

MATHEMATICAL COLLOQUIUM

INAUGURAL LECTURE

UNIVERSITÄT
DUISBURG
ESSEN

Offen im Denken

Prof. Dr. Dominic Breit

University of Duisburg-Essen

"Analysis of fluid-structure interactions: linear elastic shells"

We consider the interaction of a viscous incompressible fluid with a flexible shell. The fluid is described by the incompressible Navier–Stokes equations in a domain that is changing in accordance with the motion of the structure. The displacement of the latter evolves along an elastic shell equation. Both equations are coupled through kinematic boundary conditions and the balance of forces.

We present an attempt towards a systematic theory on the well-posedness of the corresponding system of nonlinear partial differential equations.

Location: University of Duisburg-Essen, Faculty of Mathematics, Thea-Leymann-Str. 9, 45127 Essen, Room WSC-S-U-4.02

Date and Time: Wednesday, July 08, 2026 at 4:00 PM

Before the lecture, there will be an opportunity for discussion over coffee and tea from 3:30 PM in Room WSC-S-4.05.

The Mathematics Faculty