSC was held in Qingdao, China and the BOG election was held on October 8, 2014. The bylaws, that define the roles and obligations of both BOG and EXCOM, divide the election of the EXCOM members across two years. The bylaws state that “Election for President-Elect, Vice President for Financial Activities, Vice President for Technical Activities, and Vice President for Administrative Activities, shall take place in even-numbered years with terms to begin in January of the next year.”

This year Daniel Zeng was elected as the President Elect, Alberto Broggi was elected as Vice President Financial Activities, Yaobin Chen was elected as Vice President Technical Activities and Daniel Dailey elected

as Vice President Administrative Activities. Each of these officers serves two years, and may hold the office for a maximum of two terms.

The Constitution and Bylaws can be found on the society web site for those looking for more details of the structure, procedures, roles and obligations of the member of BOG and EXCOM.



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Vice President Administrative
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among the top cited papers within the publishing journals (ranked within top three). Some of his notable work related to urban macroscopic fundamental diagram were published through *Transportation Research Part B*, and were cited more than 700 times by the researchers. His funding records include 14 national and international grants funded by several agencies including Swiss National Science Foundation, VEOLIA Transport (France), Minnesota department of Transportation, and Roads and Maritime Services (Australia) etc. In addition to reviewing numerous papers for different conferences, he has organized five international conferences and symposiums as a chair/member of organizing committee and served as session chairs for IEEE conferences on ITS, and annual meetings of TRB. Dr. Geroliminis serves in the editorial boards or organized special issues in nine reputed journals including, *Transportation Research part B*

and part C, *European Journal of Transport and Logistics*, *International Journal of Transportation*, etc. He has been invited for delivering research talks from 30 renowned universities all over the world as well as keynote speakers from five international workshops and conferences. Recently, cities worldwide have expressed strong interest to apply tools that Nikolas' team develops for efficient traffic management and control. The city of Geneva has started a collaboration with Urban Transport Systems Laboratory (that Nikolas is directing) for a large scale field test to maximize passenger flows in a multimodal environment. Currently, optimization algorithms developed over the PhD thesis of his student Burak Boyaci (currently a lecturer at University of Lancaster) are utilized by the Autobleue car sharing company in the city of Nice to improve the quality of service in their system.

Dr. Geroliminis has a diploma in Civil Engineering from the National

Technical University of Athens (NTUA) and a Master's and Ph.D. in civil engineering from the University of California, Berkeley. During his doctoral studies, he received the University of California “Transportation Student of the Year” award in 2007 and the “Outstanding Graduate Student Instructor Award” in 2006. One of his Ph.D. student, Nan Zheng, received a research excellence award in the field of Transport and Mobility supported by the EU in TRA Conference. As of now, he has supervised a total of 8 Ph.D. students, 30 Masters students and mentored four post-doctoral fellows. Many of his collaborators hold academic positions in top universities. He is also a recent recipient of the very prestigious multimillion ERC Starting Grant “META-FERW: Modeling and controlling traffic congestion and propagation in large-scale urban multimodal networks.”

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