

Visionaries for the topics of the future. The Stuttgart Way



We are visionaries for the topics of the future on the Stuttgart Way of integrated interdisciplinary research and teaching.

Vision

1848 The Fehling Test

From 1839 to 1883 Hermann C. Fehling was

Professor of Chemistry at the Polytechnic School

Stuttgart. He was the discoverer of the "Fehling solutions" for determination of sugar content.

But Fehling was much more important than his

discipline and a magnet for the general public.

solution. He made Chemistry in Stuttgart a flagship

Lightweight construction | 1962

From the 1960's, the University of Stuttgart developed into a center of lightweight construction for natural construction and supporting structures oriented to biological models (among others Frei Otto).



Chemistry at the Technical University of Stuttgart, and afterwards he was an Assistant Professor in the Chemical Institute until 1924. In 1938 Schlack discovered during his experiments the polymerisability of caprolactam, and he developed from this a polyamide fiber, so-called nylon.

1890

Technical

University

1900 Right to grant

From 1915 to 1922 Paul Schlack studied

a vocational school

The first motor-driven carriage | 1886

From 1857 to 1859. Gottlieb Daimler studied mechanical engineering in Stuttgart. In the year 1886, he was the first person to install a motor into a carriage, and hence became the inventor of the automobile a milestone in history.

1829

Foundation as

1996 Supercomputing

In the 1950's already the capacity of the Stuttgart mainframe computer was comparatively high for the requirements of aerospace technology. In 1997 the Supercomputer Center (HLRS) became the Federal Computer Center, Thus a further step was taken on the way to today's focus on simulation technology.



2012 Europe's largest driving simulator

The innovative driving simulator enables the research and development of intelligent driving assistance systems that are intended to reduce both fuel consumption and also the number of traffic accident victims.

1983
English-language
international Master's
Degree Programs

2010 STEM College 2012 System accreditation 2014 "Joint Degree Program" with Georgia Tech

of molecular biology. He was one of the

founders of the study program "Technical

Biology", which is today among the most

successful reform attempts in Germany in

the field of biology.



1996 | Towards the sun

The solar glider lcaré II is a project of the aerospace technology department. It is a masterpiece of lightweight construction. In 1996 lcaré II made a successful attempt at a world record: The solar alider was able to fly the greatest distance to date, 350 km, without a stopover.

2012/13 1st Research campus ARENA2036 2007 Success in the excellence initiative

2016

The Times Higher Education Ranking: 1st place worldwide in the category external funding from industry

2005 1st Collaborative Research Center (CRC/TRR)

In the Center of the CRC/TRR "Control of Quantum Correlations in Tailored Matter", the development of new states of matter and dynamic quantum states takes place. In this process the scientists of the universities of Stuttgart, Tübingen, and Ulm, and also of the Max Planck Institute for Solid State Research in Stuttgart intend to connect aspects of quantum optics with Solid State physics.

Mission statement



The University of Stuttgart is one of the leading technically oriented universities in Germany with global significance. Located centrally in an economically strong region with vast cultural integration, the University sees itself as a hub of university-based, extramural and industrial research. Furthermore, it takes a role as a guarantor of research-based teaching, focused on quality and holism. The University is dedicated to researching and strengthening the interfaces between technology, society and culture in an interdisciplinary manner, defined as the Stuttgart Way. This means integration of engineering, natural sciences, humanities and social sciences based on the fundamentals of cutting-edge research at a disciplinary level.

The University of Stuttgart implements innovative concepts in research and teaching in order to provide knowledge and strategies for a meaningful and sustainable development. It focuses on basic research that is both knowledge oriented as well as application related and is actively part of regional, national and international research networks. The University of Stuttgart is committed to the principle of unity between research and teaching. Students acquire knowledge, expertise and the power of judgement, in accord with the guidelines of scientific research and awareness. The University fosters fascination for the sciences, supporting its students and junior researchers at all stages of their careers. It promotes independent thinking and provides an environment for responsible action. In doing so, the University educates individuals into exceptional experts who think integratively and globally and act responsibly in sciences, economy and society.

Founded in 1829, at the beginning of the Age of Industrialization, the University of Stuttgart continues to prepare the way for innovation within an economically and scientifically powerful region and contributes to the economic success and prosperity of our society. This process combines with the requirements of a social and cultural change, which allows an early and extensive input of social interests in research and design, as well as teaching and further education.

