




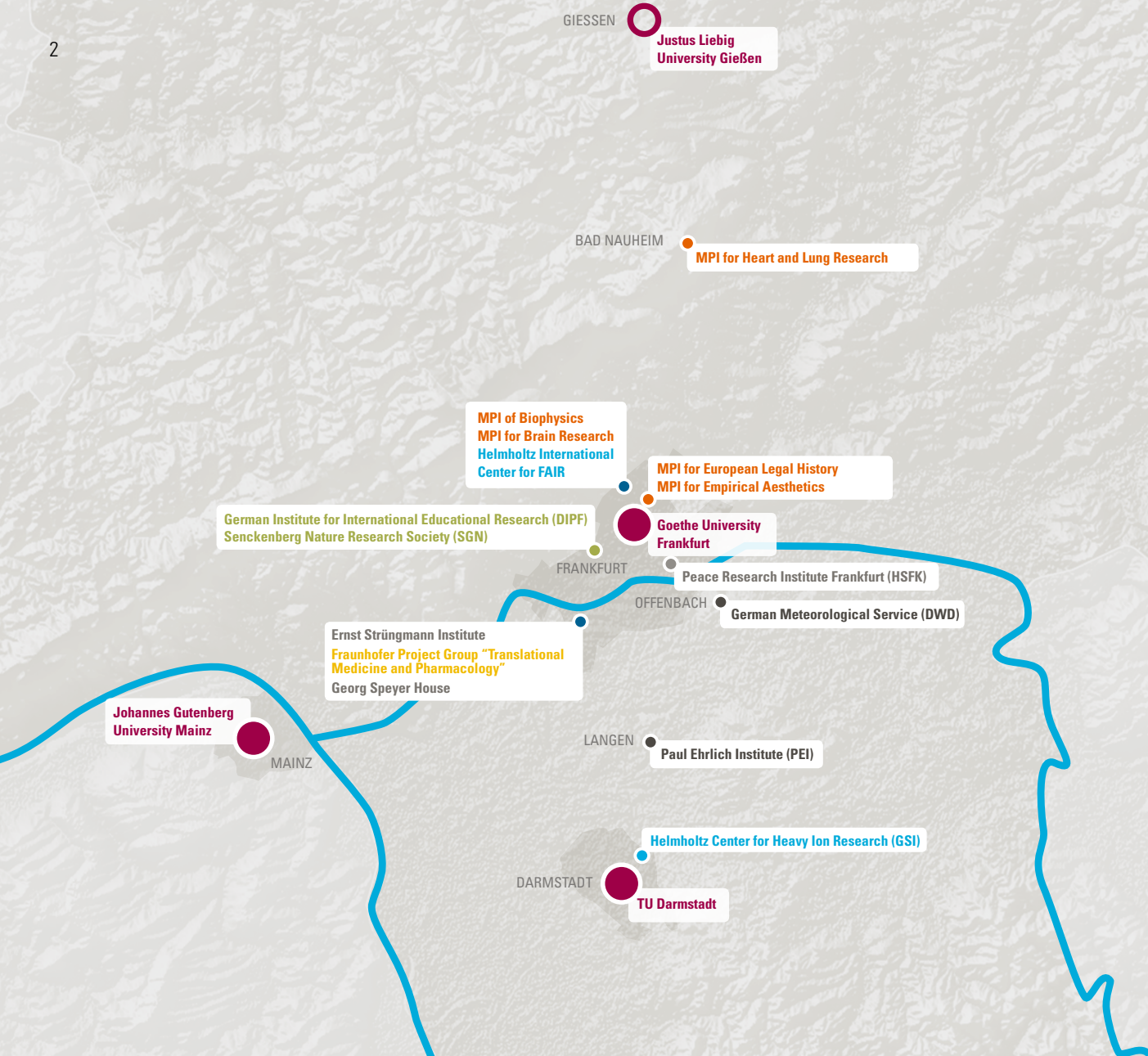
COLLABORATION IN PRACTICE





»Collaboration in practice means promoting
research and teaching quality through diversity.
Collaboration in practice is the joint creation of
knowledge.«

DARREL MOELLENDORF
Philosoph



HELMHOLTZ CENTER

- Helmholtz Center for Heavy Ion Research (GSI), Darmstadt
- Helmholtz International Center for FAIR, Frankfurt

MAX PLANCK INSTITUTES

- MPI for Brain Research, Frankfurt
- MPI of Biophysics, Frankfurt
- MPI for Heart and Lung Research, Bad Nauheim
- MPI for European Legal History, Frankfurt
- MPI for Empirical Aesthetics, Frankfurt

FRAUNHOFER INSTITUTES

- Fraunhofer Project Group "Translational Medicine and Pharmacology", Frankfurt

LEIBNIZ

- German Institute for International Educational Research (DIPF), Frankfurt
- Senckenberg Nature Research Society (SGN), Frankfurt

FEDERAL MINISTERIAL RESEARCH

- German Meteorological Service (DWD), Offenbach
- Paul Ehrlich Institute (PEI), Langen

OTHER

- Peace Research Institute Frankfurt (HSFK), Frankfurt
- Georg Speyer House, Frankfurt
- Ernst Strüngmann Institute, Frankfurt

We all collaborate in many ways every day or even play a proactive role in shaping such collaboration. After ten years of traditional yearbooks, with our 2016 issue on the theme of Collaboration in Practice – its conditions, possibilities, opportunities – we are treading new ground. The idea of earlier yearbooks was to highlight the most significant developments at our University over the past year. From now on, we are going to focus far more strongly on a key theme which runs through all the pages like a common thread. What we gain from this is greater conceptual clarity in priority areas of our University's development.

As a citizens' university, Goethe University was, so to speak, born with a collaborative streak when it was founded in 1914. To become successful in research and teaching at all, the young university was more reliant on the collaboration, resources and supportive spirit of its patrons, the local urban population, than almost any other German university at that time. Its tremendous academic success after just a few years – despite having lost its foundation assets after World War I – was thanks to its effort at integration remarkable in those days: the University appointed the brightest and most ingenious minds of that age, smoothed the way to regular professorships for colleagues with Jewish roots and introduced a new faculty structure that

was without precedent. To deliver these reforms, a new spirit of collaboration was needed that radically questioned the handed-down rituals of the academic arena.

Still today Goethe University profits from its collaborative streak, which has become particularly visible since its reconversion to a foundation and a foundation university in 2008. Being a foundation university means being open to the joint development potential that collaboration can unlock. Two examples: with the alliance of the Rhine-Main Universities (RMU), the three universities in the Rhine-Main region strongest in research have elevated their collaboration onto a new platform. With its new Third Mission Strategy, Goethe University is further strengthening its existing partnerships with academic, political, economic and other partners in society.

We are convinced that it's not fragmented rivalry but instead generous collaborations, where the rules of the game are clearly defined for all partners, which will make research and teaching even better in future. That's what we are working towards. This yearbook should be viewed as a source of encouragement for more collaboration, because it's gratifying and – at the end of the day – everyone benefits.



A handwritten signature in blue ink that reads "B Wolff". The signature is fluid and cursive, with the first letter 'B' being particularly large and stylized.

Birgitta Wolff
President of Goethe University



COLLABORATION IN PRACTICE

FOUNDATION UNIVERSITY 6

We asked Prof. Jochen Roeper 8

Social commitment 9

STUDIES & TEACHING 10

Culture of support 12

With distinction 13

RESEARCH 14

Fifth birthday for Buchmann Institute 16

We asked Professor Birgitta Wolff and

Professor Jan-Hendrik Olbertz 17

INTERNATIONALISATION 18

We asked Professor Brigitte Haar 19

Goethe goes global 20

International researchers 21

THIRD MISSION 22

We asked Dr. Christoph Marty 24

Mercator Science-Policy Fellowship Programme 25

THE UNIVERSITY EXPERIENCE 26

Lively campus 28

Association of Friends and Benefactors
of Goethe University 31

FACTS & FIGURES

Funds for structured programmes 33

Third-party funding 36

University budget 37

Students 38

Foreword 3

Legal notice 40

With over **46,800 students, 130 study programmes** and **584 professors in the 2016/2017** winter semester, Goethe University is the largest university in Hesse and the third largest nationwide after Munich and Cologne.

An above-average number of women hold management positions at Goethe University with an **equal number of males and females** in the President's Office. At the end of 2016 and for the first time, **eight of the sixteen faculties** were headed by female deans.

According to the Shanghai Ranking, in 2016 Goethe University was in the group of **101 to 150 best rated universities worldwide** and numbers amongst the **8 best German universities**.

With its "Academic Welcome Program for highly qualified refugees", Goethe University is assuming social responsibility and offering over **80 refugees** an academic future.

Goethe University was able to register a positive trend in its acquisition of third-party funding in 2016 too. With about **€ 184.1 million**, including LOEWE funds and donations, it remains at a very high level.

»People are the key to success. Our professors and staff make us top performers and guarantee that we are successful in our teaching, research, third mission and administration.«

HEIKE SCHNEBERGER
Head of Human Resources at Goethe University



... Frankfurt neurophysiologist **Professor Jochen Roeper** who, as speaker of the Rhine-Main Neuroscience Network (rmn²), sees a great future for research alliances in the Rhine-Main region.



Photo: Uwe Dettmar

The Rhine-Main Neuroscience Network can look back on five successful years. Why was it set up?

Researchers here are unusually open to collaboration. The region is – despite the state boundary between Mainz and Frankfurt – a homogenous and dense region of knowledge. A very special team spirit prevails here. With rmn², we were able to bundle the strengths and expertise of both locations. However, a special framework is needed when operating in two states, firstly to overcome the state boundary and secondly in order to be perceived by funders as a single research unit and a joint facility. This considerably raises the added value of our many different research projects.

What has the Rhine-Main Neuroscience Network achieved so far?

