

## EINLADUNG

zum

## HABILITATIONSVORTRAG

**Dr. Joscha Gedicke**

(Fakultät für Mathematik, Universität Bonn)

**“A priori and a posteriori error analysis of finite element methods”**

## **“A priori and a posteriori error analysis of finite element methods”**

### Abstract:

*This talk considers the numerical analysis of finite element methods (FEM) for four different problem classes. The first part introduces an hp-adaptive FEM for the Helmholtz problem based on equilibrated a posteriori error estimators. The second part presents a priori and a posteriori error estimates for the Hodge decomposition approach for solving the two-dimensional Maxwell problem with applications to metamaterials. The third part investigates the FEM for fourth order obstacle problems and their application to state constraint optimal control problems. The last part considers the a posteriori error analysis of the mixed FEM of Arnold-Winther for linear elasticity.*

**Mittwoch, 19. Februar 2020  
11:30 Uhr – 12:15 Uhr**

**Fakultät für Mathematik  
Oskar-Morgenstern-Platz 1  
HS 02, EG/1 UG**

Ulisse Stefanelli  
Christian Krattenthaler