As an employer, the University provides support for all of its employees and enables individuals to reach their full potential. The University strives for a healthy work-life balance as well as equality and diversity. It is committed to a leadership style of cooperation and esteem and to dealing with one another fairly – independent of status, age, origin or gender. In its decisions and administrative procedures, the University aims for greatest possible transparency and promotes loyalty to its alumni, partners and sponsors.



The University of Stuttgart stands for openmindedness, individuality and community spirit. It brings together students that are eager to learn, highly motivated employees, outstanding teachers, excellent researchers as well as visionary thinkers and inventors.

By means of its culture of integration, the university creates and conveys knowledge for shaping the future of our society.



Research

Globally renowned

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The University of Stuttgart is considered to be among the outstanding research universities in Germany and worldwide. For years, scientists here have conducted internationally competitive, cutting-edge research, and they prove their success again and again in the competition for funding and excellence projects. Thus the University offers excellent conditions for research with numerous interdisciplinary projects that are relevant worldwide and achieve international recognition.



Simulation sciences

In 2000, the University of Stuttgart was the first university in Germany to research simulation technology in its whole interdisciplinary breadth and it thus achieved a worldwide reputation. To the present day the University has lost nothing of this glamor, on the contrary: the Cluster of Excellence Simulation Technology (Sim Tech) is already being funded in the second phase of the Excellence Initiative of the Federal Government and the Federal States' Governments, and it will also play a central role in the public competition for the future Excellence Strategy for funding top university research. In Sim Tech more than 200 scientists bundle simulation models and methods that up to now were only developed in isolation, into unified systematic knowledge with the goal of making computer simulations more efficient, predictions more reliable and visualizations more precise. With this unique approach, scientists from the fields of engineer ing, mathematics, computer science, natural science and also humanities and social sciences forge new paths together in the research area of modeling complex problems and of computer simulation. The Research Project "Data-Integrated Simulation Science" is aimed at new possibilities to store and analyze very large guantities of data – key word Big Data – a regional Research Alliance of the Universities of Stuttgart and Heidelberg.

The dynamic simulation of systems with very large numbers of particles is the focus of the Collaborative Research Center 716. The computer-reconstructed behavior of atoms and molecules can answer scientific questions.

Production technologies

In Stuttgart numerous institutes in the fields of construction, production and vehicle technology and also additional partners combine their experience and their knowledge in practically all fields of production technology. This creates decisive synergies not only for research on basic principles and teaching, but also especially for industrial applications. An example of this are the fields of mechanical and systems engineering, infrastructure, material science, process engineering, automobile construction, optics and medical technology.

The Research Campus ARENA2036 (Active Research Environment for the Next Generation) bundles the competences established in the region in lightweight construction and innovative production technologies. In a 10,000 m² high-tech center at the University of Stuttgart, Science and Economics jointly develop automobile production and the automobile of the future. The "Graduate School of Excellence advanced Manufacturing Engineering" (GSaME) conducts promotion of the new generation in the context of its internally developed interdisciplinary doctoral studies program, which is intended for future technical and management tasks at a university or in industry. The doctoral students contribute with their research to working out the scientific foundations of production design, dominating industrial production in times of internationalization and digitalization, and designing the factories of the future.

Quantum technologies

In the world of quantum mechanics everything is different, since in the range of a few nanometers, classical ideas of matter are often no longer correct. The University of Stuttgart is one of the German universities at the forefront of making this world accessible – from research on principles to the development of technological applications.

Thus the scientists at the "Center for Integrated Quantum Science and Technology IQST" research, for example, the fusion of gases, crystals and supra-fluidities. Scientists from the one-ofa-kind association of researchers from the Universities of Stuttgart and UIm together with the Max Plank Institute for Solid Body Research have been able to successfully create a suprafluidity from dysprosium atoms, among other projects. The so-called "Quantum Ferrofluid" is not only a supra-fluid, but it also displays astounding magnetic characteristics similar to the ferrofluid known in the Classical world. For example, it can form drops that are one million times lighter than helium or water drops. The new kind of material could be the first step to a supra-crystal, a spatially arranged material with suprafluid properties.

The research team of ZAQuant, the interdisciplinary center for applied quantum technology has set for itself the goal of further developing novel nanophotonic quantum sensors. To this end the sensors must use the most recently developed principles of quantum physics and of nanophotonics and combine them with each other. In this respect the research method pursued on the ZAQuant is unique internationally, which takes place in a research building built specifically for this purpose.

To build upon the IQST, the "Alliance for quantum innovation" of the Universities of Stuttgart and UIm have made it their goal to confront the challenges of the second quantum revolution and blaze trails to technical application. To this end, the knowledge of biology and medicine gained at UIm is to be implemented in the center for applied quantum technologies ZAQuant in prototypes.