The network very quickly secured three Collaborative Research Centres funded by the German Research Foundation, of which Goethe University is playing a major role in two. Universities and university hospitals are working together today with eight further partners, including three Max Planck Institutes, under the rmn² umbrella. In this way, we've created the platform for an attractive neuroscience region. With rmn², we can become a heavyweight in the field of neurosciences and catch up with major neuroscience regions such as Munich and Berlin.

The network was further enlarged in 2016 with TU Darmstadt. What do such scientific partnerships mean for the future?

Apart from anything else, neurosciences are technology-driven. The technical expertise of

our Darmstadt colleagues can reveal whether specific mechanisms in the brain can be used elsewhere too. This allows us to make further progress. Exploring the structure and functions of the human brain is one of the greatest scientific challenges. With the rmn² network, we are well-equipped for the Excellence Strategy of the federal and state governments. We've put together a large package of topics that deals, amongst others, with severe diseases in young brains such as schizophrenia and epilepsy. That's going to be both innovative and exciting. We additionally want to use the Cluster of Excellence to keep talented young researchers in our region for the long term.

What role do research alliances that go beyond Goethe University play in your own work?

I'm working with my team here in Frankfurt on midbrain dopaminergic neurons. As a result of my Rhine-Main networking activities, I was awarded an additional research professorship by one of the rmn² partners, Gutenberg Research College in Mainz. That's a great honour which gives me additional freedom as well as contacts to new collaboration partners for my research.



SOCIAL COMMITMENT FROM EMERGENCY CAMP TO LECTURE THEATRE

Her great idol is Nobel prizewinner Marie Curie. To make an academic career for herself against all the odds is Sakineh Safari's declared objective too. The young woman from Afghanistan wants to study Pharmacy. Develop drugs which promise a cure. "I'm so thankful to be in Germany. By helping to cure people I want to give the country something back", she says.

Sakineh Safari is taking part in Goethe University's "Academic Welcome Program". Learning German. Using libraries and computers. Attending courses. A programme that prepares highly qualified asylum seekers and persons entitled to asylum for university. Prospects for the future. Goethe University is taking responsibility for the integration of refugees. Social commitment is part of how the University perceives itself.

Sakineh Safari is making use of this opportunity with a vigorous determination that is only explained when she tells her story. When the 21-year-old arrived in Frankfurt at the beginning of 2016, she had a long and bitter journey behind her. Afghanistan, Iran, Turkey, rubber dinghy, Greece, Balkan route, Darmstadt. Five months with 700 other refugees in a sports hall. Even today her stay in Germany is only tolerated. The fear of having to return to Afghanistan weighs her down. As a Hazara, she belongs to a suppressed minority. She really likes the carefree life in Germany.

Sakineh Safari wants to study at Goethe University, wants to live her own life. When she speaks she emphasizes the little word "want". She already wanted more when she was just ten years old. At that time, when a relative dismissed her dreams of university as nonsense, she realised she would never want to end up as a child bride, never

be completely dependent on a husband. "Education is freedom. The freedom to be independent. I want an independent life", says Sakineh. The young woman's thirst for education and desire for freedom leave a lasting impression. She feels she must pass the German exams come what may so that she will be accepted for university. The pressure is enormous.

Support, individual attention – Sakineh Safari is getting this above all from the "Academic Welcome Program" team. She pops into the office on Bockenheimer Campus almost every day. Here she draws strength, asks for advice, gets help with her university application. After just two semesters she speaks German almost fluently. With the "Academic Welcome Program", Sakineh Safari is bolstered by a strong network of helpers, supporters, sponsors. She is still overwhelmed by so much solidarity, she tells us. She feels cushioned and that encourages her not to forgo her dream. To go to university against all the odds. She has already come so far.

Sakineh Safari is a participant in the "Academic Welcome Program for highly qualified refugees". With this programme, Goethe University devoted itself in 2016 to the integration and academic socialisation of refugees. The "Academic Welcome Program" is intended for students who have fled their home countries as well as asylum seekers and persons with tolerated stay status who hold a university entrance qualification valid in Germany.

A large, stylized, monochromatic portrait of Johann Wolfgang von Goethe, rendered in shades of green and yellow, occupies the left side of the page. The portrait is a high-contrast, graphic representation of his face and curly hair.

STUDIES & TEACHING

In the 2016/17 winter semester, Goethe University opened its doors to over **46,800 students**, of which **6,490 were first-semester students** and **7,389 international students** from 136 countries.

In some 4,500 classes, seminars and lectures in over **130 study programmes**, students acquired knowledge and skills taught to them by **584 professors** and 2,073 other academic staff.

In the 2016 academic year, a total of **6,930 students** completed their study programme at Goethe University.

In the 2016/17 funding year, donations amounting to **€ 1,080,000** were raised for 600 new 'Deutschlandstipendium' scholarships.

Three international Master's programmes were newly accredited in 2016 as well as an interdisciplinary Master's programme in "Art – Media – Cultural Education" (MA).



»Helping dedicated students, supporting the best and opening up opportunities for them, for example through the 'Deutschlandstipendium' scholarship programme, is a wonderful task. That we're able to rely here on financial support from local citizens lies at the very heart of our foundation university.«

LUCIA LENTES
Fundraising and 'Deutschlandstipendium' Officer

CULTURE OF SUPPORT SCHOLARSHIP INSTEAD OF JOB

Acute pain, a pill, relief: the idea of studying Pharmacy came to Sebastian Jugl when he once experienced severe pain. "How does the pill know where and how to work?" he asked himself and it was precisely that which he wanted to understand. Being by nature a curious and well-organised type of boy, he chose his university carefully. Having done some research, it was clear to him that Goethe University is the best university in Germany for Pharmacy. Teaching, equipment, internship opportunities: "All great" says Jugl. To become a pharmacist is his dream job.

Jugl is working hard for it. "Pharmacy means a lot of swotting," this tall young man tells us. "You have to learn lots of things off by heart, but I'm good at working efficiently." Time to earn some money on the side is out of the question. In the first state examination he was amongst the best 5 percent in Germany. That qualified him amongst 2000 competitors for a 'Deutschlandstipendium' scholarship, one of 600 at Goethe University. It's a scholarship which equally acknowledges both excellent grades and social commitment. Independent of origin, independent of biographical hurdles.

For Sebastian Jugl, the 'Deutschlandstipendium' scholarship means an extra € 300 a month, which supplements his education assistance grant and eases the financial burden. He buys expensive pharmacy books with the money and allowed himself a study trip to the PharmaCon international training congress in Meran with its high-ranking speakers as well as an exchange programme with fellow pharmacists in Grenoble. "I'm full of drive and ambition", says Jugl. For him, political and social commitment comes just as naturally.

That's why the concept of the 'Deutschlandstipendium' scholarship is ideal for people like Sebastian Jugl. He has been in Frankfurt for four years now. His second state examination is just around the corner. Yet he nevertheless takes the time for voluntary work. Amongst others, he is actively involved in the departmental student committee and helps to organise the Night of Science. He has recently become an ambassador for the 'Deutschlandstipendium' scholarship programme. "What's special about this model is that the 'Deutschlandstipendium' scholarships at Goethe University are funded, alongside the federal government's contribution, exclusively by private donors and sponsors." Jugl's pale-blue eyes shine with enthusiasm. He is happy to give something back through his voluntary work. To the University and to society.

"The 'Deutschlandstipendium' scholarship has made lots of things possible for me that I could not have afforded otherwise," he says, "but the non-material aspect was much more rewarding, namely contacts to other people with whom I have lots in common. This is personally very enriching."

A confident go-getter with a social streak. Pushing himself into the foreground at the expense of others is not the 24-year-old's style. Collaboration and different ways of thinking on the other hand literally spur him on, he says. Reciprocity, connectivity – that's what counts for Sebastian Jugl. Achievement is not only grades.

Sebastian Jugl is a Pharmacy student and 'Deutschlandstipendium' scholarship holder. Thanks to its firm foothold in the city and the region and pro-active foundation culture, Goethe University was able to offer 600 new 'Deutschlandstipendium' and by so doing, support successful students.

WITH DISTINCTION
1822 UNIVERSITY PRIZE:
TEACHING IS ALIVE AND KICKING!

Personality and dedication, creativity and didactic talent – good teaching bundles many skills. Vice-President Professor Tanja Brühl is convinced: “At the heart of it all, good teaching is an interaction of reciprocal esteem and appreciation between students and teaching staff.” The latter were awarded the 1822 University Prize of Frankfurter Sparkasse savings bank in recognition of their excellent teaching. At the suggestion of students. This has been a wonderful tradition at Goethe University for the last 15 years.

THE 2016 PRIZEWINNERS

*Dr. Irene Corvacho del Toro (*1973),
research associate at the Department of Psycholinguistics*

Learning by doing

Dr. Irene Corvacho del Toro loves orthography. Language is a fascinating system, she says. Penetrating the regularity of phonology, morphology and grammar is an important precondition for teaching German well. That’s what Corvacho del Toro teaches her students. What can be done about spelling problems in Germany’s classrooms? To answer this question, Corvacho del Toro, who was born in Colombia, combines specialist know-how with teaching practice. In her seminars, students learn how to analyse error patterns and develop individual training materials.



Dr. Karsten Tolle, Dr. Irene Corvacho del Toro, Prof. Dr. Bernd Grünewald

*Professor Bernd Grünewald (*1962),
professor for Neurobiology, Director of the Bee Research Institute*

Thinking in experiments

Students should not just swot but instead learn to think and discover as far as possible through their own experiments. For Bernd Grünewald this is important for university teaching and he encourages his students accordingly. Grünewald doesn’t just tolerate contradiction, he really welcomes it. And when students approach him with their own research questions that makes him especially happy. What they in turn appreciate about Professor Bernd Grünewald is that he’s there for them – from the information days for prospective students and Freshers’ Week onwards. He co-designed the faculty’s Online Study Choice Assistant (OSA), brings newcomers together with more experienced students and contributes to the Night of Science. Networking – at international level too – is something he strongly recommends to his students.

