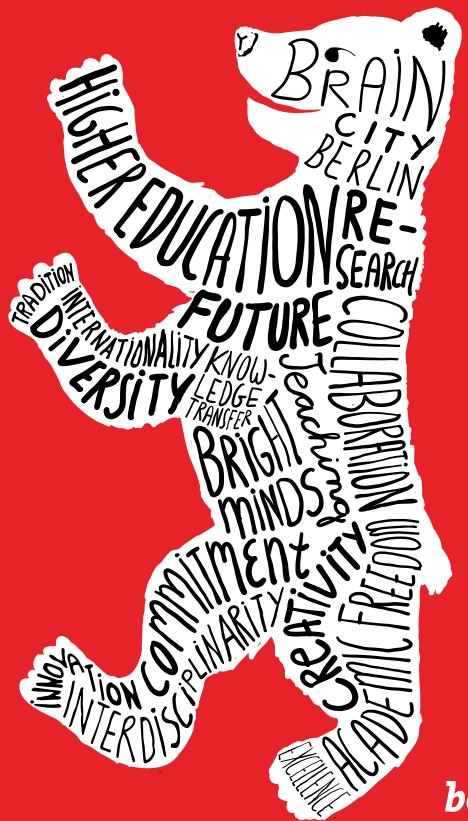
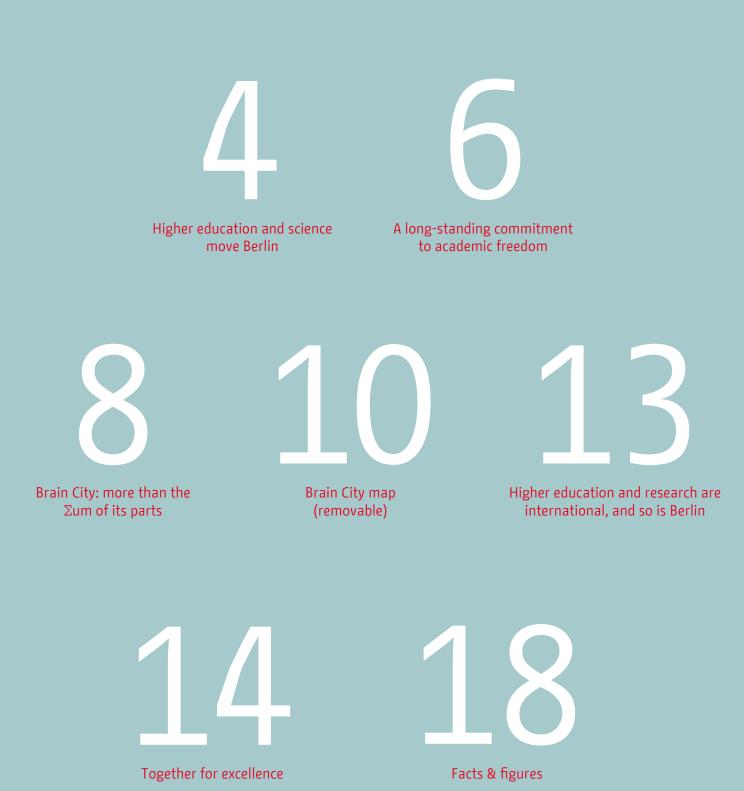
## BRAIN**CITY** BERLIN





## Contents



## Welcome to Brain City!

Brain City Berlin: so much more than a clever advertising slogan. Imagine a city proud of its great scientific and academic tradition that is also one of the most exciting centres of science and learning in the world today. A city whose most important future resources are research and innovation. Imagine a city where scientific and academic excellence does not exist in an ivory tower, but instead engages in open dialogue with the city's people. Imagine a city where people benefit daily from research. and where research is not only independent but where its promotion is a political priority. Imagine a city that breathes freedom and openness to the world, that places great emphasis on cooperation, and where diversity and equality are values that all live by.

All of these many cities are actually just one: the Brain City Berlin. A quarter of a million people from every country in the world come here to study, teach, do research and work in science. Bright minds who move our society with ideas and innovations, develop smart technologies and revolutionise medicine. Outstanding universities and committed teachers that make Berlin one of the world's most popular places to study. Recent graduates, creative people and entrepreneurs that are growing our city and making it a centre for the arts and start-ups. Researchers and students, too, who have fled their home countries to find support and academic freedom here. Our Brain City Berlin is a place where borders are overcome and walls are broken down. A place where the world comes together and is explored in depth – from great world literature to the tiniest of nanospheres. A place enthusiastic about higher education and research and that invests in its institutions now and for the future.