The linking of broad fields of investigation has as its goal new possibilities for sensors, metrology and material research. The Collaborative Research Center (CRC/TRR) "Controlled interaction in customized material" (Cocomat) investigates quantum physics phenomena, combines atom- and solid body physics into new applications and investigates novel quantum states of matter. In this process, scientists study the border regions of physics and biology. An opto-electronic measuring station enable research of applied quantum technologies.



Confronting the challenges of the future with quantum research.

Digital Humanities

The Digital Humanities take a new look at the contents of humanities and broaden their spectrum using computer technology – for example in linguistics: The Collaborative Research Center (CRC 732) "Incremental specification in context" deals with doubleand multiple meanings in language, thereby combining theoretical linguistics and computer linguistics.

The Center for Reflected Text Analysis (CRETA) researches technical methods and tools for text analysis in the research area of Digital Human ities. The methods are to be developed and employed across subject matters for posing text-analytic questions from literature, language, history and social science as well as philosophy. The Stuttgart Research Center for Text Studies conducts interdisciplinary research in areas of text science, focusing on the main subject of hermeneutics, Material Studies (in association with the German Literature Archive Marbach) and Digital Humanities (together with the Institute for Natural Language Processing of the University of Stuttgart). The Center has initiated among other things the project "ePoetics", which prepared a selection of twenty Germanlanguage poetics as digital text corpus and developed interactive analysis and visualization tools.

The Stuttgart Research Focus "Language and Cognition" operates interdisciplinary research in the fields of linguistics and cognition. In the center of this is a collaboration unique in the German-speaking area between theoretical linguistics (Institute for Linguistics) and Computer Linguistics (Institute for Natural Language Processing).

Architecture and adaptive building

Current developments in the field of computerbased modeling, simulation and production offer architecture new possibilities to analyze principles from nature, to transfer them into an engineering model, and to apply them to construction and other areas of technology. The goal of the Collaborative Research Center (CRC/TRR) "Biological Design and Integrative Structures" are multi-functional, adaptable and at the same time ecologically efficient structures that leave the limitations of traditional building construction far behind. To this end scientists from the Universities of Stuttgart, Freiburg and Tübingen have in sight the ecological features of natural structures, in addition to the improvement of the efficiency of technical constructions. Further research activities in the field of adaptive shells and structures aim to modify geometries and also material and component properties so that material and energy is saved on a scale that was previously considered unattainable.



Science at the highest level

The University of Stuttgart, nestled in one of Europe's most vibrant industrial regions, links science, economy and society. This creates many forms of inter-disciplinary collaboration - for instance, in numerous Collaborative Research Centers (CRC sometimes CRC/TRR). but also in applications-oriented research assignments.

The University also maintains a close relationship with non-university research institutions such as the Max Plack Society, the Fraunhofer Society, the German Aerospace Center and the German Literature Archive Marbach. Hence the optimal prerequisites for cutting-



SOFIA enables unique glimpses of distant galaxies

edge research at the highest level are all to be found in Stuttgart.

Gauss Center for Supercomputing

High Performance Computing is both science and also key technology in today's society. The access to high- and highest-performance computers and their use has become indispensable for scientific work in many fields of research. Industry and economics today develop top-quality products that cannot be designed without model formation and supercomputing The three most efficient national supercomput ing centers (HLRS Stuttgart, JSC Jülich and LRZ at Garching) together make up the Gauss Center for Supercomputing (GSC). Together they offer one of the largest and most powerful supercomputing infrastructures in Europe and undertake a wide spectrum of industry and research activities. The Stuttgart HLRS operates "Hazel Hen", currently the quickest supercomputer in Europe.

Flying Observatory SOFIA

The Stratosphere Observatory for Infrared Astronomy (SOFIA) is a German-American project to research the cosmos. The University of Stuttgart is in charge of the scientific guidance of the mission, and it thereby underscores the international claim of Stuttgart aerospace science. With a 2.7m telescope integrated into a modified Boeing 747 SP, astronomic observations are carried out in infrared and sub-milli-

meter wavelength ranges far above the interference of Earth's atmosphere. The distance infrared spectrometer FIFI-LS of the University of Stuttgart enables scientists to observe stars and solar systems in creation. The project, which is comparable to a galactic expedition can already point to numerous scientific successes.