*Dr. Karsten Tolle (*1971),
lecturer at the Department of Computer Science*

Set-up time

For Computer Science students, working with databases is one of the first things they learn. Up to two hundred undergraduates crowd the auditorium during lectures, the noise level is high and learning often suffers as a result, students say. Not so in the case of Dr. Karsten Tolle. With his subtle sense of humour, patience and expertise he manages to reach his audience in such a way that they really do learn something. To communicate the latest know-how he departs from conventional lecture methods and engages in a dialogue with his students, developing new ideas with them in the process.



RESEARCH


With **three Clusters of Excellence, 13 Graduate Schools of Excellence** and **25 Collaborative Research Centres**, Goethe University is one of the ten strongest research universities in Germany.

In 2016, Goethe University raised over **€ 184.1 million in third-party funds**, including LOEWE funding and donations.

The University Library made available a total of **9.91 million media items**, of which 7.02 million alone were printed books and journals. At 3,876 workstations. This was very much appreciated by 2.09 million library visitors.

Goethe University is working on **eleven research priorities**: Cell and Gene Therapy, Translational Medicine and Pharmacology, Oncology, Cardiovascular Research, Neurosciences, Macromolecular Complexes, Biodiversity and Climate Research, Heavy Ion Research, Empirical Educational Research, Normative Orders as well as Financial Markets and Monetary Policy.

Within the 2016 reporting period Goethe University received a total of **35 invention disclosure reports** covering the fields of Medicine, Chemistry, Biochemistry, Pharmacy, Physics, and the Biological Sciences. Of these, **14 inventions were then filed for patent.**

A portrait of Professor Jürgen Graf, a middle-aged man with short brown hair and glasses, wearing a dark suit, white shirt, and dark tie. He is smiling slightly and looking towards the camera. The background is a blurred indoor setting, likely a hospital or university building.

»In 2016 again, and for the third time, the University Cancer Centre at University Hospital Frankfurt and Krankenhaus Nordwest was rated an Oncology Centre of Excellence by German Cancer Aid. The close collaboration between the two hospitals advances cancer research, cross-disciplinary patient care and regional networking. Better health from better collaboration.«

PROFESSOR JÜRGEN GRAF
Medical Director of University Hospital Frankfurt

ARCHAEOLOGICAL ADVENTURE

"CSI" BERNSTORF: TREASURE OR SWINDLE?

It sounds like a whodunnit but is in fact a tale from current history of science. It's a story about unusual gold appliqués and pieces of amber and whether they are genuine or fake.

Let's go back a while. It all began in 1998 with a sensational find by hobby archaeologists: a diadem made from pure gold, an amber seal with etchings in Mycenaean script and the "Amber Face" reminiscent of the gold mask of Agamemnon that Heinrich Schliemann discovered in Mycenae, Greece, in 1876. The treasure was unearthed in Bernstorf, perhaps the most exciting Middle Bronze Age archaeological site from the 14th century BC and home to a fortress 1.6 kilometres in length with a wall built from 40,000 mud-reinforced oak trunks. It was destroyed by fire 3,400 years ago.

New archaeological excavations and extensive materials analysis of the artefacts – work generously funded by the German Research Foundation – confirmed the suspicion maintained by the research group led by Frankfurt archaeologist Rüdiger Krause and Rupert Gebhard, director of the Archaeological Collection of the Bavarian State in Munich. The amber objects originate from the Baltic Sea coast whilst the purified gold is from the eastern Mediterranean, possibly

Egypt. Bernstorf is perfect proof of organized trade between the Baltic Sea and the Nile.

Archaeometrician Ernst Pernicka challenges whether the gold objects are genuine. He argues that

high degree of purity of the gold is ascribed to a process for purifying gold known in the Near East since the second millennium BC. Points go to the archaeology team.

The debate does not, however, stop there. The dispute, known meanwhile as the Drama of Bernstorf, is also a matter of grievances, vanity and personal friction. In their research work, Krause and Gebhard joined forces with a whole number of scholars: Prehistorians, mycenologists, Near East and classic archaeologists, chemists, physicists, geologists, materials and soil scientists. Profitable interdisciplinary teamwork. At least that's what they both thought. Until Ernst Pernicka pulled out of the group and - in a one-man show - published measurement results that questioned whether

the gold objects were really genuine. Without authorization from his clients Krause and Gebhard. The two opposing parties have been arguing ever since. Yet science thrives on discourse, exchange and networking, which is why all the stakeholders involved are continuing their efforts.



Foto: AS München

Subject of dispute: Is the diadem a sensational find or a fake?

the degree of purity of the gold is too high for it not to have been produced artificially. In his view, such pure gold has to be modern gold obtained using an electrolytic technique. However, Rüdiger Krause and Rupert Gebhard proved by means of new archaeological and natural science-based analyses in a study published in 2016 that the gold and amber artefacts are genuine. The

FIFTH BIRTHDAY FOR BUCHMANN INSTITUTE YOU'LL NEVER WALK ALONE

“Would you like me to show you our microscope?” Achilleas Frangakis, professor for Information Theory, knows what fascinates his visitors. He walks on ahead through the Buchmann Institute for Molecular Life Sciences with a spring in his step. 3.000 m². Lots of glass, lots of steel. A modern research building in Frankfurt’s Riedberg suburb. Behind a pale-grey door hides a huge giant: the microscope, a cryo-electron scanner with which Achilleas Frangakis can capture very precise, three-dimensional images of a cell or even of single molecules. The top of the range amongst electron microscopes: “If we looked into space with this microscope, we would not only recognize individual planets but also see what’s going on there. If there were little green men, we would see them talking to each other.”

Frangakis has a way of explaining things which is vivid and easy to understand. That was how he was able to convince Dr. Joseph Buchmann too. Greatly impressed by his research work and its relevance, the Frankfurt sponsor, namesake and patron of the institute contributed towards another and even better camera for the microscope.

“Buchmann’s support allows young researchers to shape their scientific careers as they think best” underlines Professor Enrico Schleiff, Director of the Buchmann Institute for Molecular Life Sciences (BMLS). As Vice-President for Academic Infrastructure at Goethe University, Schleiff knows that this is by no means a matter of course.

“I’m working at the best-equipped institute in Europe,” says Achilleas Frangakis. “Nowhere else could I carry out such excellent research.” And he doesn’t want to be anywhere else either. Born in Greece, Frangakis appreciates the international atmosphere in Frankfurt and at the Buchmann Institute. Over 180 scholars from about 20 countries on all continents are working here. It’s a matter of course that English is the working language

at the institute. Physicists, biologists, biochemists, bioinformaticians, chemists, medical physicians and pharmacists in 21 working groups are tracking down macromolecular complexes: tiny machines made of proteins which are indispensable for cell function. Basic research of immense medical importance for the treatment of severe diseases such as cancer. Interdisciplinarity, collaboration and creativity are the secret to success.

“Our strengths in our respective fields complement each other,” says Achilleas Frangakis, describing the special team spirit at the Buchmann Institute. His own interdisciplinary team is working together with 10 other research groups. “We’re like a top football team. Each of us is world-class in his or her position but only together can we play in the Champions League.” Good ideas together with sufficient financial resources make research efficient. This is how Frangakis rates the research conditions and opportunities for collaboration. He says it with that casual self-assurance which outstandingly successful luminaries can afford.

The success of the Buchmann Institute is proving him right. Firmly anchored in the national and international research landscape, this Cluster of Excellence is the flagship of research into molecular life sciences at Goethe University. Fertile ground for a creative and inquiring mind like Achilleas Frangakis and his top-of-the-range microscope.

Achilleas Frangakis is an expert in cryo-electron tomography. He studied electrical engineering and information theory at the Technical University of Munich. He found his way into life sciences via a dissertation at the Max Planck Institute of Biochemistry in Munich

and the California Institute of Technology (Caltech) in Pasadena. As professor for electron microscopy in Goethe University’s Cluster of Excellence »Macromolecular Complexes«, in 2016 he was awarded a »Proof of Concept« grant by the European Research Council (ERC).



INTERNATIONALISATION

Goethe University has signed collaboration agreements with **777 partner institutions in 82 countries.**

Goethe University maintains strategic partnerships with **7** outstanding **research universities** on **3 continents**, each located in a major economic hub.

Almost every fourth **successful call** to the chair is from **abroad**. In 2016 that was just over 21 percent, namely **six out of 28 appointments.**

Goethe Welcome Centre (GWC) took care of **526 international researchers** as well as **48 international doctoral candidates.**

562 foreign students completed their programme at Goethe University. That's 20 percent more than just two years before.

About **600 students from Goethe University** spent a period abroad at a partner university in 2016.

INTERNATIONALISATION WE ASKED ...

... legal expert **Professor Brigitte Haar**, who as Vice-President is the driving force behind internationalisation at Goethe University



Photo: Uwe Dettmar

Goethe University's strategic focus is increasingly international. What's the idea behind it?

Internationalisation is always conducive to study, teaching, research and third mission as well as administration. We're shaping this process by endeavouring to live Goethe University's internationality and make our University visible at international level. However, for me internationalisation also means that all stakeholders and in particular administration understand, register and accept internationalisation as an essential part of their activities. The more we succeed at this, the more international we will be.

How does collaboration between universities work across national borders and continents?

Goethe University works together with several strategic partner universities. These are universities which are more or less comparable to Goethe University in terms of research and size and fittingly located in the City of Frankfurt's twin cities: Philadelphia, Toronto, Birmingham, Tel Aviv, Shanghai, Osaka, and Prague. An exchange takes place at many levels and is reciprocal. Students, researchers and staff go abroad from here and vice versa. However, internationality doesn't just mean being able to speak another language. Internationality means being open to different cultures. This nurtures tolerance and broadens horizons.

What role do researchers from Goethe University play in international research projects abroad?

It depends on the subject. Natural science subjects, for example, often work within research alliances and therefore tend to be more frequently involved in foreign research projects. But in my view it's also very important to cultivate individual partnerships, but then to bundle and link them in order to create synergies.

