

## Einladung

zum

## Mathematischen Kolloquium

Am Dienstag, dem 31. Januar 2023, spricht

**Herr Prof. Dr. Nick Trefethen,**  
**Head of the Numerical Analysis Group**  
**University of Oxford**  
**Gast am Lehrstuhl Angewandte und Numerische Analysis**  
**bei Herrn Prof. Dr. Holger Wendland**

über das Thema

### *APPLICATIONS OF AAA RATIONAL APPROXIMATION*

#### **Abstract**

For the first time, a method has recently become available for fast computation of near-best rational approximations on arbitrary sets in the real line or complex plane: the AAA algorithm (Nakatsukasa-Sete-T. 2018). We will present the algorithm and then demonstrate a number of applications, including

- detection of singularities
- model order reduction
- analytic continuation
- interpolation of equispaced data
- smooth extension of multivariate real functions
- extrapolation of ODE and PDE solutions into the complex plane
- solution of Laplace problems
- conformal mapping
- Wiener-Hopf factorization

(joint work with Stefano Costa and others)

**Beginn:** 16.30 Uhr (Kaffee/Tee ab 16.00 Uhr im Seminarraum 748)

**Ort:** Seminarraum S 82, Gebäude Naturwissenschaften II, Universitätsgelände

gez. J. Rambau