Wind Tunnel

In the large-scale vehicle wind tunnel at the Research Institute for Automotive Systems and Vehicle Engines, real conditions on the streets can be copied with extreme precision. The treadmill system can be exchanged for serial and racing vehicles, a flow stabilizer and a side wind generator help reproduce the most realistic possible test conditions. This testing and measurement equipment enables us to better reach the goals of modern automobile construction, such as for example the reduction of CO₂ emissions and of internal noise and also the increasing of costs efficiency by optimization of wind current resistance and of the development process. Thus the wind tunnel makes an important contribution to the readiness for the future of the automobile city Stuttgart.

International Center for Cultural and Technological Studies (IZKT)

Technical innovations change not only our everyday life, but also our culture and our thinking. At the same time, the way we handle technology is influenced by culture.

international level. Stuttgart to the general public.

Visual Computing

The goal of the Collaborative Research Center "Quantitative Methods for Visual Computing" is to simplify the representation and processing of continually increasing amounts of data in order to further increase the quality of computer generated images. To this end processes are developed to make the applicability of data and images measurable and determinable. Behind "Visual Computing" there are numerous applications from research and industry and also private life. One field of research, for example, is the effect of virtual environments and city models on people: How are three-dimensional data - real or simulated – collected? Does the representation include all important information? What is the added value offered by new interaction options? New technologies such as brain-computer interfaces, among others, aid in the research. The Visualization Institute of the University of Stuttgart as a central university research institution is unique in Germany.

The IZKT combines research at the interfaces of culture and technology. Of particular interest are the connections and influences between cultural changes and technical progress at an

With the support of extramural partners, the Center offers a novel forum for interdisciplinary and international exchange and at the same time serves as a showcase for the University of

Drops under extreme conditions

Drop-dynamic processes take place in many areas of nature and technology – often under extreme environmental conditions. There is still not much fundamental knowledge about these processes. Hence the goal of the Collaborative Research Center (CRC/TRR) "Drop-dynamic processes under extreme environmental conditions" is to glean a more profound physical knowledge about these

processes in order to improve technical systems and be better able to predict natural processes. The CRC/TRR is complemented by the German-Italian graduate students' association "Technologies for Drop Interaction" (DROPIT), which analyzes the difficult to distinguish detailed process and also the microstructure of the surfaces.



The University of Stuttgart sets up a close relationship and a successful transfer of knowledge and technology between its research institutions and business enterprises in the region – and beyond the region. The very practical orientation benefits research and teaching. At the same time, economic players profit from rapid access to new scientific knowledge and contact to experts in their specialized fields. There are numerous possibilities of collaboration for businesses: From small assignments such as measurements on the university's diagnostic and measuring equipment, use of machines, analyses or expert reports to research and development projects and longer-term designed research assignments. The collaboration with the University, for example in the context of practically oriented Master's theses and dissertations, helps businesses to make contact with graduates and with the next generation of scientists and thus assures well-educated new blood.

The results of the University's research, especially discoveries, patents and industrial patents, can be valued economically in different ways, for example through licensing. In the context of cooperation agreements, the University of Stuttgart accompanies the process of further development of licensed technologies into market-ready products.

> Innovative and reliable partner for the transfer of knowledge and technology

With ContactUS! the University of Stuttgart offers a contact point for both smaller and midsized businesses and also for global players in the economy. ContactUS! supports businesses in the search for the correct contact person and provides discipline-appropriate contacts to scientists and institutions of the University in addition to an overview of the research focuses of the University.ContactUS! does not only serve to initiate cooperation arrangements with businesses, but also to construct long-term strategic relationships with them and involve the companies early in research, teaching and continuing education.

Startups and new entrepreneurs

Baden-Württemberg with its large number of startups is among Europe's most active regions Startups from top research are important for this power of innovation. Anyone who would like to go into business for himself taking results of research or a project, will find at the University of Stuttgart numerous funding programs, consulting offers and information - from study programs to accompanied startup programs. from consulting appointments to the provision of office space.

ContactUS! Science meets economics

Founding a startup with Startup Autobahn

The Drive of Silicon Valley at the center of the art of engineering: Startup Autobahn is a project common to the University of Stuttgar the Research Campus ARENA2036 and also the companies Daimler and Plug and Play. Startup Autobahn focuses above all on hardware- and software oriented projects and ideas that deal with the future of mobility.

Founding a startup at the University of Stuttgart

The founders of startups from the university environment put their scientific knowledge into practice directly as added economic value. Whether it be scientific publications or founding a startup, the TTI (Technology Transfer Initiative) supports students and research assistants from the University of Stuttgart and neighboring universities with multifaceted measures on the way to entrepreneurial self-sufficiency.