For us, working together with colleagues from

foreign universities on research projects is a matter of principle. Ideally, both sides mutually profit from each other's experience, for example in our research work on global justice issues. Goethe University and the University of Toronto both have outstanding know-how in this field. If this is brought together, the knowledge gained is far greater than if each partner conducted his research work in isolation. That's internationalisation.

What makes Goethe University's research institutes and facilities so appealing for many foreign researchers?

Goethe University's reputation is quite simply very good in a large number of fields. Our Clusters of Excellence are known throughout the world. But in addition we also have other research centres that are internationally renowned in academic circles, such as the Institute for Social Research with its rich tradition. The name Adorno still radiates. We have countless such internationally important research institutes. They are a tremendous force and entice foreign researchers to join them: as associated researchers, visiting scholars or appointed professors.

GOETHE GOES GLOBAL

OUT INTO THE BIG, WIDE WORLD – SHAPING THE FUTURE THROUGH INTERNATIONAL COLLABORATION

No nation can master the global challenges alone, nor can research projects alone solve global issues such as climate change, food security, health or migration. We must find solutions together. Across borders, across continents. Over 90 percent of global knowledge is generated outside Germany. Collaboration in research and teaching is therefore crucial. As emerging economies, China and Latin America are important partners. Here too Goethe University is establishing a growing number of university partnerships.

GIVE AND TAKE – LATIN AMERICA

Research in and with Latin America came into the spotlight in 2016 through a delegation visit by Hesse's Minister-President, in which Professor Brigitte Haar, Vice-President for Internationalisation, also took part. It already emerged when preparing the trip that many contacts already existed between Frankfurt researchers and Latin America, for example Professor Roland Spiller, who as professor for Romanic Philology with a focus on New Romania (Latin America and francophone countries) also lectures and conducts research on Latin America. For 2017 he is planning a conference on the peace process in Colombia, which will be held in Frankfurt and bring together the most important stakeholders from this Latin American country for the first time following its successful peace negotiations. And Professor Meike Piepenbring, Dean of the Faculty of Biosciences and mycologist, is exploring the hidden world of fungi in Latin America.

Visits to various universities in Chile and Peru unveiled to Vice-President Haar the considerable interest in collaboration with Goethe University and the numerous contacts to its researchers that are already in place. That's why the networking of all researchers at Goethe University with an interest in Latin America is planned for 2017 in order to enable an exchange of experience, peer advice, interdisciplinary work and not least, targeted support.

KNOWLEDGE TRANSFER – GERMAN-CHINESE COLLABORATION

What triggered the idea of identifying and bundling China-related know-how amongst Goethe University's researchers was a call for proposals launched by the Federal Ministry of Education and Research in the autumn of 2016. This was specifically aimed at economics and natural sciences – subjects which in the Ministry's view already have good contacts and the best possibilities for cooperation with the Middle Kingdom but which could benefit from some support for their activities as far as an intercultural approach is concerned. And indeed there is outstanding expertise at Goethe University regarding China, which is embedded in its strong Department of Sinology, the Interdisciplinary Centre for East Asian Studies and not least at the Confucius Institute, in which Goethe University is involved together with Fudan, its strategic partner university in Shanghai. These institutions should in future deliver suitable

support which the University's economists and natural scientists need to set up and develop further collaborative partnerships: from courses in Business Chinese and Survival Chinese to help with dealing with Chinese authorities to summer academies for German and Chinese early career researchers.



INTERNATIONAL SCHOLARS HERE TO STAY

San Diego on the Pacific Ocean or Frankfurt on the banks of the River Main. “We held a family powwow to make this difficult decision,” Darrel Moellendorf tells us. “Moving to Germany had to be okay for everyone. For my wife as well as my son.” That’s in keeping with this friendly man. As professor for Political Philosophy, his research work focuses on justice. He knows that money and good conditions are not the only things that count. Yet the offer he received from Frankfurt was pretty unbeatable.

The US-American researcher has meanwhile been working in the Cluster of Excellence “The Formation of Normative Orders” for five years. “Working conditions here are simply fantastic. There’s more time for research, more staff, more money and only half the teaching load,” raves Moellendorf. “We can organise great events here with guests from all over the world, the atmosphere is very international and there’s a strong focus on research.” The interdisciplinary research centre is one of the top addresses for political philosophy.

The Clusters of Excellence are amongst the beacons of Goethe University’s internationality. They make the University globally competitive and are a vehicle through which to recruit outstanding international scholars. Scholars such as Darrel Moellendorf. This gives research new stimulus. This paves the way for innovative teaching. This brings Goethe University international standing.

Moellendorf previously taught at San Diego State University, where he also headed the Institute for Ethics and Public Affairs. But he was a lone warrior there, says the 56-year-old, had no team, hardly any staff. For a networker like him that’s dissatisfying in the long term.

Darrel Moellendorf is considered to be one of the most internationally influential political philosophers in the field of global justice. Climate change, combating poverty, when it’s a matter, for example, of tackling the consequences of violent conflict or a dictatorship. Which political approach is the best? Who decides what’s just? These topics are a global evergreen and can only be answered at global level too. “An open and global outlook is essential,” says Moellendorf. “When I talk to my son, I tell him that there are different political styles and opinions. We can learn a lot from political norms and institutions in other countries. This openness is very important to me.”

That’s why Moellendorf particularly appreciates the openness at Goethe University. “There’s tremendous pluralism within Philosophy here in Frankfurt. This is interesting and appealing for our guests too. In Oxford, the focus is much narrower,” says Moellendorf. He says that Frankfurt has an important history and significance in social science theory. Adorno. Frankfurt School. „But there’s been development too and now there’s more thinking outside the box. It took the cluster to make that possible.” And to entice Darrel Moellendorf away from the Pacific Ocean to the River Main.

Darrel Moellendorf has conducted research in the Cluster of Excellence “The Formation of Normative Orders” since 2013, where he holds the chair for International Political Theory. The philosopher previously taught at San Diego State University and headed the Institute for Ethics and Public Affairs.

Before his time in San Diego, Moellendorf worked at California Polytechnic State University and the University of the Witwatersrand in Johannesburg, South Africa.



THIRD MISSION

In 2016, management structures to coordinate collaboration within the **Strategic Alliance of Rhine-Main Universities (RMU)** were set up at all three locations with the aid of state funds. An **Initiative Fund** and a **RMU Research Council** bolster internal research support at the participating universities.

In the framework of two **Third Mission University Fora** in 2016, Goethe University further developed and reinforced **partnerships** between politics and academia as well as between the University and its alumni.

Spin-off service UNIBATOR is supervising 21 business projects that stem from 10 faculties and can rely on a 57-strong network of mentors.

The new TechQuartier incubator brings finance and academia together. This is the place where university members with good **fintech ideas** can find office space, contacts in the banking world and investors.

In 2016, **Innovectis**, the University's own technology transfer agency, filed a total of **14 patents** as well as six nationalisation applications.



»Science, education and research are important location factors. As a citizens' university, Goethe University is at the heart of society and a motor for the Rhine-Main metropolitan area, with which it is interlinked in many ways to the benefit of both.«

MANFRED SCHUBERT-ZSILAVECZ
Vice-President for the Third Mission at Goethe University

THIRD MISSION WE ASKED ...

... **Dr. Christoph Marty**, who as Cooperation Manager of the Rhine-Main Universities is the central contact for all the alliance's initiatives across its different locations.



Photo: Uwe Dietmar

Better in a team than alone: the catchword of the Rhine-Main Universities. What's the basic idea behind this cross-state alliance?

With the Strategic Alliance of Rhine-Main Universities, the Rhine-Main region is asserting its position as a top-performing science and research location. Our goal is to create added value in all university activities through targeted partnerships.

How do students benefit from this collaboration?

The Strategic Alliance of Rhine-Main Universities potentially opens up a whole spectrum of possibilities for students. These opportunities range from using the various libraries to attending courses at our partner universities. The latter expands students' options. So far one of the main benefits of the the Strategic Alliance has been the selected module study programmes. One of our tasks at the moment is to make these advantages accessible to all students.

The RMU alliance was launched at the end of 2015. Four Clusters of Excellence, three Graduate Schools of Excellence and 27 Collaborative Research Centres of the German Research Foundation are already impressive proof of the three universities' research performance. What's planned for the future?

We want to work together with our partners even more closely in the area of research and that's why we've set up the RMU Initiative Fund. We're using these funds to give particularly promising research alliances an additional boost

and want to help them progress to full-scale applications, for example for a Research Training Group or Collaborative Research Centre. That's why the benchmark is high: researchers have to demonstrate in their applications how their partnerships with colleagues at other universities produce concrete scientific added value, for example with a view to the interdisciplinarity of their research projects. This additional value is assessed by the RMU Research Council, whose members are prominent researchers from all three Rhine-Main Universities. The response to the first two calls for proposals was tremendous. That's evidence of a growing culture of cooperation at the Rhine-Main Universities.

MERCATOR SCIENCE-POLICY FELLOWSHIP PROGRAMME

SPEED DATING WITH SCIENCE

7.30 a.m. at Goethe University's guest house. Second day of the "Mercator Science-Policy Fellowship Programme". Petra Jung gets on the shuttle bus. As a fellow, she will meet up for discussions with several professors during the day who have been chosen to match her interests. Someone else every two hours. A strict time schedule. "I call it speed dating with science," says Petra Jung and laughs. She's likeable and humorous. "Such an exchange with scholars is important for my work at the Office of the Federal President. I like to align my concepts in areas where I'm working with the latest scientific findings." Petra Jung is Head of Division for Education, Science and Family. She compiles political agendas, for example on legal instruments for Europe-wide education concepts. Or quality measures for schools. Reconciliation of family and career. Support for women in science.

These are currently pressing topics for which she asks top researchers for their professional expertise. The "Mercator Science-Policy Fellowship Programme" makes this possible. Decision-makers from politics, the public sector and civil society at national and European level can build up a new network with academia with the help of this programme. With fellow decision-makers like Petra Jung.

