Control Problems for Hyperbolic Balance Laws

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In the talk, we consider the modeling, through hyperbolic balance laws, of vaccination strategies and of opinion formation. In both cases, detailed descriptions of the models are provided, presenting well posedness results, qualitative properties of the solutions, and related control problems.

The first topic is tackled through renewal equations on networks, inspired by the SIR model, which was proposed for the description of infectious diseases, while the second one through a conservation law in a multi-dimensional space, coupled with ordinary differential equations.

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