Open Research Platform

Who researches what? Where do I find what devices? The open research platform gives guick answers to businesses who wish to search for a research partner or use research infrastructure at the University of Stuttgart.

Patents or licenses

Whether in chemistry technology, energy, material processing, electrical devices, optics, measurement techniques or engineering – the range of patents of the University of Stuttgart is very wide, and it illustrates the international position as effective pioneer for innovation. The University boasts more than 1,000 patent applications and patents, with which it - together with software and licensed expertise – reaps 7-figure income each year. The patent portfolio in the field of laser technology and also patents in the fields of material flow/logistics and biology, for instance, are especially interesting.

Intra- und Entrepreneurship

Since the winter semester 2016/2017, the University of Stuttgart offers a Master's study program for professionals on the topic "Intraand Entrepreneurship, jointly with Stuttgart Media University". The focus of this continuing education program is on managing and implementing technology-oriented company foundation and innovation projects. The study program combines business- and technology-related contents that are oriented to the special requirements of intra- and entrepreneurship.



Teaching

Attractive for students

The study programs and fields of study



Engineering fields

The University of Stuttgart offers first-class conditions for studying engineering. The diverse study programs range from Architecture, Urban Planning, and Civil Engineering to Electrical Engineering, Information Technology and Computer Science to Simulation Technology. Vehicle and motor technology also play an important role in Stuttgart. The more recent study programs include Electromobility, Integrated Urbanism and Sustainable Design and also Didactics of Technology.

Science and mathematics

Scientific foundations are imparted in Mathematics, Physics and Chemistry. Besides, there are specialized courses of study, such as food chemistry and technical biology.

Language and cultural studies

Study programs such as English, German, Romance Languages, but also Philosophy of Technology and Art History are included in the wide range of language and cultural studies at the University of Stuttgart. These are complemented with interesting disciplines such as Language Theory and Comparative Linguistics, Computer Language Processing, Computational Linguistics and Practiceoriented Philosophy of Culture.

Economics and social sciences

The University of Stuttgart offers a wide array of study programs with social relevance from Technically oriented Business Administration and Empirical Political and Social Research to Sports and Social Sciences to Information Systems.

Studying at a top research university

The strong third party research funding received by the University of Stuttgart leads to outstanding conditions for research and teaching. Here researchers work with the most modern equipment on large, future-oriented projects. They know exactly what they are talking about when they teach contents and methods. Students also profit from state-of-the-art equipment and technology. Many research facilities are also available for teaching. For example, Europe's largest driving simulator enables a large number of experiments on automobiles. The Visualization Institute VISUS is able to illustrate massive amounts of data. The development of new materials and substance is tested for stability at the materials testing institute.

The University of Stuttgart has worldwide connections. It offers 555 exchange options with partner universities on all continents. There, students can gain experience abroad and get a view of the science of other countries. Once there, students get an insight into the world of science in a foreign country and gain international experience. However, students remaining on site will also profit from an international research culture: 20 percent of all students come from abroad.

Interdisciplinary focus projects combine the knowledge and methods of different lines of

research. One significant example for such an interdisciplinary project is the excellence cluster Simulation Technology (SimTech), which also offers an elite study program.

Of course, engineering sciences, natural sciences, the humanities and social sciences at the University of Stuttgart work together. Researchers do not stick with their own kind at the University of Stuttgart. They are part of active exchanges with the urban community through field laboratories and public projects. Thus, knowledge does not accumulate in vain but the research regularly receives new impulses from the challenges of the future. Here there is lots of room for own good ideas, discoveries and developments.



Research-led teaching and learning

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The Faculties

With its research-driven teaching and its interdisciplinary-oriented profile through the integration of engineering sciences, natural sciences, the humanities and social sciences the University of Stuttgart has positioned itself as a nationally and internationally sought-after study destination. With its wide range of subjects, the university is considered a futureoriented place for successful research and teaching. It creates framework conditions for technically and methodologically top-quality and unified study programs, successful graduations and a comprehensive formation of the students' personality. The University is divided

> Architecture an Urban Planning



The MINT-Kolleg Baden-Württemberg is an institution for new students and those interested in studying, who would like to improve their knowledge in the STEM subjects Science, Technology, Engineering and Mathematics. (MINT is the German equivalent for STEM.) The college was founded in 2010 as a shared institution of the University of Stuttgart and the Karlsruhe Institute for Technology, in order to make the transition from high school to university easier. The comprehensive options are divided into courses preparing for and courses complementing university studies. Those interested in studving at a university can choose, according to their level of knowledge, between compact courses, such as the three-week pre-course, or preparatory courses, lasting from one to two semesters.