The three Rhine-Main universities have joined forces to this purpose: TU Darmstadt, Johannes Gutenberg University Mainz and Goethe University. It is known as the RMU Alliance, a strategically important collaborative partnership. A total of 130 professors are involved, of which 71 from Goethe University alone.

8.00 a.m. on Westend Campus. PEG Building, 3rd floor. Petra Jung meets up with assistant professor Sandra Eckert. European Educational Policy. The two women get along straight away. European policy and its impact on Germany: both are experienced here. Petra Jung's experience is practice-based and Sandra Eckert's science-based. Interaction at eye level. "I include researchers throughout the entire development process," says Petra Jung. "And I do it before I launch my drafts in the political arena and put my concepts into practice."

When the chance arose for Petra Jung to take part as a fellow in the Mercator programme, she seized it immediately. "The programme is unique in Germany so far. We fellows have an opportunity to exchange ideas with various specialists and the professors give me the impression that our discussions are inspiring for them too," she says, summarising her experience to date. Valuable collaborative partnerships have evolved out of these meetings which are profitable for both sides. For example, the presentation that Petra Jung likes to use for Sandra Eckert's students is based on her own practical experience. "For me it's quite clear," she says. I profit from the opportunity to be a fellow so I want to give something back too."

The project is designed to last four years. The Mercator Foundation is funding the programme up until 2020 with over € 1 million. And when the fellows meet up at the end of a project year for a final conference, speed daters have by then become allies in a valuable network.

Petra Maria Jung was appointed as Head of Division for Education, Science and Family at the Office of the Federal President in 2010. Before that she worked at the Federal Ministry of Education and Research and spent two years at the European Commission in Brussels in the area of general and occupational education in Europe. Petra Maria Jung studied Economics, Political Science and Education in Kassel and Bonn. Her main interests are education and social affairs for children and young people.

A large, stylized, high-contrast portrait of Johann Wolfgang von Goethe, the German writer and philosopher, serves as a background for the left side of the page. The portrait is rendered in shades of blue and white, with a focus on his facial features and curly hair.

THE UNIVERSITY EXPERIENCE

With **31 canteens, cafeterias and cafés**, Frankfurt Student Services (Studentenwerk Frankfurt am Main) supplies around 1.8 million meals a year to over 65,000 students and staff throughout the whole Rhine-Main region. In Frankfurt it provides **2,700 rooms in student halls of residence**.

The University offers its former members some private space to meet in the shape of **three Alumni Lounges** with over **500 visitors**.

Along with TU Munich, Goethe University is the most **“liked”** German university with over **70,000 Facebook** fans.

The **Citizens’ University** invites local residents to attend around **275 public** lectures, readings and roundtables.

The **Collegium Musicum’s** orchestra and choir produce **three symphonic concert programmes** each year, and have made a name for themselves outside the University too.

»Goethe University's buildings are home to state-of-the art media technology. This must run properly. Every day, silently, reliably and smoothly. Research needs technical equipment that works. It's that simple.«

ALEXANDER RICK
Media Technology, University Computer Centre



AESTHETICS FOR AESTHETES

For many, it's the best time of their lives: going to university is the gateway to the big wide world for school leavers, and for scholars, research the route to new knowledge. Teaching, learning, research, administration. University means hard work. Often until late at night. It needs offsetting and calls for quality of life. Close by. Right on the campus.

MAKING NICE THINGS EVEN NICER

The starting point was Adorno's desk. Moving the memorial from Bockenheimer to the parklands of Westend Campus is part of the "Lively Campus" project. To some people, the new buildings and other facilities appear rather sterile. More life is needed on the campus. The extensive grounds with trees, lawns and sculptures is predestined for that. The "Lively Campus" working group led by Dr. Olaf Kaltenborn, head of the University's Marketing and Communications Department, gathered ideas and suggestions. And in 2016 transformed many of them into reality.

Opening the gates onto Fürstenberger Strasse makes the campus appear more welcoming. The door at the main entrance of the President's Office building is now controlled by a light barrier – with the same effect. The lighting throughout the entire grounds was checked. There are hardly any dark corners now and especially women feel safer.



More seating areas are an invitation to linger. The first trees have been planted for an open-air lecture hall – the "Green Reading Room". Student Services have extended café and bistro opening hours. "It's a large number of individual measures, which together are already making a big impact", says Olaf Kaltenborn. A feel-good atmosphere for the academic audience. Volleyball courts, barbecue areas and more works of art on the campus are planned.

LET'S MEET AT THE MARKET

The most visible achievement is a new local market which since April 2016 has been opening its "doors" on Gisèle Freund Square to hungry shoppers each Thursday. The little market with twelve stands offers the classic range of produce: fruit, vegetables, meat, cheese and bread. Snacks ranging from burgers and sausages to falafel and hot soup are also on offer. For students and staff it's a welcome change to the usual menu. The long queues which sometimes trail in front of the stands speak for themselves.

RELAXATION WITH GOETHE-FIT

"No need to get changed, no sweating, no excuse." That's the slogan the University Sports Centre has been using since the beginning of 2016 to encourage a little physical exercise now and again. GoetheFIT-PausenExpress is the healthy and active break meanwhile available on all campuses for University staff: a preventive exercise programme developed at the University of Potsdam and funded by the German University Sports Federation. In-house sport without sweating. Relaxation in the workplace. The focus is on exercises for shoulders, neck and back. The instructors bring along various equipment. The exercises are effective and there's no need for a change of clothes. Fifteen minutes. Enough to wake staff from their afternoon sleepiness. They feel much fresher and can concentrate better on their work afterwards. GoetheFit-PausenExpress has really caught on.

**German-Mexican friendship in action:
The Mexican dance troupe »Las Adelitas
Tapatías« at the Summer Festival.**





Photo: Hesse-Junglert

LAID-BACK AND CITIZEN-FRIENDLY

Events, functions, celebrations – Goethe University fosters its claim as part of the urban community. Art and concerts, science slams and Children’s University, lectures in the framework of the Citizens’ University, academic ceremonies and semester parties – several hundred events each year make the University a lively place. The annual Summer Festival is regarded as the social happening at Goethe University. The 2016 theme was German-Mexican friendship. Culinary and cultural highlights complemented a zesty programme of music. Anyone whose interest went beyond just partying could take a tour of the University, seek out information booths and admire the University’s collections – and in so doing look behind the scenes at Goethe University. There was great entertainment for kids too.



Weather balloon in pursuit of data: Meteorology students demonstrate how weather is measured.

MAKING SCIENCE TANGIBLE

“It’s going to get late. . .” – this was the motto that drew thousands of visitors to Riedberg Campus for the “Night of Science”. What students stage there by themselves is really spectacular. Gripping, hands-on experiments, astonishing yet easy-to-understand presentations, musical renditions on open-air stages – students and teaching staff from all nine natural science faculties make their subjects more tangible for the broader population with their easy-going and enthusiastic programme.

Entertaining. Unusual. Colourful. Something for all ages. A whole night of chemistry, physics, biosciences, psychology, geosciences, computer science. A big hit. Now in its 11th year, the Night of Science has developed into a major attraction. Already back in 2012 the team of student volunteers responsible for organising it was awarded the Hesse University Prize for Excellence in Teaching. Rightly so. Science at night and from a different perspective. It got late in 2016 too.

ASSOCIATION OF FRIENDS AND BENEFACTORS OF GOETHE UNIVERSITY PASSION AND ACUMEN

He the soft-spoken gent and she the lively networker – both are working in the background to make sure the lights stay on: so that the University's researchers get their subsidies for congresses, conference trips and research projects on the one hand and on the other hand local citizens can take part in University life in a variety of ways. Alexander Trog (75) and Nike von Wersebe (45) take care of the daily business of the Association of Friends and Benefactors, which in 2016 was able to open its office at the heart of the University on Westend Campus.

The move from the Deutsche Bank to the campus in November 2016 was accompanied by a change in management: after 12 years in his voluntary post, Alexander Trog passed the reins into the younger hands of Nike von Wersebe. But he's not retiring completely and Nike von Wersebe is "really glad" about that. She greatly appreciates his advice and experience. The ex-managing director will also continue to take care of various foundations managed by the association and be the contact person for citizens who want to let the University and its scholars benefit from part of their wealth through the association. This is because Trog is an expert in tricky questions related to inheritance, wills, donations and foundations and is also held in high esteem due to his competent and discreet manner. As a banker and lawyer, the trustworthy handling of other people's money is his job.

In 2016, the friends of Goethe University were able to make available about € 1 million from membership fees, donations and other gifts for various projects. And not only large sums are gratefully accepted. In her first letter, for example, the new managing director, who previously worked for several years in the field of culture management both for London-based "Intermusica Artists" and Frankfurt's "Ensemble Modern", asked the members for donations to buy new music stands for the Collegium Musicum. With € 7,000 it was possible at the end of the day to purchase not only 20 music stands but also pay for the harpsichord's maintenance and buy sheet music for forthcoming performances. The University's musicians will say "Thank you" in their own way: in 2018, when the association celebrates its 100th birthday, they will invite all friends and benefactors to a concert.

Lawyer Nike von Wersebe has had close ties to both the University and the association for nine years: "Back in 2008, I found the concept for the new foundation university enthralling and I had the opportunity to play an active role in fundraising," she says. One of the things she did was organise concerts for the honorary senators of Goethe University. These made a major contribution to raising awareness amongst Frankfurt's urban community towards the University again and to encouraging it to donate. "Through our activities in the association's anniversary year, we hope GU will inspire even more citizens and attract their support as benefactors," says the new MD.



Photo: Uwe Dattmar

The "Association of Friends and Benefactors of Goethe University" has a new managing director: **Nike von Wersebe** is taking over from **Alexander Trog**. Each year, the Association distributes funds to the tune of about € 1 million.