And yes, Brain City Berlin is also a smart advertising slogan. Just as higher education and research are standard-bearers for our city's reputation at home and abroad.

Welcome to Berlin, the city of bright minds!

**Michael Müller** Governing Mayor of Berlin and Senator for Higher Education and Research

3

## Higher education and science move Berlin

Science and academia are the driving force behind Berlin's innovative economy and ensure people use research and resources responsibly in every respect. They provide important insights and technologies for a socially and ecologically sustainable city of the future, and provide answers to the needs of a growing metropolis where people can enjoy living well and safely.

#### Creative ideas and professionals for the city of tomorrow

Berlin has set itself the goal of becoming a leading smart city. Innovations and technological progress contribute to improving the quality of life in the city and will help to make Berlin climate-neutral by 2050. The interaction between research, established companies and start-ups is key here. Many collaborative projects are working on intelligent solutions for the city of tomorrow. The planned CityLAB Berlin will make new technologies and services more understandable and tangible.

#### Autonomous driving

What has been discussed and developed in lecture halls and laboratories for years is now being tested and even transporting passengers at several locations in Berlin: a test track for autonomous driving is being built on the Straße des 17. Juni to the west of the Brandenburg Gate as part of the DIGINET-PS project. Self-propelled electric buses are being tested on the EUREF campus in Schöneberg and, on the Charité Campus in Mitte and Wedding, they have been shuttling passengers since early 2018.

Berliners of all ages and walks of life are benefiting from science and academia in all aspects of their lives. Berlin's universities are training the next generation of teachers for the state's schools, the Alice Salomon Hochschule Berlin is working to meet the additional demand for nursing staff, and the Berlin School of Economics and Law is providing management trainees for business, government and the police. Just three small facts that show how academics and research are important to the fabric of the city.

#### No ivory towers

The city's academic institutions keep in touch with the public with open lectures, auditing opportunities and science slams. Digitalisation projects are giving the public the opportunity to look at long-hidden worlds, archives and collections. Many even invite people to join in, such as the Herbonauts project at Berlin's Botanical Gardens, where anyone can help complete a database of almost four million plant species to support biodiversity research. A special experience each year is the annual Long Night of the Sciences, a city-wide open house where scientific institutions fling wide their doors and provide an outstanding programme of events for all ages. This "smartest night of the year" has long since become a fixture for summers in Berlin, with 35,000 visitors checking out more than 2,000 events across the city. The Berlin Science Week at the beginning of November each year is another great opportunity for the public to check out the latest scientific developments. Whether quantum technology, new populism or artificial intelligence, this event brings Berlin's world of research together to discuss a kaleidoscope of current topics and exciting insights into the research of tomorrow.

#### **Driving culture**

Science and culture form a special symbiosis in Berlin. Many museums are also research institutions that work closely with other scientific institutions and benefit from their mutual expertise. With four universities for the arts, including the internationally renowned Universität der Künste Berlin, the city offers plenty of opportunities for young talent in the city's theatres, opera houses and concert halls. They come from all over the world to attend university here, and their graduates are much sought-after around the world. For example, the alumni of the Hanns Eisler School of Music, who conduct orchestras in Tel Aviv or run concert halls in Oslo. But you don't have to travel far to see the art created and performed by Berlin's universities. For example, at the Ernst Busch Academy of Dramatic Arts, you can regularly see tomorrow's stars perform at the BAT Theater. Students and graduates of the Berlin Weissensee School of Art design not only stage sets and costumes, but also hip magazines, public spaces and commercial products. Hundreds of events are held annually with Berlin's cultural institutions.

#### Driving the economy

Academics and research are some of the largest employers in the city. The city's state universities employ about 48,000 people, and many more are employed at its research institutes and private universities. Teaching and research are driving Berlin's economic growth. Particularly innovative sectors benefit from basic research and the opportunities for cooperation in applied research. Together with the outstanding education received by thousands of recent graduates, these are a key argument for many companies choosing to locate in Berlin. Berlin's universities alone have spun off over 1,000 companies with 22,000 new jobs and billions in sales.



The Berlin Museum of Natural History, one of the eight Leibniz research museums, holds about one million animal specimens for scientific research in its wet collection.

The city's universities of applied sciences play a special role in promoting Berlin as a location for business.