In these courses, which coincide with the university courses, students can strengthen and deepen their knowledge. Typical courses deal with higher mathematics or technical mechanics. The courses take place in close coordination with the respective study programs. Exam-Preparation courses and general courses, such as work techniques, time-management and self-organization, round off STEM's offer.

MINT-Kolleg – The best way to begin studying

Additionally, the "open study room" allows students to learn independently under qualified supervision. Each semester, roughly 1,400 students attend the MINT-Kolleg courses in Stuttgart, Furthermore, around 1,600 new students visit the pre-courses before entering the university. The MINT-Kolleg has 20 highly-qualified teachers who support the students in preparing themselves optimally for studying science and/or engineering at the university.

> The MINT-Kolleg offers courses which lav the foundation for an optimal start to studying at the university.



The University of Stuttgart is a cosmopolitan institution of higher leaning where scientists and scholars are glad to receive students from all over the world. Young persons from more than 100 countries and all continents currently compose one-fifth of the students at the University of Stuttgart. Our English-language study programs are especially popular among international students, and these are continually being expanded. Studying at the University is an international experience, and this aspect is being actively expanded upon: Numerous partnerships, institutional arrangements and formal exchange programs with universities around the world demonstrate the University's global networks. The University of Stuttgart participates in the global scientific society in national and international networks such as TU9, European University Association and Magalhães.



International Center (IZ)

At the Vaihingen Campus, the International Center (IZ) offers information and study guidance regarding study stays abroad, partner universities, and double degree programs. For international students and applicants the International Center offers German courses for preparation of the Exam of German as a Foreign Language, and also preparatory, intensive courses for international exchange students. The Center provides practical information on living and studying in Stuttgart. International students receive professional advising, supervision and support in office hours, in special supervision programs and at regular events that facilitate integration. The Center is also an contact point and also the interface between important contact point for quest researchers university and extramural institutions with from other universities who wish to inform which the international visiting scientists will themselves about a research stay at the University come into contact. of Stuttgart.

Double Degree programs offer students the Welcome Center The Welcome Center of the University of option of acquiring a degree from two univers ties in the context of their Master's Dearee Stuttgart offers a comprehensive service for guest researchers to facilitate their adaptation studies. The University of Stuttgart currently to Stuttgart. This includes in addition to suppor offers double degrees with Australia, Brazil, Canada, China, Egypt, France, the Netherlands for preparing and carrying out their stay at the University of Stuttgart, support with paper Japan, Malaysia, Sweden and the USA – in work that arises in connection with the stay. selected Master's study programs. For the Options are complemented by support and double degree, a pre-structured program must integration activities during the stay. In addition, be completed, which as a rule includes a onethe Welcome Center supports employees year stay at the host university. The master's of the institutes where international scientists thesis is directed and evaluated by professors from the University of Stuttgart and the respecare active as quests. The Welcome Center of Stuttgart University considers itself the central tive host university.



Double Degree

Welcome Campus – integration of refugees

With the Welcome Campus, the University of Stuttgart has set up a coordination point for refugees interested in studying that is intended to facilitate their (re-)entry into university studies. The Welcome Campus offers individual consultations. The further support measures of the University include especially language promotion through language mentors, language exchanges and language courses among other things. The choice is continually being expanded, which enables integration of refugees as quickly and smoothly as possible into the University's daily life.

Life-long learning and continued education are today more important than ever. Society, economy and job descriptions are in continuous transformation. Due to demographic changes, a higher retirement age and the predicted shortage of specialized labor, people will have to work longer than ever. The requirements on the job market increase, and the creation of new technologies requires continual refreshing of one's knowledge in order to maintain one's own employability. Well and continually educated skilled workers are of great importance for business and for the whole society. Continuing education is therefore increasingly regarded both among employees who wish to keep up to date, and also by companies, who place a value on scientifically grounded continuing education of their employees to be invaluable.

A parallel study program enables professionals to acquire new qualifications without having to abandon their job. All Master's programs for parallel study for professionals at the University of Stuttgart are designed in this way. In addition to a first degree qualifying for the profession, these programs require at least one year of gualified professional experience which must be demonstrated in a field relevant for the study. The students study in the online master study programs according to the so-called "blended learning"-concept. This stipulates that roughly 80 percent of classes are attended online and according to own arrangement. 20 percent are attended in in-person classes. The options in construction economics and international building law are conducted as compact "block" modules at the University. The majority of Master's online study programs (Citizen Participation, Logistics Management, Integrated Gerontology, Intra- and Entrepreneurship) can also be taken in the context of so-called contact studies in individual modules. These lead to a certificate from the University and can be applied to a Master's Degree program.