FACTS & FIGURES

(in accordance with § 29 Paragraph 8,
Hessen Higher Education Act)



CLUSTERS OF EXCELLENCE

Macromolecular Complexes in Action • EXC 115
Spokesperson: Prof. Volker Dötsch (Faculty of Biochemistry, Chemistry and Pharmacy)

Cardiopulmonary System • EXC 147
Spokesperson: Prof. Werner Seeger (University of Gießen); Prof. Stefanie Dimmeler (Faculty of Medical Science)

The Formation of Normative Orders • EXC 243
Spokesperson: Prof. Rainer Forst (Faculty of Social Sciences); Prof. Klaus Günther (Faculty of Law)

COLLABORATIVE RESEARCH CENTRES OF THE GERMAN RESEARCH FOUNDATION (DFG)

Transport and Communication across Biological Membranes • SFB 807
Spokesperson: Prof. Robert Tampé, Institute of Biochemistry (Faculty of Biochemistry, Chemistry and Pharmacy)

Redox Regulation: Generator Systems and Functional Consequences • SFB 815
Spokesperson: Prof. Bernhard Brüne, Institute of Biochemistry I (Faculty of Medical Science)

Endothelial Signalling and Vascular Repair • SFB 834
Spokesperson: Prof. Ingrid Fleming, Institute for Vascular Signalling (Faculty of Medical Science)

Molecular Principles of RNA-based Regulation • SFB 902
Spokesperson: Prof. Harald Schwalbe, Institute of Organic Chemistry and Chemical Biology (Faculty of Biochemistry, Chemistry and Pharmacy)

Signalling by Fatty Acid Derivative and Sphingolipids in Health and Disease • SFB 1039
Spokesperson: Prof. Josef M. Pfeilschifter, Institute of General Pharmacology and Toxicology (Faculty of Medical Science)

Molecular and Cellular Mechanisms of Neural Homeostasis • SFB 1080
Spokesperson: Prof. Amparo Acker-Palmer, Institute of Cell Biology and Neuroscience (Faculty of Biological Sciences)

Discourses of Weakness and Resource Regimes • 1095
Spokesperson until 31.12.2016: Prof. Hartmut Leppin, Institute of Ancient History, Department of History (Faculty of Philosophy and History); since 01.01.2017: Prof. Iwo Amelung, Institute of East Asian Studies (Faculty of Linguistics, Cultural and Civilization Studies, Art Studies)

Molecular and Functional Characterization of Selective Autophagy • SFB 1177
Spokesperson: Prof. Ivan Dikic, Institute of Biochemistry II (Faculty of Medical Science)

Vascular Differentiation and Remodelling • TRR 23
Deputy spokesperson: Prof. Karl-Heinz Plate, Institute of Neurology (Edinger Institute) (Faculty of Medical Science)

Condensed Matter Systems with Variable Many-Body Interactions • TRR 49
Spokesperson: Prof. Michael Lang, Institute of Physics (Faculty of Physics)

Initiating/Effector versus Regulatory Mechanisms in Multiple Sclerosis - Progress towards Tackling the Disease • TRR 128
Contact in Frankfurt: Prof. Ralf Deichmann

RESEARCH UNITS OF THE GERMAN RESEARCH FOUNDATION (DFG)

Justitia Amplificata: Amplified Justice – Concrete and Global • FOR 1206
Spokesperson: Prof. Rainer Forst, Institute of Political Science (Faculty of Social Sciences)

Ice Nuclei Research UNIT (INUIT) • FOR 1525
Spokesperson: Prof. Joachim Curtius,

Department of Atmospheric and Environmental Sciences (Faculty of Geosciences and Geography)

Relative Clauses • FOR 1783
Spokesperson: Prof. Thomas E. Zimmermann, Department of Linguistics (Faculty of Modern Languages)

Intermolecular and Interatomic Coulombic Decay • FOR 1789
Spokesperson: Prof. Reinhard Dörner, Institute of Nuclear Physics (Faculty of Physics)

Mature T-Cell Lymphomas – Mechanisms of Perturbed Clonal T-Cell Homeostasis • FOR 1961
Spokesperson: Prof. Martin-Leo Hansmann, Senckenberg Institute of Pathology (Faculty of Medical Science)

Selecting Personnel for Key Societal Roles • FOR 1664
Spokesperson: Prof. Andreas Fahrmeir, Department of History (Faculty of Philosophy and History)

Multiscale Dynamics of Gravity Waves • FOR 1898
Spokesperson: Prof. Ulrich Achatz, Department of Atmospheric and Environmental Sciences (Faculty of Geosciences and Geography)

Adaptation and persistence of the emerging pathogen *Acinetobacter baumannii* • FOR 2251
Spokesperson: Prof. Volker Müller, Institute of Molecular Biosciences (Faculty of Biological Sciences)

Structures, Properties and Reactions of Carbonates at High Temperatures, and Pressures • FOR 2125
Spokesperson: Prof. Björn Winkler, Department of Geosciences (Mineralogy) (Faculty of Geosciences and Geography)

Cell Plasticity in Colorectal Carcinogenesis • FOR 2438
Spokesperson: Prof. Florian Greten (Faculty of Medical Science, Georg Speyer House)

PRIORITY PROGRAMMES OF THE GERMAN RESEARCH FOUNDATION (DFG)

Atmospheric and Earth system research with the »High Altitude and Long Range Research Aircraft« (HALO) • SPP 1294
Coordinator: Prof. Joachim Curtius, Department of Atmospheric and Environmental Sciences (Faculty of Geosciences and Geography)

Algorithms for Big Data • SPP 1736
Coordinator: Prof. Ulrich Meyer, Institute of Computer Science (Faculty of Computer Science and Mathematics)

Next Generation Optogenetics: Tool Development and Application • SPP 1926
Coordinator: Prof. Alexander Gottschalk, Institute of Biophysical Chemistry (Faculty of Biochemistry, Chemistry and Pharmacy)

RESEARCH TRAINING GROUPS OF THE GERMAN RESEARCH FOUNDATION (DFG)

Value and Equivalence. The Genesis and Transformation of Values from an Archaeological and Anthropological Perspective (Faculty of Philosophy and History and Faculty of Linguistics, Cultural and Civilization Studies, Art Studies) • GRK 1576
Spokesperson: Prof. Hans Peter Hahn (Faculty of Philosophy and History)

Theology as an Academic Discipline - A Historical and Systematical Analysis of the Formation of Reflexivity in Religious Traditions (Faculty of Protestant Theology and Faculty of Roman Catholic Theology) • GRK 1728
Spokesperson: Prof. Thomas Schmidt (Faculty of Roman Catholic Theology and Faculty of Philosophy and History)

Complex Scenarios of Light-Control (Faculty of Physics and Faculty of Biochemistry, Chemistry and Pharmacy) • GRK 1986
Spokesperson: Prof. Alexander Heckel, Institute of Organic Chemistry and Chemical Biology (Faculty of Biochemistry, Chemistry and Pharmacy)

Nominal Modification • GRK 2016

Spokesperson: Prof. Caroline Féry, Department of Linguistics (Faculty of Modern Languages)

Doing Transitions • GRK 2105

Spokesperson: Prof. Andreas Walther (Faculty of Educational Sciences)

Configurations of Film • GRK 2279

Spokesperson: Prof. Vinzenz Hediger (Faculty of Modern Languages)

ELSE KRÖNER-FRESENIUS FOUNDATION FUNDING

Else Kröner-Fresenius Research Training Group Eicosanoid and sphingolipid signalling pathways in inflammation, cancer and vascular diseases

(Faculty of Biochemistry, Chemistry and Pharmacy and Faculty of Medical Science)

Financed by the Else Kröner-Fresenius Foundation
Spokesperson: Prof. Dieter Steinilber (Faculty of Biochemistry, Chemistry and Pharmacy)

Graduate School

Translational Research Innovation – Pharma (TRIP)
(Faculty of Biochemistry, Chemistry and Pharmacy and Faculty of Medical Science)

Financed by the Else Kröner-Fresenius Foundation
Spokesperson: Prof. Gerd Geisslinger (Faculty of Medical Science)

INTERNATIONAL MAX PLANCK RESEARCH SCHOOLS WITH THE INVOLVEMENT OF GOETHE UNIVERSITY**IMPRS for Neural Circuits**

Spokesperson: Prof. Gilles Laurent
(Max Planck Institute for Brain Research)

IMPRS for Structure and Function of Biological Membranes

Spokesperson: Prof. Werner Kühlbrandt
(Faculty of Biochemistry, Chemistry and Pharmacy, Max Planck Institute for Biophysics)

IMPRS for Heart and Lung Research

Spokesperson: Prof. Thomas Braun
(Max Planck Institute for Heart and Lung Research)

HELMHOLTZ GRADUATE SCHOOLS**Helmholtz Graduate School for Hadron and Ion Research (HGS-HIRe for FAIR)**

Spokesperson: Prof. Harald Appelshäuser, Institute of Nuclear Physics (Faculty of Physics)
Collaborators: GSI Helmholtz Center for Heavy Ion Research, Darmstadt, TU Darmstadt, University of Gießen, University of Heidelberg, Johannes Gutenberg University Mainz, Frankfurt Institute for Advanced Studies (FIAS)

Helmholtz Research School for Quark Matter Studies (H-QM)

Spokesperson: Prof. Harald Appelshäuser, Institute of Nuclear Physics (Faculty of Physics)
Collaborators: GSI Helmholtz Center for Heavy Ion Research, Darmstadt, Frankfurt Institute for Advanced Studies (FIAS)

EU FUNDING: ERC GRANTS

ERC Synergy Grant: “BlackHoleCam: Imaging the Event Horizon of Black Holes”,
Prof. Luciano Rezzolla (Faculty of Physics)

ERC Advanced Grant: “ACETOGENS - Acetogenic bacteria: from basic physiology via gene regulation to application in industrial biotechnology”,
Prof. Volker Müller (Faculty of Biological Sciences)

ERC Advanced Grant: “Ub-BAC – Dissecting and targeting ubiquitin networks in the course of bacterial infections”,
Prof. Ivan Dikic (Faculty of Medical Science)

ERC Advanced Grant: “NEUROVESSEL: Cell-cell interactions at the neurovascular interface”,
Prof. Amparo Acker-Palmer (Faculty of Biological Sciences)

