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## ERC Scale-FreeBack Seminar program

Andrea Tosin, February 5th 2018 (Gipsa Lab)

10h30 - Andrea Tosin talk “Control strategies for road risk mitigation in kinetic traffic modelling” – Salle des Séminaires B208.

*Abstract:* Andrea Tosin, will present a Boltzmann-type kinetic approach to the modelling of road traffic, which includes control strategies at the level of microscopic binary interactions aimed at the mitigation of speed-dependent road risk factors. Such a description is meant to mimic a system of driver-assist vehicles, which by responding locally to the actions of their drivers can impact on the large-scale traffic dynamics, including those related to the collective road risk and safety.

Andrea Tosin completed his academic education in Italy at Politecnico di Torino, where he graduated in Mathematics for Engineering Sciences (BSc) in 2002, in Mathematical Engineering (MSc) in 2004 and in Mathematics for Engineering Sciences (PhD) in 2008 with a PhD thesis on kinetic models of vehicular traffic. From 2007 to 2011 he worked first as research fellow at the Institute for Applications of Calculus (IAC) of the National Research Council of Italy (CNR) in Rome, then as INdAM-Compagnia di San Paolo post-doctoral fellow at the Department of Mathematics of Politecnico di Torino. From 2011 to 2015 he was permanent researcher at IAC-CNR in Rome and since 2015 he has been associate professor of Mathematical Physics at the Department of Mathematical Sciences "G. L. Lagrange" of Politecnico di Torino.

His main research interests are Boltzmann-type kinetic equations and measure-valued multiscale conservation laws with applications to vehicular and pedestrian traffic problems and social dynamics. His PhD thesis received in 2011 the prize for the best Italian PhD theses in Applied Mathematics awarded by the National Institute for Advanced Mathematics (INdAM) and the Italian Society for Applied and Industrial Mathematics (SIMAI). Moreover, in 2014 he was awarded the SIMAI prize for young scientists in Applied Mathematics.

**Carlos Canudas-de-Wit**

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