To strengthen regional innovation and competitiveness, Berlin has set up centres for the future where academics, research and industry can collaborate. One such location is Adlershof, home to non-university and academic research institutions as well as hundreds of companies, including 40 world market leaders. The research being done at Adlershof continues to write the future. The Ferdinand-Braun-Institut für Höchstfrequenztechnik (FBH) is pushing new initiatives to turn Berlin into a top location for microelectronics, while the Helmholtz-Zentrum Berlin (HZB) is making plans for some quantum leaps in energy research. These are just two examples that illustrate the great dynamics of the ten centres for the future in Berlin.

#### **Berlin Science Prize**

In 2017, the Berlin Science Prize was awarded for the tenth time by the city's Governing Mayor to recognise outstanding achievements in science and research made in Berlin. An outstanding achievement by a young scientist is also honoured each year.

### A long-standing commitment to academic freedom

Science and academia in Berlin can look back on centuries of tradition, with many great moments as well as some of the darkest abysses of German history. This obligates us to preserve their freedom.

#### Two Berlin brothers

Two world-famous Berlin brothers are symbols of what science and academia in Berlin have stood for both in the past and present: a commitment to society, scientific excellence and international cooperation.

Alexander von Humboldt, the respected naturalist and passionate humanist, is world-famous for his scientific expeditions and research work in botany. As a pioneer in creating international scientific networks, he is the namesake of the Alexander von Humboldt Foundation, which today enables top researchers from all over the world to spend time working in Germany. Alexander von Humboldt would be especially pleased that so many of those receiving the grants named after him choose to come to Berlin. In fact, the city ranks first in destinations chosen. His brother **Wilhelm von Humboldt** worked in a wide range of fields, including the theory of the state, literature and art, and founded the field of comparative linguistics. He became especially known as an educational reformer. He pushed for scientific independence, the integration of the humanities and natural sciences, and, not least, the unity of teaching and research. Humboldt's educational ideals became the blueprint for modern universities worldwide. Today, the university founded by Wilhelm von Humboldt in Berlin in 1809 also bears the names of the two brothers: the Humboldt-Universität zu Berlin.

A statue of Wilhelm von Humboldt in front of the main building of the university named after him and his brother on Unter den Linden in Berlin.





Elsa Neumann was the first woman to obtain a doctorate in physics in 1899. Today, the federal state of Berlin awards doctoral scholarships in her honour.

Numerous great names in the history of science are closely associated with Berlin, further highlighting the city's long scientific tradition. The city was home to medical doctors like *Rudolf Virchow* and *Robert Koch*, after whom one of the Charité's campuses and the federal government's world-famous Robert Koch Institute are named, respectively. The father of the modern computer, *Konrad Zuse*, studied here and developed his computer in Kreuzberg. The Zuse Institute for Information Technology is named after him.

Hans Geiger developed the Geiger counter here together with his doctoral student. *Lise Meitner* and *Otto Hahn* discovered, explained and proved nuclear fission in Berlin. In 1700, polymath *Gottfried Wilhelm Leibniz* founded what is today the Berlin-Brandenburg Academy of Sciences with offices on the Gendarmenmarkt. The Leibniz Association is also based in Berlin. Another polymath, *Hermann von Helmholtz*, linguists and folklorists *Jacob* and *Wilhelm Grimm*, inventor and industrialist Werner von Siemens, aviation pioneer Otto Lilienthal, and the inventor of the electron microscope, Ernst Ruska, as well as countless other scientists worked in Berlin. One of the most significant personalities in the history of science, Albert Einstein, completed his theory of relativity in Berlin and received the Nobel Prize in Physics. With the rise of National Socialism in Germany, Einstein was forced to emigrate to the USA where he lived in Princeton, New Jersey. Today, the Einstein Foundation funds top-level research in Berlin.

When Adolf Hitler was named chancellor in 1933, it meant an end to academic and research freedom in Germany. Numerous scientists were forced to flee Berlin. Many others were killed. Others accommodated the criminal Nazi regime or even put themselves at its service with zeal. After the war, many of those who had been forced to emigrate returned to rebuild teaching and research in the western part of the city. In East Berlin, critical science and academia was only possible under difficult conditions, as it was subject to strict ideological control.

This history has made the obligation to protect the freedom of teaching and research an obligation for all, especially for those of us in Berlin. In times of increasing hostility to science, Berlin stands by this responsibility and welcomes scientists and scholars from around the world who are under threat in their home countries.