ERC Advanced Grant: “AngioInc: Endothelial long non-coding RNAs”,
Prof. Stefanie Dimmeler (Faculty of Medical Science)

ERC Consolidator Grant: “L-POP: Language-Processing by Overlapping Predictions: A Predictive Coding Approach”,
Prof. Christian Fiebach (Faculty of Psychology and Sports Sciences)

ERC Consolidator Grant: “NAUTILUS: Neutron cAptUres consTraining stellar nUcleosynthesis”,
Prof. Rene Reifarth (Faculty of Physics)

ERC Consolidator Grant: “CORRODE: Corroding the social? An empirical evaluation of the relationship between unemployment and social stratification in OECD countries”,
Prof. Markus Gangl (Faculty of Social Sciences)

ERC Starting Grant: “Non-coding RNA in Vascular Ageing”,
Dr. Reinier Boon (Faculty of Medical Science)

ERC Starting Grant: “Transitions: The role of Preferences and Institutions in Economic Transitions”
Prof. Nicola Fuchs-Schündeln
(Faculty of Economics and Business Administration)

ERC Starting Grant: “APPARENT: Transition to parenthood: International and national studies of norms and gender division of work at the life course transition to parenthood”,
Prof. Daniela Grunow (Faculty of Social Sciences)

ERC Starting Grant: “PTCC: Phase transitions and computational complexity”,
Prof. Amin Coja-Oghlan
(Faculty of Computer Science and Mathematics)

ERC Starting Grant: “a SMILE: analyse Soluble + Membrane complexes with Improved LILBID Experiments”,
Ass. Prof. Nina Morgner
(Faculty of Biochemistry, Chemistry and Pharmacy)

ERC Starting Grant: “MetaMeta: Metastability of proteins during tumour metastasis”,
Dr. Martin Vabulas
(Faculty of Biochemistry, Chemistry and Pharmacy)

ERC Starting Grant: “PROSECMET: Function and production of secondary metabolites”,
Prof. Helge B. Bode (Faculty of Biological Sciences)

ERC Starting Grant: “XABA: Xenophagy and bacterial avoidance”,
Dr. Christian Behrends (Faculty of Medical Science)

ERC Proof of Concept Grant: “SuperSART – Commercialization of an innovative tomographic reconstruction algorithm (Super-sampling SART) for various geometry setups”,
Prof. Frangakis (Faculty of Physics)

EU FUNDING: INNOVATIVE TRAINING NETWORKS (ITN)

“SE2B: Solar Energy to Biomass - Optimisation of light energy conversion in plants and microalgae”,
Coordinator: Prof. Claudia Büchel
(Faculty of Biological Sciences)

“CLOUD-TRAIN: Initial Training Network”,
Coordinator: Prof. Joachim Curtius
(Faculty of Geosciences and Geography)

EU FUNDING: COLLABORATIVE RESEARCH

“LSFM4LIFE: Production and characterization of endocrine cells derived from human pancreas organoids for the cell-based therapy of type 1 diabetes”,
Coordinators: Prof. Ernst Stelzer und Dr. Francesco Pampaloni (Faculty of Biological Sciences)

“CoCA: Comorbid Conditions of Attention deficit / hyperactivity disorder”,
Coordinator: Prof. Andreas Reif
(Faculty of Medical Science)

“PARTISPACE: Spaces and Styles of Participation. Formal, non-formal and informal possibilities of young people’s participation in European cities”,
Coordinator: Prof. Andreas Walther
(Faculty of Educational Sciences)

“FemNAT-CD: Neurobiology and Treatment of Adolescent Female Conduct Disorder: The Central Role of Emotion Processing”,
Coordinator: Prof. Christine Freitag
(Faculty of Medical Science)

“EUSCREEN: Implementation of cost-optimized childhood vision and hearing screening programmes in middle-income countries in Europe”,
Coordinator: Dr. Maria Fronius
(Faculty of Medical Science)

ERA-IB-Project “CO₂Chem: Biological Conversion of CO₂ to the Platform Chemical 3-Hydroxypropanoic ACID”,
Coordinator: Prof. Volker Müller
(Faculty of Biological Sciences)

LARGE-SCALE COLLABORATIVE PROJECTS OF THE GERMAN FEDERAL MINISTRY OF EDUCATION AND RESEARCH

Africa's Asian Options (AFRASO)

Project Managers: Prof. Arndt Graf (Faculty of Linguistics, Cultural and Civilization Studies, Art Studies) and Prof. Frank Schulze-Engler (Faculty of Modern Languages)

German Centre for Cardiovascular Disease (DZHK)

Spokesperson (Rhine-Main): Prof. Andreas Zeiher (Faculty of Medical Science)

German Cancer Consortium (DKTK)

Spokesperson (Frankfurt/Mainz): Prof. Hubert Serve (Faculty of Medical Science)

Centre for the Digital Foundation of Research in the Humanities, Social, and Educational Sciences (CEDIFOR)

Project Manager: Prof. Jost Gippert (Faculty of Linguistics, Cultural and Civilization Studies, Art Studies)

Centre for Islamic Studies (ZEFIS)

Project Manager: Prof. Bekim Agai (Faculty of Linguistics, Cultural and Civilization Studies, Art Studies)

LOEWE CENTRES

Senckenberg Biodiversity and Climate Research Centre (BIK-F)

Scientific Coordinator: Prof. Volker Mosbrugger (Faculty of Geosciences and Geography, Senckenberg Nature Research Society, part of the Leibniz Association)

Helmholtz International Center for the Facility for Antiproton and Ion Research (HIC for FAIR)

Scientific Coordinator: Prof. René Reifarh (Faculty of Physics)

Individual Development and Adaptive Education of Children at Risk (IDeA)

Scientific Coordinator: Prof. Marcus Hasselhorn (Faculty of Psychology and Sports Sciences, German Institute for International Educational Research, part of the Leibniz Association)

Sustainable Architecture for Finance in Europe (SAFE)

Scientific Coordinator: Prof. Jan Pieter Krahen (Faculty of Economics and Business Administration)

Translational Medicine and Pharmacology (TMP)

Scientific Coordinator: Prof. Dr. Gerd Geisslinger (Faculty of Medical Science)

Cell and Gene Therapy (CGT)

Scientific Coordinators: Prof. Stefanie Dimmeler (Faculty of Medical Science), Prof. Hubert Serve (Faculty of Medical Science), Prof. Andreas Zeiher (Faculty of Medical Science)

LOEWE CENTRES

Integrative Fungal Research (IPF)

Scientific Coordinator: Prof. Marco Thines (Faculty of Biological Sciences)

Ubiquitin Networks (Ub-Net)

Scientific Coordinator: Prof. Ivan Dikic (Faculty of Medical Science)

Prehistoric Conflict Research – Bronze Age Fortifications between Taunus and Carpathian Mountains

Scientific Coordinator: Prof. Rüdiger Krause (Faculty of Linguistics, Cultural and Civilization Studies, Art Studies)

Control and Design of Multifunctional Megasyntases (MegaSyn)

Scientific Coordinators: Prof. Martin Grninger (Faculty of Biochemistry, Chemistry and Pharmacy), Prof. Helge Bode (Faculty of Biological Sciences)

Religious Positioning: Modalities and Constellations in Jewish, Christian and Islamic Contexts (RelPos)

Scientific Coordinator: Prof. Christian Wiese (Faculty of Protestant Theology)

PARTICIPATION IN LOEWE PRIORITY PROGRAMMES

ELCH: Electron Dynamics of Chiral Systems (Faculty of Physics)

Spokesperson: Prof. Dr. Arno Ehresmann (University of Kassel)
Partner GU: Prof. Reinhard Dörner (Faculty of Physics)

SynChemBio: Innovative Synthesis Chemistry for the Selective Modulation of Biological Processes (Faculty of Biochemistry, Chemistry and Pharmacy)

Spokesperson: Prof. Eric Meggers, (University of Marburg)
Deputy spokesperson: Prof. Harald Schwalbe (Faculty of Biochemistry, Chemistry and Pharmacy)

Medical RNomics: RNA-regulated Networks in Human Disease (Faculty of Medical Science)

Spokesperson: Prof. Albrecht Bindereif (University of Gießen),
Partner GU: Prof. Stefanie Dimmeler (Faculty of Medical Science)

JOINT TEACHING AND STUDY PROJECTS OF THE FEDERAL AND STATE GOVERNMENTS

Pact for Quality in Teaching: A Good Start at University

Project Manager: Dr. Kerstin Schulumeyer-Ahl, Centre for Teaching and Quality Assurance

Quality Initiative for Teacher Training: LEVEL – Teacher Training Networks and Development

Project Manager: Prof. Holger Horz, Academy of Educational Research and Teacher Training (ABL)

¹ Approved in 2016, start of funding = 01.01.2017.

² Approved in 2016, start of funding = 01.01.2017.

³ Approval in 2016, start of funding = 01.10.2017.

⁴ Approval in 2016, start of funding = 01.07.2017.

⁵ Only networks coordinated by Goethe University are listed. In total, the University participated in 18 ongoing or already approved ITNs in 2016.

⁶ Only collaborative research projects coordinated by Goethe University are listed. In total, the University participated in 25 ongoing or already approved projects in 2016.

⁷ Approved in 2016, start of funding = 01.01.2017.

⁸ Approved in 2016, start of funding = 01.01.2017.

⁹ Approved in 2016, start of funding = 01.01.2017.

