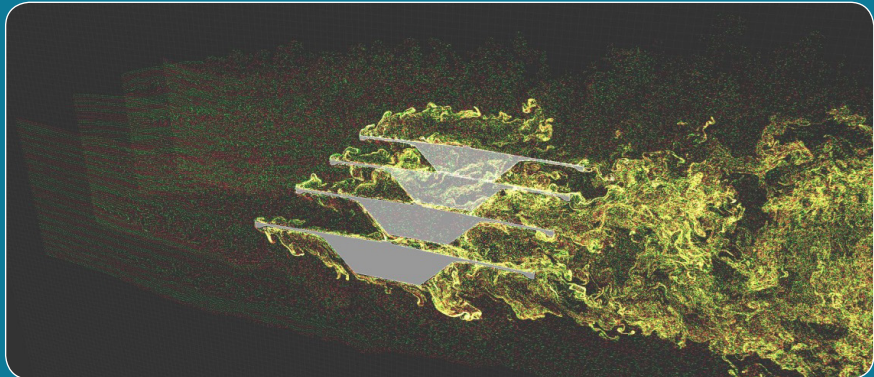
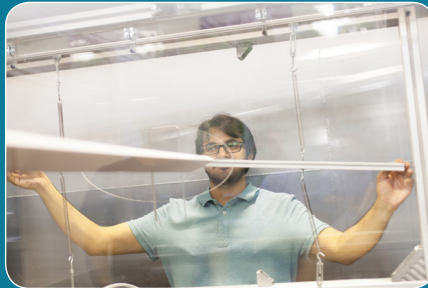


M.Sc. Course



Nonlinear Analysis of Structures: Wind Induced Vibrations

April 6th to 13th, 2019
and **August 10th to 17th, 2019**
in Weimar, Germany



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Description



Content

- Models for characterization of wind effects
- Numerical simulation techniques (CFD) for wind-structure-interaction problems
- Excitation phenomena in bridge aeroelasticity
- Advanced models for long-span bridge mechanical analysis (FEA-based)
- Application of numerical and semi-analytical models for wind-structure interaction analysis to predict full-scale bridge response behaviour
- Conduction of wind tunnel test (incl. preparation of small specimens)

Pre-requisites

Basic knowledge about:

- Structural dynamics
- Structural analysis
- Fluid mechanics
- Construction and building materials
- Knowledge of English language

Aims & Outcome



Aims

The objective of the course is to offer insight to the students into the assessment of long-span cable-supported bridges under wind excitation.

Learning Outcome

Knowledge and understanding of . . .

- methods of modelling the structural behaviour of long-span cable-supported bridges
- assessment of the dynamic properties
- various phenomena of dynamic wind excitation
- assessment of wind excitation phenomena using various semi-analytical and numerical methods
- conduction of wind-tunnel experiments
- software for the aero elastic analyses of bridge decks

Coordination



Coordination and Contacts

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