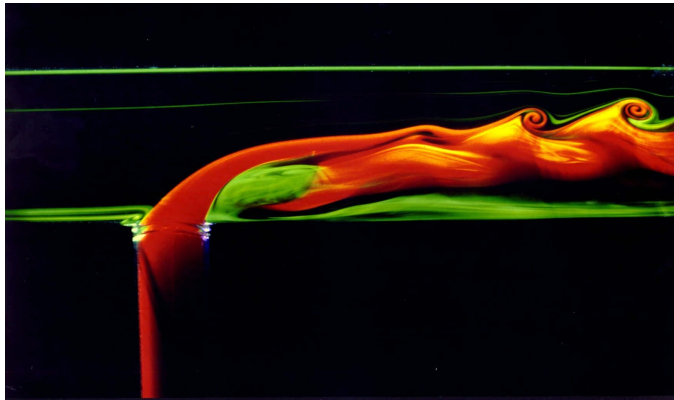


### Aerodynamisches Institut und Lehrstuhl für Strömungslehre



### Institute of Aerodynamics and Chair of Fluid Mechanics

The Institute of Aerodynamics and the Chair of Fluid Mechanics belong to the department of mechanical engineering of the Aachen University of Technology, RWTH Aachen. The experimental and numerical units plus the laboratory for bio-medical flows constitute the main departments of the institute.

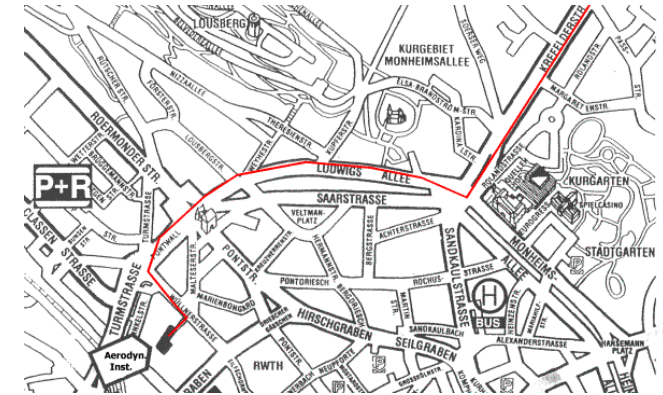
Several subsonic, transonic, and supersonic wind tunnels and water tunnels are the essential experimental facilities. In addition, there are special test rigs to study flow fields, e.g., within piston engines, through safety valves, and artificial heart valve prostheses. The measurement methods consist of, e.g., particle-image and particle-tracking velocimetry, laser-doppler and hot-wire anemometry, multisensor hot films, differential and Mach-Zehnder interferometry, and schlieren methods. Continuous as well as pulse lasers and high-speed cameras are part of the experimental set ups. Measuring equipment such as hot wires and hot films is in-house manufactured.

Workstations and PCs are connected to form a parallel cluster on which computational fluid dynamics simulations are run. Furthermore, the institute has access to the massively parallel machine of the university's scientific computing center to perform numerical analyses of internal and external, steady and unsteady, laminar and turbulent flows for complex geometries.

The major one- and two-term courses are given in fluid mechanics, aerodynamics, gasdynamics, computational fluid mechanics, boundary-layer theory, measurement methods, hypersonic flows, and biological and medical flows. Moreover, special topics like computational fluid dynamics and laser-based measurement methods such as particle-image velocimetry are covered in additional workshops.

Using experimental and numerical methods research is conducted in fundamental and applied fluid mechanics, the general areas of which are turbulence, aerodynamics, vortex dynamics, bio-medical flows, multiphase flows, measurement methods, computational fluid dynamics, and computational aeroacoustics. Some projects are briefly discussed on the following pages. For more information see <http://www.aia.rwth-aachen.de>

## How to find us



Arrival by car:

From Cologne: head for Aachen/Antwerpen on freeway A4 and exit at "Aachen-Centrum-Würselen".

From Düsseldorf: head for Aachen on freeway A46 until junction "Aachen", head for Aachen/Antwerpen on freeway A4 and exit at "Aachen-Centrum-Würselen".

Arrival by train:

Take a taxi from Aachen Central Station, it is approx. a ten minute drive.

Arrival by plane:

Take a train or bus from Cologne (65 km), Düsseldorf (65 km), Brussels (135 km), Maastricht (35 km) airport to Aachen Central Station, then take a taxi.

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