

Oberwolfach–Workshop 1929b

## Mathematical Foundations of Isogeometric Analysis

### Organizers:

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### Abstract

Isogeometric analysis is a recent technology for numerical simulation, unifying computer aided design and finite element analysis. It offers a true design-through-analysis pipeline by employing the same representation models for both creating geometries and approximating the solution of partial differential equations defined on those geometries. This combined concept leads to improved convergence and smoothness properties of the solutions and dramatically faster overall simulations.

Even though substantial progress has been made in the isogeometric context over the last few years, there are several profound theoretical issues that are not yet well understood and that are currently investigated by researchers in numerical analysis, approximation theory and applied geometry.

The workshop aims to bring together leading scientists from isogeometric analysis and the mentioned mathematically relevant fields in order to discuss these theoretical issues within a wide audience and profit from various perspectives.