#### Promoting scientific freedom

In early 2018, the Berlin Senate established a new programme for the promotion of scientific and academic freedom at the Einstein Foundation to help researchers under threat in their home countries. Einstein Visiting Professorships and Einstein Junior Scholarships will allow them to pursue their work freely in Berlin. In addition, universities and research institutions in Berlin are actively involved in networks such as Scholars at Risk and the Philipp Schwartz Initiative of the Alexander von Humboldt Foundation in order to offer persecuted scientists a new academic home in Berlin.

## Brain City: more than the Σum of its parts

Brain City Berlin has a uniquely dense and diverse range of academic and research institutions: in addition to the 11 state and about 30 private universities, the Charité, and more than 70 non-academic research institutions, there are numerous federal institutions, private-sector research institutes and campuses of international universities in the city.



On 16 January 2018, the state's contracts with the 11 universities for 2018–2022 were formally signed and came into force. Governing Mayor Michael Müller and Professor Sabine Kunst, President of Humboldt University.

Academics and research are integral to the city. And they shape its landscape: the state universities and the Charité alone cover an area equal to 256 football fields.

There are no tuition fees at state universities; the basic funding is provided by the state of Berlin, as agreed every five years in contracts concluded with the universities. This funding is based on key performance indicators such as teaching, research and equality/diversity and is paid out annually. The state and the universities work together to set targets, and reports document the universities' performance. In the current five-year period (2018–2022), the state will be providing a total of €8.1 billion in financing to the city's universities. In addition, the state has other instruments to promote certain areas. These include programmes for teaching, equal opportunities, as well as research funding with the Einstein Foundation Berlin. The Institute for Applied Research (IFAF) promotes cooperation between the state universities of applied sciences and regional business.

The non-academic research institutions of the Max Planck Society, the Leibniz Society and the Helmholtz Association receive both federal and state funding. In addition, Berlin has research institutes that are the sole responsibility of the state, such as the Zuse Institute Berlin.

The Studierendenwerk Berlin also receives state subsidies. On behalf of the state, it operates 57 cafeterias at universities throughout Berlin, serving an average of 40,000 meals a day during the semester. It also operates halls of residence that provide housing for about 9,300 students. While their parents are studying or working at universities, the youngest are well looked after in the day-care centres operated by the Studierendenwerk. It also offers a variety of advisory and counselling services for students and organises cross-university cultural events.

Further information on the 2018–2022 university contracts.



## 66



PROFESSOR BIRGIT FELDEN SMES, SUCCESSION ISSUES, AND BUSINESS, UNIVERSITY OF ECONOMICS AND LAW BERLIN

"Berlin is entrepreneurial and diverse. Established companies large and small work side-by-side with start-ups for everyone's benefit. Founders, academics, scientists and the next generation putting innovative ideas into practice."



**PROFESSOR EUN-HWA CHO** COMPOSITION, HANNS EISLER SCHOOL OF MUSIC, BERLIN



"Berlin offers space for ideas and exchange. This makes the city interesting for the artistic scene."

