



SCIENTIFIC SEMINAR

Monday 15 October - 14:30 – 15:15

Facoltà di Ingegneria – Sala del Consiglio
Via Eudossiana, 18

Behavioral and planning implications of connected and automated smart transportation systems

Prof. Chandra R. Bhat

University Distinguished Teaching Professor, Joe J. King Endowed Chair Professor in Engineering

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Department of Civil, Architectural and Environmental Engineering

The University of Texas at Austin

and

Visiting Chair Professor, Department of Civil and Environmental Engineering,

The Hong Kong Polytechnic University

This presentation will be focused on the potential impact of connected and automated smart transportation systems (CASTS) on our activity-travel behavior, community and regional design/planning, built infrastructure development, transportation policies, and, at a more fundamental level, human activity-travel decision making. How may our activity participations and activity-travel patterns change, and how may city designs and land-use planning elements change to respond to changes in individual activity choices? Key questions remain on how autonomous vehicles in particular may affect travel.

Will autonomous vehicles lead to reduced parking needs, and reclamation of vast patches of urban areas that are currently invested in parking garages and other parking infrastructure? Will these vehicles expand people's willingness to be in a car through reduced stress and ability to do other tasks, thereby increasing commute-sheds and leading to sprawled cities? Will people continue to own personal cars, and start purchasing larger vehicles because they spend more time in autonomous vehicles? Or will a new ownership paradigm emerge in which people don't own cars, but rather buy transportation services by the mile from fleet companies? Will such a sharing economy lead to the use of smaller electric vehicles? Will there be more trips and more long trips?

The presentation will discuss many of these issues. While there is still a great deal of uncertainty regarding impacts, this presentation will identify key emerging considerations for infrastructure and community planning.



Dr. Chandra R. Bhat is a world-renowned expert in the area of transportation and urban policy design, with far reaching implications for public health, energy dependence, greenhouse gas emissions, and societal quality of life. Methodologically, he has been a pioneer in the formulation and use of statistical and econometric methods to analyze human choice behavior. His current research includes the social and environmental aspects of transportation, planning implications of connected and automated smart transportation systems (CASTS), and data science and predictive analytics. He is a recipient of many awards, including the 2017 Council of University Transportation Center (CUTC) Lifetime Achievement Award in Transportation Research and Education, the 2015 ASCE Frank Masters Award, and the 2013 German Humboldt Award.

He was recently listed as the top ten transportation thought leaders in academia by the Eno Foundation. He is also a top-cited transportation engineering researcher, and was listed in the most cited researchers in civil engineering by ShanghaiRanking's global ranking of academic subjects 2016 by Elsevier.

People interested in attending are kindly required to send an E-mail to:
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Driverless vehicles: state of the art and generation of a safe speed profile

Dr. Michel Parent

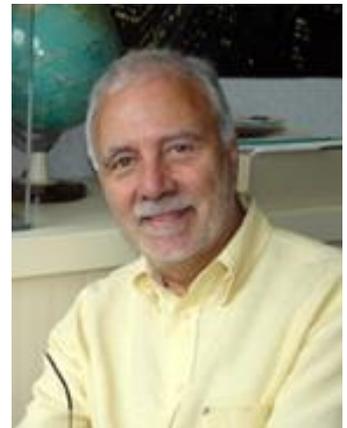
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The road vehicle automation is technologically available, and almost demonstrated in certain applications: the Citymobil2 project demonstrated the last mile taxi/shuttle (at low speed), some systems of automated bus/PRT in segregated lane work already (see Heathrow airport and Masdar City transportation system), other feature will hit the market of transport in next future as described in ERTRAC project's roadmap (i.e. automated parking garage pilot, highway chauffeurs and last mile taxi in dedicated lane).

All these functionalities need same technologies and sensors, in PhD study the candidate applied the information collected by Laser Imaging Detection and Ranging (LIDAR) sensors to collect distances from vehicle trajectory to unmovable obstacles of environment in order to determine the maximum allowable vehicle speed in safety conditions for vehicle and other road users.

How do these technologies work? How he can generate a safe and comfortably speed profile for automated vehicles inside of corridors?

Michel parent is currently the president of AutoKAB, a new company specialized in the automation of vehicle fleets. This company is a spin-off from the vehicle automation research team from INRIA that he created in 1991. This team focuses on research and development of information and communication technologies for road transport and on fully automated vehicles (the cybercars) He is considered as the “father” of the cybercar concept (in 1991!) and he was the coordinator of the European Project CyberCars between 2001 and 2004 and several follow-up project. Before his positions at RITS, Michel Parent has spent half of his time in research and academia at such places as Stanford University and MIT in the USA and INRIA in France, and the other half in the robotics industry. He was the president of the French Robotics Association between 1974 and 1979. He is the author of several books on robotics, vision and intelligent vehicles, and numerous publications and patents. Michel Parent has an engineering degree from the French Aeronautics School (ENSAE), a master degree in Operation Research and a Ph.D. in Computer Science, both from Case Western Reserve University, USA



People interested in attending are kindly required to send an E-mail to:

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