The following Master's Degree Programs for employed persons are currently offered at the University of Stuttgart:

- Building Physics M.BP., Master Online
- Citizen Participation M.Sc., Master Online
- Logistics Management M.B.E., Master Online
- Integrated Gerontology M.Sc., Master Online (expiring)
- Intra- and Entrepreneurship (tech) M.B.E., Master Online
- Industrial Real Estate Management (IREM), M.Sc.
- International Construction: Practice and Law M.B.E.

Center for Teaching and Continuing Education, Language Center

Center for Teaching and Continuing Education

Anyone who as an outsider enjoys participating in the University's ambiance and wishes to continue their education has come to the right place at the Center for Teaching and Continuing Education. The center promotes exchange between disciplines, cultures and generations and offers all interested persons a place for university learning and continuing education. In the context of Studium Generale, for instance, auditors can attend regular classes and special classes organized for auditors, without being matriculated in the University or employed there.

The Coordination Office for Scientific Continuing Education also offers comprehensive educational possibilities on different topics: from (e-)seminars and (e-)workshops to continuing education courses on topics such as Coaching,



Mediation, Project Management and Management. The development of individual work techniques is included among the options, along with courses for social commitment or social entrepreneurship.

University Language Center

The Language Center offers numerous general, degree-oriented and professionally oriented language courses from Arabic to Esperanto, Russian and Japanese – also in periods between academic terms. The 16 languages include, of course, German as a foreign language. The supplementary curriculum "Learning to teach German as a foreign language" takes into account the continually increasing need for teachers for German as a foreign language and as a second language with the appropriate language teaching skills.

The work of the Language Center makes an important contribution to the sought-after internationalization of the University of Stuttgart. Students will receive support in learning the University languages of German and English, and they will be assured additional advantages on the international job market. The Language Center values inter-culturalism, communication skills and multilingualism in its teaching staff. The opportunity is directed at students enrolled in all departments. In spite of this, free places may be taken up by employees of the University of Stuttgart, students of other universities and also auditors.

Attractive and reliable employer

Extremely family-friendly

With over 5,000 employees, the University of Stuttgart is an important employer in the regional capital – and a family-friendly employer as well. Part of the University strategy is to achieve compatibility of profession, studies, and family. Information and practical help concerning this topic is offered by "Service Uni & Familie". which is a part of the Center for Gender-Equality of the University of Stuttgart. Due to its commitment in these matters, the University has been repeatedly commended as a "family-friendly University".

STEM Davcare Center

A university daycare center for children from 0.5 to 6 years old is currently being planned on the Vaihingen Campus. Here children will be introduced in play to scientific and technical topics with a specific, didactic concept that fits with the profile of the University of Stuttgart. Starting in 2018, children of students and employees will be able to research and play to their heart's content in the new Davcare Center.

Family friendly infrastructure

At both locations, the University places value on a family-friendly infrastructure: At the central location there are options for breastfeeding and diaper changing, in new and reformed buildings further spaces are to be added. A parent-child room in the student's building at the Campus Vaihingen is being planned, and in addition the Student Center provides family housing units for students with children.

Childcare

For the young children of employees the University provides daycare places at daycare centers. Children of students receive preference to childcare places at the institutions of the Student Center Stuttgart and from the association Stups e.V. in Stuttgart, Esslingen and Ludwigsburg. In emergencies, the "Service Uni & Familie" offers for employees and students care for children between the ages of 0 and 12 years – in exceptional cases even around the clock. In addition, "Service Uni & Familie" also coordinates the Stuttgart Research Holidays, a creative and exciting day program for school children during the school holidays.



Rankings

THE/The Times Higher Education Ranking 2016/17

External funds from industry per researcher:

- 1st place internationally
- Doctoral degrees granted per researcher:
- in the top group with a 98.2 score (out of 100) Financial means per researcher:
- in the top group with a 95.8 score (out of 100)

QS World University Ranking 2015

Rank attained worldwide

bv subiect:

- Civil engineering | Top 51–100
- Electrical engineering | **Top 101–150**
- Materials science | Top 101–150
- Mechanical engineering | 42nd place by faculty:
- Engineering and technology | **107th place** Rank among German universities by subject:
- Civil engineering | 2nd place
- Electrical engineering | 4th place
- Materials science | 4th place
- Mechanical engineering | 3rd place by faculty:
- Engineering and technology | 5th place