PROFESSOR NIK HAFFNER INTER-UNIVERSITY CENTER FOR DANCE (HZT) UNIVERSITÄT DER KÜNSTE BERLIN





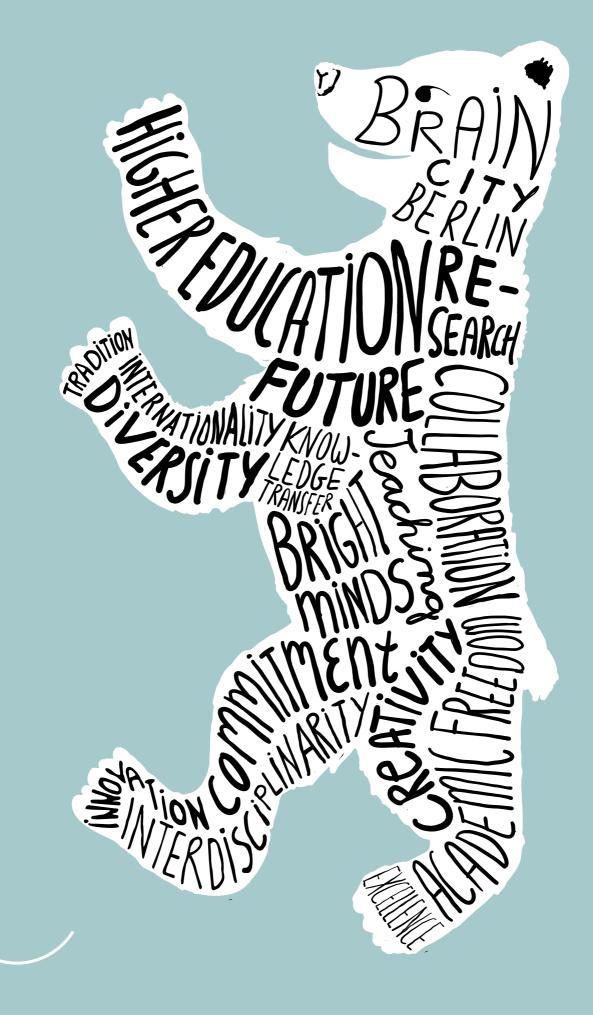
DIPL.-ING. CEM AVSAR AEROSPACE INSTITUTE, TECHNICAL UNIVERSITY OF BERLIN

"Berlin is home to innovations that reach into space."





# BRAN



- 1 Freie Universität Berlin fu-berlin.de
- 2 Humboldt-Universität zu Berlin hu-berlin.de
- 3 Technische Universität Berlin tu-berlin.de
- 4 Universität der Künste Berlin udk-berlin.de

#### **University hospitals**

5 Charité – Mitte Campus Benjamin Franklin Campus Virchow Clinic Campus Buch Campus charite.de

#### Arts academies

- 6 Hanns Eisler School of Music hfm-berlin.de
- 7 University of Performing Arts Ernst Busch hfs-berlin.de
- 8 Weißensee Academy of Art Berlin kh-berlin.de

#### Universities of applied sciences

- 9 Beuth University of Applied Sciences Berlin beuth-hochschule.de
- 10 HTW Berlin University of Applied Sciences htw-berlin.de
- **11 Hochschule für Wirtschaft** und Recht Berlin (HWR Berlin) hwr-berlin.de
- **12** Alice-Salomon-Hochschule für Sozialarbeit und Sozialpädagogik Berlin (ASH) ash-berlin.eu

#### **Religious universities**

- 13 Evangelische Hochschule Berlin (EHB) eh-berlin.de 14 Catholic University of Applied
- Social Sciences Berlin (KHSB) khsb-berlin.de

#### Private universities

- 15 Akkon University for Human Sciences akkon-hochschule.de
- 16 Bard College Berlin a Liberal Arts University in Berlin berlin.bard.edu
- 17 Barenboim-Said Akademie gGmbH barenboim-said.com
- 18 BAU International Berlin -University of Applied Sciences
- 19 bbw University bbw-hochschule.de
- 20 Berlin University of Art & Design (btk) 45 German Rheumatism Research btk-fh.de
- 21 BSP Business School Berlin University for Management businessschool-berlin.de
- 22 CODE University of Applied Sciences code.berlin
- 23 DEKRA | Hochschule für Medien dekra-hochschule.de

- 24 design akademie berlin SRH Hochschule für Kommunikation und Design GmbH desian-akademie-berlin.de
- 25 ESCP Europe European School of Management Berlin escpeurope.eu
- 26 European School of Management and Technology (ESMT) esmt.org
- 27 German open Business School (GoBS) go-bs.de
- 28 Hertie School of Governance (HSG) hertie-school.org
- 29 Hochschule für angewandte Pädagogik (HSAP) hsan.de
- 30 H:G Hochschule für Gesundheit & Sport, Technik & Kunst my-campus-berlin.com
- 31 HMKW University of Applied Sciences for Media, Communication and Management hmkw.de
- 32 University of Applied Sciences (hwtk) hwtk.de
- 33 IB-Hochschule Berlin ib-hochschule.de
- 34 International Psychoanalytic University Berlin (IPU) ipu-berlin.de
- 35 Mediadesign Hochschule für Kommunikation und Informatik mediadesign.de
- 36 Medical School Berlin medicalschool-berlin.de
- 37 Psychologische Hochschule Berlin (PHB) psychologische-hochschule.d
- 38 Quadriga University of Applied Sciences Berlin
- 39 SRH Hochschule Berlin srh-hochschule-berlin.de

quadriga.eu

- 40 SRH University of Popular Arts hdpk.de
- 41 Steinbeis University Berlin steinbeis.de
- 42 Touro College Berlin touroberlin.de

