CONTROL PROBLEMS AND GAMES
IN CONSERVATION LAWS MOTIVATED BY BIOLOGY

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In recent years, several analytical results were obtained that ensure well posedness and stability of a variety of problems where conservation laws play a key role. On this basis, we now have the analytic tools to study new models and to tackle various control problems, or even games.

In this talk, we address the modeling of vaccination strategies and that of consensus dynamics. First, in both cases, a detailed description of the modeling framework is provided, highlighting well posedness results as well as qualitative properties of the solutions, the latter with the help of numerical integrations. Then, we deal with the optimal control problems that naturally arise in choosing vaccination policies. In the case of consensus problems, we have to face hyperbolic differential games.

References

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