
University of Stuttgart
Germany
Focussing on
the Future.
Thinking Ahead.
Connecting
Brains

The University of Stuttgart is going to increase its international presence and concentrate on themes that are of central importance to our future.

**Prof. Wolfram Ressel**
Rector

## At a Glance
# University of Stuttgart – Connecting Brains

- An interdisciplinary profile with key competences in the fields of engineering, natural sciences, humanities, economics, and social sciences
- Among the top institutions in university rankings in Germany
- An international range of more than 130 study programs including Master's courses taught in English
- Close cooperation with neighboring institutes of the Max Planck Society, the Fraunhofer Society and the German Aerospace Center on site
- Close cooperation with the nearby German Institute for Textile Research, the Materials Testing Institute, and the German Literature Archive Marbach
- A high level of third-party funding
- A worldwide network for exchange and cooperation
- Motor for the economy and society of one of Europe's largest high-tech regions

# Research

**Studying for a doctoral degree**
**Research-based doctoral work**
M.Sc., M.A. or Dipl. graduates can study for a doctoral degree (equivalent to PhD) in any subject offered at the University of Stuttgart.

In Germany, PhD work is generally research-based. The usual way to acquire a doctorate is to find a professor who is prepared to supervise your research. Apart from this, there are Research Training Groups, taught PhD programs and other doctoral programs as well, please see:

**www.gradus.uni-stuttgart.de**

**Our mission**
In the center of a region of great economic strength as well as cultural integrative power, the University of Stuttgart sees itself as the hub of university, non-university and industrial research as well as a guarantor of a holistic, high-quality, research-led teaching.

Our research activities focus on eight interdisciplinary fields:

**Main fields of research**
- Complex systems and communication
- Modeling and simulation technology
- New materials
- Design and technology of sustainable living spaces
- Integrated product design and production engineering
- Mobility
- Sustainable energy supply and the environment
- Technology concepts, contexts and evaluation

# Teaching

Life at the university has a clear international profile. A wide range of partnerships, inter-institutional agreements and exchange programs with universities worldwide place Stuttgart at the heart of a global network. The international Master's programs, taught in English, are popular with students from all over the world.

The University of Stuttgart constantly strives to react to the dynamics of change in the knowledge society. It ensures that, whenever required, its research and teaching activities have an interdisciplinary focus, and makes use of the latest teaching technologies, such as e-learning, blended learning, and virtual classrooms.

**Faculties**

- Architecture and Urban Planning
- Civil and Environmental Engineering
- Chemistry
- Energy-, Process- and Bio-Engineering
- Computer Science, Electrical Engineering and Information Technology
- Aerospace Engineering and Geodesy
- Engineering Design, Production Engineering and Automotive Engineering
- Mathematics and Physics
- Humanities
- Management, Economics and Social Sciences

**Double degrees (M.Sc.) with international partner universities**

**more than 500 exchange programs with over 350 universities worldwide**

**English-speaking M.Sc. programs**

**~ 6.000 international students from more than 100 countries all over the world**

**Professional School of Education (PSE)**

**over 130 study programs**

**~ 28,000 students enrolled in 10 faculties**

**Quality management system in teaching and learning**

## Highlights

**Simulation Science**

The Excellence Cluster Simulation Technology (SimTech) is one of the largest interdisciplinary research efforts in Europe to advance modeling, numerical and data mining techniques, and cyber infrastructures for a broad class of simulation applications.

**ARENA2036 – Active Research Environment for the Next Generation of Automobiles**
Here, researchers from university, non-university research institutes and industry jointly research on and develop the next generation of production processes for flexible automobile manufacturing.

**Europe's most powerful computing alliance**
Germany's three federal High-Performance Computing Centers – in Stuttgart, Munich and Jülich – have combined to form the Gauss Center for Supercomputing, Europe's most powerful high-performance computing alliance.

**Visual Computing**

The Visualization Research Center (VISUS) plays a key role in advancing visualization techniques for big data in the context of interdisciplinary collaboration, e.g. in the Collaborative Research Center (CRC/TRR) "Quantitative Visual Computing".

**e-Humanities**
e-humanities are well established at the University of Stuttgart – especially the disciplines of computer linguistics (including the Collaborative Research Center/CRC 732 "incremental specification in context") and e-poetics.

**Production Engineering**

Numerous manufacturing and engineering science institutes, united in the Stuttgart Production Research Center PZS, combine their expertise and knowledge in virtually all areas of production science and technology. Thus, they create synergies not only for education and basic research but especially for industrial applications in sectors such as machinery and equipment, materials and process engineering, automotive, optics, and medical engineering.

**Bionics**
The Collaborative Research Center (CRC/TRR) "Biological Design and Integrative Structures" has been tasked with transferring the design principles of biological structures to an engineering model and with making these principles usable for the construction industry and engineering sector.