#### Non-academic research institutions

#### Leibniz Association

- 43 German Institute for International Educational Research (DIPF), Berlin campus: Library for Research in the History of Education (BBF)
- 44 German Institute for Economic **Research (DIW Berlin) and** Socio-Economic Panel (SOEP)
- Center Berlin (DRFZ) drfz.de
- 46 Institut für Analytische Wissenschaften e.V. (ISAS)
- 47 Museum of Natural History (MfN)
- 48 WZB Berlin Social Science Center wzb.eu

- 49 Leibniz-Zentrum Allgemeine Sprachwissenschaft (ZAS) zas.gwz-berlin.de
- 50 Leibniz-Zentrum Moderner Orient (ZMO) zmo.de
- 51 Leibniz-Zentrum für Literatur und Kulturforschung (ZfL) zfl-berlin.org
- eibniz Association/ Research Association Berlin
- 52 Forschungsverbund Berlin e.V. 53 Ferdinand-Braun-Institut,
- Leibniz-Institut fuer Höchstfrequenztechnik (FBH)
- 54 Leibniz-Forschungsinstitut für Molekulare Pharmakologie (FMP) leibniz-fmp.de
- 55 Leibniz Institute for Freshwater Ecology and Inland Fisheries (IGB) igb-berlin.de 56 Leibniz Institute for
- Crystal Growth (IKZ) ikz-berlin.de 57 Max Born Institute for Nonlinear Optics and Shor
- Pulse Spectroscopy (MBI)
- 58 Paul-Drude-Institut für Festkörperelektronik Berlin (PDI) pdi-berlin.de 59 Weierstraß-Institut für Angewandte
- Analysis und Stochastik (WIAS) wias-berlin.de
- 60 Leibniz Institute for Zoo and Wildlife Research (IZW izw-berlin.de 🧹
- Helmholtz Association of **German Research Centers**
- 61 Helmholtz Zentrum Berlin für Materialien und Energie (HZB helmholtz-berlin.de
- 62 Max Delbrück Center for Molecular Medicine in the Helmholtz Association (MDC) mdc-berlin.de
- 63 German Center for Neurode Diseases (DZNE), Berlin
- 64 German Cancer Consortiu (DKTK) - Berlin location
- 65 German Aerospace Center (DLR). Berlin-Adlershof dlr.de/Berlin
- Fraunhofer Association
- 66 Fraunhofer Institute for Open Communication Systems (FOKUS) fokus.fraunhofer.de
- 67 Fraunhofer Institute for Telecommunications. Heinrich Hertz Institute (HI hhi.fraunhofer.de
- 68 Fraunhofer Institute for Production Systems and Design Technology (IPK)
- 69 Fraunhofer Institute for Reliability and Microintegration (IZM)
- 70 Fraunhofer IUK Technology Group

71 Fraunhofer Microelectronics Group

BRAR

BERIN

42

- 72 Fraunhofer Forum Berlin
- Max Planck Society
- 73 Fritz Haber Institute (FHI) fhi-berlin.mpg.de
- 74 Max Planck Institute for Human Development (MPIE mpib-berlin.mpg.de
- 75 Max Planck Institute for Infection Biology (MPIIB)
- 76 Max Planck Institute for Molecular Genetics (MPIMG)
- 77 Max Planck Institute for the History of Science (MPIWG) mpiwg-berlin.mpg.de
- Others 78 Berlin Institute of Health (BIH)
- 79 The Weizenbaum Institute for Networked Society (German Internet Institute) vernetzung und gesellschaft,de
- 80 Berlin-Brandenburg Academy of Sciences and Humanities (BBAW)
- 81 German Centre for Cardiovascula Research (DZHK)
- 82 Historische Kommission zu Berlin (HiKo) hiko-berlin.de
- 83 Institut für angewandte Forschung Berlin e. V. (IFAF) ifaf-berlin.de
- 84 Japanese-German Center Berlin (JDZB) idzh de
- 85 Wissenschaftskolleg zu Berlin (WiKo) wiko-berlin.de
- 86 Konrad Zuse Center for Information Technology Berlin (ZIB)

#### Federal institutions

88 Federal Institute

bfr.bund.de

dainst.org

dza.de

ptb.de

rki.de

87 Federal Institute for Materials Research and Testing (BAM) 🕞 bam.de

for Risk Assessment (BfR)

