



# VON KARMAN INSTITUTE OVERVIEW

The experimental research at the VKI is combined with world class expertise in numerical modeling and CFD.

**Experimental** approach employing scaled models and advanced instrumentation.

**Numerical** simulation, including IA using High Performance Computing suitable for numerous applications.

Used in combination, these are powerful tools that help engineers in design and problem solving for a large number of industrial applications.

The von Karman Institute provides advanced applied research for the industry and the international organizations in a large range of expertise fields.

## AERONAUTICS AND AEROSPACE

Aerothermodynamics | Aerothermochemistry | Rarefied and Plasma Flows | Aeronautics and Low-Speed Aerodynamics | Propellant Management

## ENVIRONMENTAL AND APPLIED FLUID DYNAMICS

Liquid Metals & Industrials Flows | Thermal Management and Process Safety | Aeroacoustics and Low-Speed Aerodynamics | Wind Energy & Environmental Flows

## TURBOMACHINERY AND PROPULSION

Hypersonic Propulsion | Turbine Aerodynamics | Compressor Aerodynamics | Shape Optimization

## TRANSVERSAL EXPERTISE

Computational Fluid Dynamics & Numerical Methods | Instrumentation | Machine Learning for Fluid Systems



MORE INFO ON OUR WEBSITE [VKI.AC.BE](http://VKI.AC.BE)



## ABOUT

The Institute's primary task is to train scientists and engineers in the field of fluid dynamics. Additionally, it disseminates knowledge in the field and promotes research in theoretical, experimental and computational fluid dynamics. Success in these activities requires integrating research into the training programs, linking basic and applied research, developing research programs in line with the needs of industry and large international bodies such as EU and ESA and carrying out all these activities in an international forum.

## ADVANCED RESEARCH MASTER IN FLUID DYNAMICS

A one-year postgraduate "Master-after-Master" program combining specialized courses with a personal research project. Candidates should hold a five-year engineering or science degree. The program is accredited by NVAO (Nederlands-Vlaamse Accreditatieorganisatie) which ensures the quality of educational programs following the Bologna agreement for higher education in Europe.

## SHORT TRAINING PROGRAM

Hands-on training for 3 to 6 months, involving active participation in a guided research project. Students at bachelor, master and PhD level can apply to this program.

## UNIVERSITY MASTER THESIS PROGRAM

Opportunity to conduct a master's thesis project at VKI under expert supervision.

## DOCTORAL PROGRAM

Multi-year basic research in fluid dynamics, conducted in collaboration with a Belgian university or the candidate's home university.

## POST-DOCTORAL PROGRAM

Advanced research opportunities for post-doctoral candidates in various fluid dynamics fields.

## Mentorship

You will benefit from personal mentorship and guidance from passionate researchers and faculty.

## Diversity and Inclusion

A dedicated Diversity and Inclusion Committee will support you throughout your journey. Have questions? Reach out at [vkIWOMENinfluidynamics@vki.ac.be](mailto:vkIWOMENinfluidynamics@vki.ac.be)

## Access to World Unique Facilities

VKI operates 48 testing facilities and wind tunnels, which allows VKI to study complex flows ranging from subsonic, over transonic and supersonic to hypersonic flows, with speeds up to Mach 14 as well as plasma facilities such as the well-known "Plasmatron", water tunnel, turbomachinery facilities, vehicle facility, wind gallery, water spray, aeroacoustics and solid propulsion facilities, industrial test rigs.

## Fellowships Available and no Tuition Fees

Citizens of contributing countries, including Belgium, Bulgaria, Czech Republic, France, Germany, Greece, Hungary, Iceland, Italy, Luxembourg, Norway, Portugal, Romania, Türkiye, The Netherlands, and The United States of America, are exempt from tuition fees. Additionally, VKI fellowships are available to further support eligible candidates.



### HOW TO ENROLL?

#### Research Master and Short Training Program

| [vki.ac.be](http://vki.ac.be) (education)

#### PhD and Post Doc Programs

| [jobs.vki.ac.be](http://jobs.vki.ac.be) (fellowships)

INFO: [secretariat@vki.ac.be](mailto:secretariat@vki.ac.be) | +32 2 359 96 04