



# Numerical Analysis Seminar

## (Localized) Model Reduction and Learning for PDE Constrained Optimization

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### Abstract

Model order reduction for parameterized systems has gained a lot of attention in the last two decades. In this contributions we focus on projection based model order reduction and its efficient application to solve large scale PDE constrained optimization problems. We study learning strategies, such as adaptive enrichment for global and localized reduced basis methods as well as a combination of reduced order models with machine learning approaches in the context of time dependent problems. Concepts of rigorous certification and convergence will be addressed, as well as numerical experiments that demonstrate the efficiency of the proposed approaches.

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| Date:  | March 22, 2023 (Wednesday)   |
| Time:  | 4:00 - 5:00pm  |
| Venue: | ZOOM: <a href="https://hku.zoom.us/j/">https://hku.zoom.us/j/</a><br>Meeting ID: 913 6532 3891<br>Password: 310656 |

*All are welcome*