89 German Archaeological Institute (DAI)

90 German Centre for Gerontology (DZA)

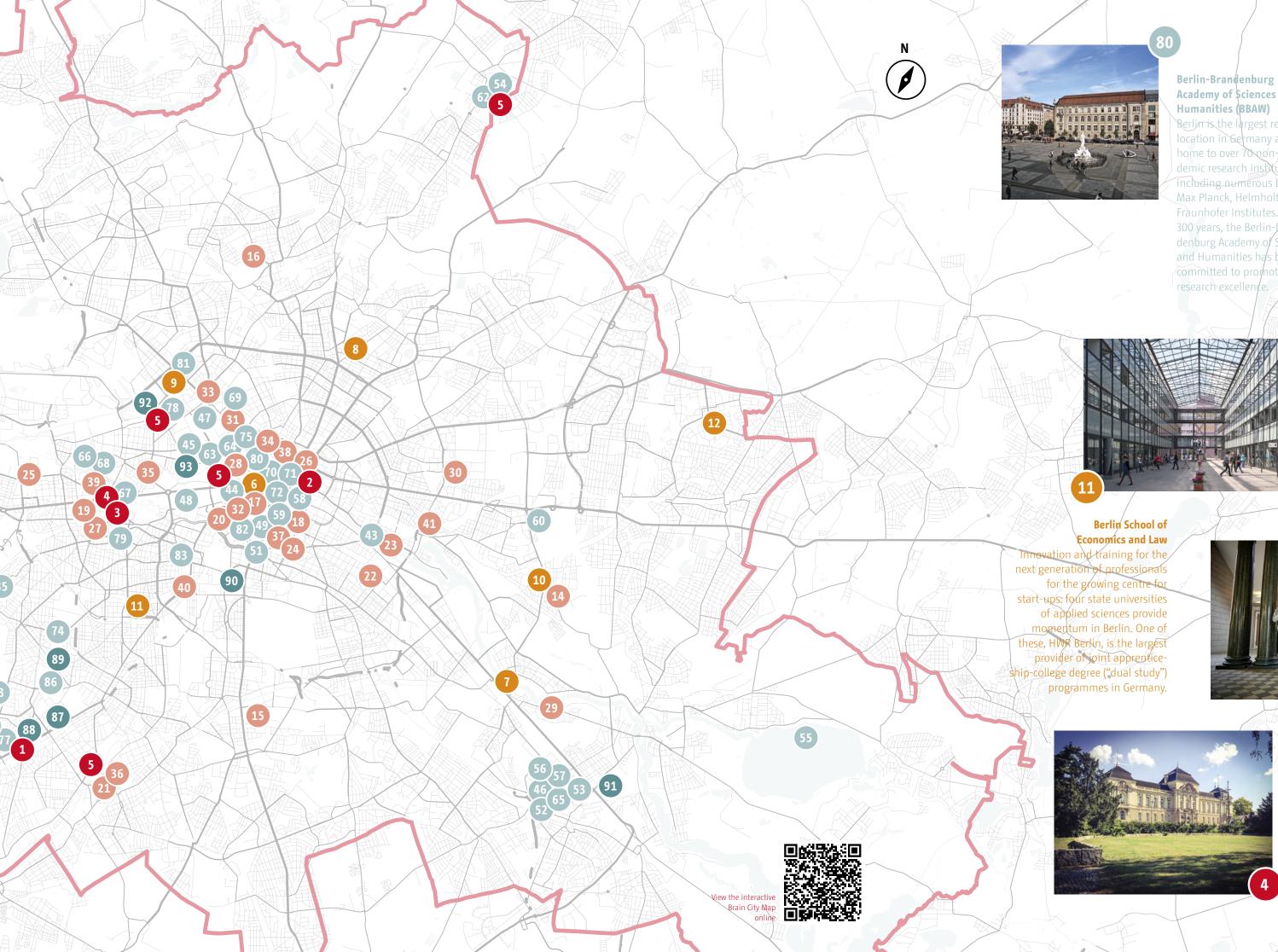
91 Federal Metrology Institute (PTB)

92 Robert Koch Institute (RKI)

für öffentliche Verwaltung

hs-sozialversicherung.de

93 Hochschule des Bundes



Academy of \$ciences and

rlin is the largest research cation in Germany and ome to over 70 nøn-academic research institutions, Max Planck, Helmholtz and` 300 years, the Berlin-Brandenburg Academy of Sciences committed to promoting



Charité – Universitätsmedizin Berlin The historic Berlin Charité is one of the largest university hospitals in Europe and a big part of why Berlin is a renowned centre for medicine.