U-Multirank 2015

Overall ranking:

• Top grade in 11 categories

Faculty 5 – Computer Science, Electrical Engineering and Information Technology:

• Top grade in 9 categories

EU-Research Framework Program (updated: 11.3.2016)

Number of participations in EU projects: 236/3rd place among all German Universities

DFG Funding: Funding Atlas 2015

DFG grants in absolute figures

- Civil engineering and architecture | 2nd place
- Engineering sciences | 4th place
- Heat technology/Process engineering | **9th place**
- Information technology, system-/electrical engineering | 3rd place
- Mechanical engineering | 7th place DFG grants per professor
- Humanities and social sciences | 4th place
- Natural sciences | 7th place

Humboldt Ranking 2014

International attractiveness of Stuttgart research in the engineering fields: Research stays of international fellows and prize-winners of the A.v. Humboldt Foundation:

• **7th place** in in Germany (absolute ranking)

German Council of Science and Humanities Research Ranking 2012

English linguistics

outstanding

English literature and cultural studies

very good

CHE University Ranking 2015/16

Information technology and physics

• outstanding in at least 5 selection criteria

Third-party research funding per professor

(Federal Office for Statistics, Nov. 2015)

• 1st place among German universities with roughly 744,000 euros per professor 2013

Stuttgart has ideal conditions for studying and researching in one of the most vibrant economic regions of Europe. The region lives from its healthy sectoral mix and its combination of world-class businesses, innovative mid-sized businesses, high technology and cutting-edge research. In Stuttgart one cannot only study and work in excellent conditions but also enjoy an outstanding quality of life: The city is nestled in a picturesque landscape, and it is surrounded by gentle hills, woods and vinevards. Urban flair and idvllic country life, cultural offers varying from opera to hip hop, top sporting events and master chefs make their contribution to the image of the city.



Culture in Stuttgart

Stuttgart boasts great cultural opportunities – it is no wonder that the Swabian metropolis has recently been voted the culture capital of Germany for the second time. The central point of Stuttgart's high culture is the Opera. the Stuttgart Theater, the Stuttgart Ballet and the Kunstmuseum together with the Staatsgalerie with worldfamous performing art. At the Mercedes-Benz world and the Porsche Museum, automobiles become works of art. Also musically Stuttgart calls the tune: International superstars give top-class concerts, at places like the Hanns-Martin-Schlever-Halle, the Porsche-Arena, numerous smaller stages, and naturally also in the world-famous concert halls of the Liederhalle. In Stuttgart, people of different religious and cultural backgrounds live together. The culture and leisure options reflect this diversity: Stuttgart's cultural life is shaped by influences from all cultural circles, and not least of all by a colorful array of intercultural and multi-cultural festivals and events.

Celebrating in Stuttgart

Downtown there is always a reason to party: Night becomes day in countless clubs and tayerns on the "longest party-mile in Germany", the Theodore-Heuss-Strasse ("Theo"). The almost legendary department and residence parties are also popular with many students! In Stuttgart, people celebrate high-spirited festivals throughout the whole year: from the spring festival and the Cannstatt Folk Festival, the traditional Stuttgart "Wine Village" and the idyllic summer festival around the Neue Schloss (New Castle) to the lively, alternative street festivals in the Heusteigviertel, in the Bohnenviertel or at the Marienplatz.

Stuttgart.

Sports

Horse Show.

Relaxing in Stuttgart's nature

Who studies a lot, has to relax as well. There are many opportunities to do so. Stuttgart boasts Europe's secondlargest supply of mineral water, which means there are numerous baths and springs that invite to relax and unwind. With its parks and woods, Stuttgart is one of Europe's greenest big cities. And whoever has had enough of city life, can reach nature guickly – the woods of the regional capital continue to the South on an almost unbroken trail, to Schönbuch, a 156 k m² nature park with wooded hills, enchanted valleys and ponds full of waterlilies. Thanks to its good transportation connections, Stuttgart is the stepping stone to the Swabian Alps, the Black Forrest, Lake Constance and of course to numerous grape-growing regions around the city.

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The Christmas Market, which draws countless visitors from near and far to Stuttgart each year, must also be mentioned. There is always something happening in

Many high-quality sports events fill Stuttgart's sports calendar each year and secure Stuttgart's fame as a sports city. This includes, for example, the Porsche Tennis Grand Prix, the Stuttgart run (marathon), the Mercedes Cup International Weissenhof Tennis Tournament, the German Open Championships, the ADAC Super Cross, the EnBW gymnastics World Cup (DTB-Pokal) and the German Masters International



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