**Quantum Technology**

The Institute for Quantum Science and Technology (IQST) is a unique consortium of both universities of Stuttgart and Ulm as well as the Max-Planck-Institute for Solid State Research in Stuttgart. The objective of the association is to research the enormous potential of quantum physics and to make it usable for applications, e.g. for high-performance computers, tap-proof data transfer, extremely precise biomedical sensors or low-loss energy technology.

**SOFIA research aircraft**
The Stratospheric Observatory for Infrared Astronomy, SOFIA, is a Boeing 747SP equipped with a German high-performance mirror telescope. The flying observatory is a joint US-German project.

**Wind tunnel**
Stuttgart's high-performance wind tunnel is one of the most powerful facilities of its kind in the world. It tests the aerodynamic and aeroacoustic properties of vehicles at speeds of up to 265 km/h.

**International Center for Cultural and Technological Studies – IZKT**
The IZKT's research projects focus on the interfaces between individual scientific disciplines, investigating the interaction between cultural formations and technological innovation at an international level.

**University of Stuttgart –** an excellent choice

## Success

### Rankings

**QS World University Ranking 2015**
**Rank Worldwide**
by Subject:
- Civil Engineering | **Top 51–100**
- Electrical Engineering | **Top 101–150**
- Material Sciences | **Top 101–150**
- Mechanical Engineering | **42nd**

by Faculty:
- Engineering and Technology | **107th**

**Rank among German universities**
by Subject:
- Civil Engineering | **2nd**
- Electrical Engineering | **4th**
- Material Sciences | **4th**
- Mechanical Engineering | **3rd**

**U-Multirank 2015**
**Overall ranking**
- Top grade in 11 categories

**Faculty 5: Computer Science, Electrical Engineering and Information Technology**
- Top grade in 9 categories

**Humboldt Foundation Ranking 2014**
International appeal of research in Stuttgart in the field of engineering: research visits by international scholarship holders and award-winners of the Humboldt Foundation:
- **7th place** in Germany (absolute rank).

**7th EU-Framework Program (2007–2013)**
Number of contributions to projects: 236/ 3rd place among all German universities

**Third-party research funding:**
Amount of third-party research funding per professor: 1st place among German universities (Federal Statistical Office, Nov 2015)

**Partnership in 2 out of 15 federal leading-edge cluster projects:** MicroTEC Southwest & Electromobility Southwest

**Excellence Initiative:**
Cluster of Excellence "Simulation Technology" & Excellent Graduate School "Advanced Manufacturing Engineering"

**One out of 10 federal research campuses in Germany:**
ARENA2036 – Active Research Environment for the Next Generation of Automobiles

**Leibniz Prizes since 2000**
The Leibniz Prize, also described as the "German Nobel Prize", is considered to be the most eminent research prize in Germany. Four Stuttgart scientists have been awarded the Leibniz Prize since 2000 – for their excellent work in the fields of linguistics, experimental physics, cybernetics, and theoretical chemistry.

**DFG/German Research Foundation Funding Atlas 2015**
DFG-Grants per professor
- Humanities and Social Sciences | **place 4**
- Natural Sciences | **place 7**

DFG-Grants in absolute figures
- Civil Engieering and Architecture | **place 2**
- Engineering Sciences | **place 4**
- Heat Technology/Process Engineering | **place 9**
- Information Techology, System & Electrical Engineering | **place 3**
- Mechanical Engineering | **place 7**

**CHE University Ranking 2015/16**
Top positions for "outstanding" results in at least five ranking criteria:
- Information Technology
- Physics

## Stuttgart City and Region

**Stuttgart Highlights**
Art and culture, shopping and sports, entertainment and traditional Swabian cuisine – the city of Stuttgart, with its charming position amidst forests and vineyards, the Swabian Mountains and the Black Forest, and with its attractive leisure activities and broad range of cultural events, caters to all tastes. One of the highlights in Stuttgart's cultural life is the Stuttgart State Theater with its worldfamous ballet, renowned theater and an opera that has been voted opera house of the year several times over.

**Stuttgart region – one of Europe's largest high-tech regions**
- Region with the strongest innovation index in the State of Baden-Wuerttemberg (State Statistics Office Baden-Wuerttemberg 2014)
- Number of patents compared to other regions in Europe: 2nd place (OECD 2012)
- Industry investment in Research and Development: 3rd place in Europe (Eurostat 2011)

The Stuttgart region is a powerful business location, especially for high-tech industries.

It is a main center for:
- the automotive industry
- mechanical engineering
- electrical engineering
- information and communication technology
- environmental technology

Many global players, such as Bosch, Daimler, Porsche and IBM Germany, have their head offices and manufacturing sites in and around Stuttgart. In addition, numerous smaller companies are located here, many of them recognized as worldwide leaders in their field.

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**Scan code or go to**
**www.uni-stuttgart.de/connecting_brains/links**
**to get useful links to:**

- Alumni
- Application information
- Collaborative Research Centers (CRC)
- Doctoral degree – admission
- Doctoral degree – programs
- Excellence Initative
- Faculties
- International Affairs
- Research
- Start-ups & technology transfer
- Study programs
- Welcoming service

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