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Numerical Analysis for PDE-Constrained Optimal Control Problems

**Optimization Problems subject to PDEs and Pointwise Constraints on the
Gradient of the State**

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Abstract: In this talk, optimization problems subject to a possible semilinear elliptic or parabolic partial differential equation (PDE) are considered. Moreover, additional pointwise constraints are imposed on the gradient of the state, i.e., the solution to the PDE. The optimization problems are discretized using a Galerkin-type approach and the convergence rates for the discretization error are discussed.

This is joint work with Francesco Ludovici (Universität Hamburg) and Ira Neitzel (TU München).