EXTERNAL FUNDING

External funding by funding body 2016 in EUR millions

Faculties/other institutions	EXTERNAL FUNDING	Of which public revenue					Of which private revenue			
		Total	Of which DFG	Of which EU	Of which federal and state government	Other public revenue	Total	Of which industry and legally independent foundations	Of which contract research and services	Of which donations
Law	7.0	6.2	5.1	0.5	0.6	0.0	0.8	0.5	0.1	0.2
Economics & Business Administration	4.8	1.5	0.8	0.2	0.5	0.0	3.4	0.9	0.1	2.4
Social Sciences	4.8	3.5	2.6	0.6	0.4	0.0	1.3	1.2	0.1	0.1
Educational Sciences	3.0	1.9	0.2	0.6	1.1	0.0	1.1	0.9	0.0	0.1
Psychology & Sports Sciences	5.8	2.1	0.4	0.4	1.3	0.0	3.7	0.2	3.3	0.2
Protestant Theology	0.6	0.5	0.4	0.0	0.1	0.0	0.1	0.0	0.0	0.1
Roman Catholic Theology	0.3	0.2	0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.1
Philosophy & History	5.0	4.3	3.9	0.0	0.4	0.0	0.6	0.3	0.0	0.3
Linguistics, Culture & Civilization Studies, Art Studies	5.3	4.0	1.7	0.0	2.3	0.0	1.3	0.7	0.0	0.6
Modern Languages	3.7	2.9	1.9	0.3	0.8	0.0	0.8	0.5	0.1	0.2
Geosciences & Geography	5.3	3.9	2.2	-0.1	1.8	0.0	1.3	0.2	0.3	0.8
Computer Science & Mathematics	3.7	2.7	1.1	0.1	1.4	0.0	1.0	0.1	0.7	0.2
Physics	9.8	9.3	4.0	1.8	3.6	0.0	0.5	0.2	0.2	0.1
Biochemistry, Chemistry & Pharmacy	16.7	14.1	12.3	1.4	0.4	0.0	2.6	1.7	0.5	0.4
Biological Sciences	9.0	7.9	4.0	2.7	1.1	0.0	1.2	0.3	0.1	0.8
Medical Science	41.8	24.1	19.1	-0.8	2.3	3.4	17.7	11.0	6.9	-0.1
All faculties	126.7	89.1	59.8	7.7	18.1	3.4	37.6	18.8	12.4	6.4
Other institutions ¹	36.6	23.9	14.7	0.9	8.3	0	12.7	1.8	3.5	7.4
TOTAL	163.3	113.0	74.5	8.6	26.4	3.4	50.3	20.6	15.9	13.8

¹ Including programme allowances (overheads) of EUR 12.4 million.

External funding by funding body and revenue from the LOEWE programme
2012 to 2016 in EUR millions

	2012	2013	2014	2015	2016
DFG	51.1	61.2	64.3	73.7	74.5
EU	16.5	13.7	11.7	14.5	8.6
Federal and state government	24.9	27.9	27.1	25.4	26.4
Other public revenue			1.3	2.6	3.4
Total public external funding	92.5	102.7	104.4	116.3	113.0
Industry funding and donations from legally independent foundations	21.1	19.1	20.2	19.0	20.6
Contract research and services	16.0	14.8	15.1	15.0	15.9
Donations	12.8	12.2	15.1	13.7	13.8
Total private external funding	49.9	46.1	50.4	47.6	50.3
External funding	142.3	148.8	154.9	163.8	163.3
LOEWE programme ¹	20.2	24.4	27.1	18.7	20.8
External funding and LOEWE programme	162.5	173.2	181.9	182.6	184.1

¹ Revenue from the LOEWE programme does not count as external funding but is additional state funding awarded through a peer review process.

UNIVERSITY BUDGET

Total budget of Goethe University 2012 to 2016 in EUR millions

	2012	2013	2014	2015	2016
Budget plan	336.0	334.7	341.4	356.0	347.7
of which consumables	319.5	327.4	333.5	344.4	340.0
of which QSL funding	18.6	19.2	19.2	20.0	19.2
of which investment-related ¹	16.5	7.3	7.9	11.6	7.7
Budget for innovation and structural development	1.5	1.3	1.2	1.0	0.6
Funds from Higher Education Pact 2020	10.7	28.0	28.0	28.0	42.2
Total state funds	348.3	364.0	370.6	385.0	390.4
External funding	142.3	148.8	154.9	163.8	163.3
of which public revenue	92.5	102.7	104.4	116.3	113.0
of which private revenue	49.9	46.1	50.4	47.6	50.3
LOEWE funding	20.2	24.4	27.1	18.7	20.8
Other proceeds	28.5	35.9	50.1	62.9	47.2
Total additional funds	191.0	209.1	232.0	245.5	231.3
Total budget in EUR millions	539.3	573.1	602.6	630.5	621.7

¹ The figures for 2012 and 2015 include higher allocations for initial equipment.

STUDENTS

Distribution of all students by faculty 2016 *

Faculties	Students					of which female					of which international students				
	total **	of which undergraduates	of which postgraduates	of which teacher trainees	of which civil service ex. (non-teaching)	total **	of which undergraduates	of which postgraduates	of which teacher trainees	of which civil service ex. (non-teaching)	total **	of which undergraduates	of which postgraduates	of which teacher trainees	of which civil service ex. (non-teaching)
Law	4,702	0	97	0	4,330	2,765	0	52	0	2,577	734	0	87	0	508
Economics & Business Administration	5,324	3,792	1,232	0	0	2,358	1,682	565	0	0	1,177	547	469	0	0
Social Sciences	3,976	2,621	909	204	0	2,192	1,476	516	87	0	542	381	63	24	0
Educational Sciences	2,438	1,266	423	629	0	1,978	1,055	347	492	0	331	245	44	22	0
Psychology & Sports Sciences	2,026	960	442	357	0	1,189	559	278	130	0	156	90	17	27	0
Protestant Theology	560	84	16	112	0	354	56	14	90	0	37	12	3	3	0
Roman Catholic Theology	181	41	3	108	0	111	25	0	76	0	32	5	1	14	0
Philosophy & History	2,846	1,581	127	620	0	1,385	785	49	343	0	288	140	19	62	0
Linguistics, Culture & Civilization Studies, Art Studies	3,683	2,492	370	277	0	2,489	1,657	270	202	0	570	371	82	16	0
Modern Languages	5,405	2,385	528	1,877	0	4,139	1,838	420	1,445	0	913	365	88	269	0
Geosciences & Geography	1,772	1,062	395	226	0	783	430	185	130	0	132	58	35	22	0
Computer Science & Mathematics	4,905	2,674	479	1,648	0	2,236	897	131	1,183	0	790	506	105	144	0
Physics	1,481	938	235	111	0	423	279	59	42	0	201	104	29	14	0
Biochemistry, Chemistry & Pharmacy	2,013	541	300	120	697	1,118	230	149	65	494	278	68	44	14	79
Biological Sciences	1,306	550	309	194	0	840	357	206	133	0	209	54	55	16	0
Medical Science	3,872	0	263	0	2,665	2,387	0	73	0	1,715	662	0	197	0	418
Scholarships/no allocation	352	0	0	0	0	207	0	0	0	0	337	0	0	0	0
Total	46,842	20,987	6,128	6,483	7,692	26,954	11,326	3,314	4,418	4,786	7,389	2,946	1,338	647	1,005

* for the winter semester 2016/17

** students studying for a bachelor's degree, master's degree, civil service examination (incl. teaching), degree and master's degree programmes being phased out and other final qualifications

Distribution of students in their first year in their subject by faculty 2016*

Faculties	Students					of which female					of which international students				
	total **	of which undergraduates	of which postgraduates	of which teacher trainees	of which civil service ex. (non-teaching)	total **	of which undergraduates	of which postgraduates	of which teacher trainees	of which civil service ex. (non-teaching)	total **	of which undergraduates	of which postgraduates	of which teacher trainees	of which civil service ex. (non-teaching)
Law	796	0	56	0	658	471	0	32	0	394	186	0	50	0	70
Economics & Business Administration	1,879	1,260	428	0	0	856	561	190	0	0	557	215	167	0	0
Social Sciences	976	722	188	11	0	553	412	104	6	0	140	91	9	0	0
Educational Sciences	631	329	142	144	0	509	274	114	111	0	74	49	12	10	0
Psychology & Sports Sciences	425	235	93	32	0	271	142	62	14	0	33	18	3	0	0
Protestant Theology	178	30	5	38	0	117	20	4	31	0	13	3	1	1	0
Roman Catholic Theology	47	15	1	27	0	32	10	0	22	0	8	1	0	5	0
Philosophy & History	857	616	55	148	0	430	303	19	90	0	95	51	9	15	0
Linguistics, Culture & Civilization Studies, Art Studies	1,164	1,019	74	40	0	781	683	52	27	0	201	161	18	4	0
Modern Languages	1,312	777	153	289	0	996	589	115	218	0	262	109	29	42	0
Geosciences & Geography	483	338	77	56	0	217	145	38	29	0	28	12	7	5	0
Computer Science & Mathematics	2,060	1,469	123	448	0	935	567	35	329	0	308	226	30	43	0
Physics	492	363	69	27	0	168	136	15	12	0	64	42	6	3	0
Biochemistry, Chemistry & Pharmacy	511	181	64	20	175	294	81	35	12	131	66	21	14	5	12
Biological Sciences	376	222	92	17	0	239	142	58	13	0	65	23	22	3	0
Medical Science	645	0	55	0	508	382	0	19	0	307	141	0	41	0	75
Scholarships/no allocation	468	0	0	0	0	275	0	0	0	0	451	0	0	0	0
Total	13,300	7,576	1,675	1,297	1,341	7,526	4,065	892	914	832	2,692	1,022	418	136	157

* in the study year 2016 (summer semester 2016 and winter semester 2016/17)

** students studying for a bachelor's degree, master's degree, civil service examination (incl. teaching), degree and master's degree programmes being phased out and other final qualifications

LEGAL NOTICE

Publisher

The President of Goethe University, Frankfurt am Main

Concept, responsible according to the German Press Law

Dr. Olaf Kaltenborn

Editing, interviews, text

Heike Jüngst

Translation

Sharon Oranski

Design

AS'C Arkadij Schewtschenko Communications, Frankfurt am Main

Proofreading

Hester Robinson

Photography

Jürgen Lecher, Uwe Dettmar

Printing

Laserline, Berlin

Printed in Germany



