

On derivation and analysis of traffic and lubrication models

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I will present our latest developments on the generalization of the Aw-Rascle model of traffic. These include existence and non-uniqueness results and also singular limit analysis leading to certain hard-congestion model. The latter model has been studied in the context of lubrication forces for the motion of rigid bodies in a viscous fluids. The proof of the singular limit will be presented in one-space dimensional case with periodic boundary conditions. I will also comment on the open problems related to generalisation of this result.

Orateur: ZATORSKA, Ewelina (Imperial College London)