#### Technische Universität Berlin

At the top, both nationally and internationally: together with Freie Universität Berlin and Humboldt-Universität zu Berlin, the renowned Technische Universität Berlin ranks among the 100 best universities in the world and among the top ten in Germany.

#### Universität der Künste Berlin

The four Berlin state art academies enjoy a great reputation and attract young talents from all over the world. Universität der Künste Berlin is the largest in Europe.



"I congratulate the city of Berlin, which is home to so much scientific talent in so many outstanding institutions. The great support for research there is paying off: almost 100 ERC grants valued at €180 million have to date been awarded to support the ambitious ideas of researchers in Berlin."



PROF. JESSE PRINZ PHILOSOPHY AND NEUROSCIENCE, EINSTEIN VISITING FELLOW, BERLIN SCHOOL OF MIND AND BRAIN, HUMBOLDT UNIVERSITY BERLIN

PRESIDENT OF THE EUROPEAN RESEARCH COUNCIL (ERC)



"Berlin is not only home to practically every academic discipline at the highest level, it is also where these scientific projects come together, making the city one of the most exciting research locations for me."



**PROF. REGINE BUCHHEIM** BUSINESS ADMINISTRATION, HTW BERLIN UNIVERSITY OF APPLIED SCIENCES

> "Berlin's past and present nspire interdisciplinarity."



DR. TATIANA KOROTKOVA BEHAVIOURAL NEURODYNAMICS, LEIBNIZ RESEARCH INSTITUTE FOR MOLECULAR PHARMACOLOGY (FMP), BERLIN-BUCH CAMPUS

> "Thanks to the many cooperating research groups, Berlin is one of the best locations for neuroscientists. I love the openness here."





## Higher education and research are **international**, and so is Berlin

Berlin is one of the world's most popular cities to attend university. One-fifth of the people studying here come from abroad, and the number is rising. The city and its academic landscape are also attracting an increasing number of recent graduates and established professors from all over the world. This benefits research and teaching and the city as a whole. Internationality is an integral part of the capital's self-image.

Berlin's academic and scientific institutions are among the pioneers in internationalisation and enjoy extensive global networks of partnerships. Berlin researchers collaborate with institutions all over the world. Every semester, thousands of Berlin students have the opportunity to study abroad and thousands of others come to Berlin. The internationality is also reflected in the range of courses on offer, whether in joint courses with foreign partner universities, in the growing number of master's degrees taught in foreign languages (mostly English), and through international teaching projects and visiting professorships. Through strategic partnerships with renowned universities all over the world from Beijing to Princeton, from Oxford to Jerusalem, Berlin's universities are firmly anchored in the international network of leading research locations. Local presences, such as the Technische Universität Berlin campus in Al Gouna, Egypt, and the Freie Universität liaison offices on five continents, also promote the international networking of Brain City Berlin. Berlin's universities and research institutions are involved worldwide in development projects and in setting up new structures to support teaching and research.

#### Strong partner in European research

Berlin is an active player in European research. It thus strengthens the European idea and helps Europe to remain competitive in the long term and to meet the major social and economic challenges of the future. Scientists from Berlin participated in a total of 1,500 EU research projects in the 7th EU framework programme from 2007 to 2013, and received almost €585 million in EU funding. This trend has continued in the follow-up Horizon 2020 programme. Halfway through the funding period, Berlin researchers have already received €312 million in further EU funding.

#### Erasmus at 30

Europe celebrated 30 years of the Erasmus programme in 2017. Berlin has long been the most popular German destination for Erasmus scholars and is also one of the most sought-after in Europe. At the same time, many Berlin students have used the programme to study or conduct research abroad and have returned with new experiences and language skills.



Berlin has long since become one city and has a host of scientific institutions that work together. The city map by Johann Gregor Memhardt from around 1650 shows the double city Berlin-Cölln, one area being researched by the Berlin History Society (HiKo).

Whether in classical studies, biomedicine or mathematics. Brain City Berlin offers a unique environment for top research in many fields, as demonstrated by the outstanding results in the German Excellence Initiative and leading positions in the funding ranking of the German Research Foundation. With Freie Universität Berlin and Humboldt-Universität zu Berlin Berlin is home to two of Germany's 11 universities of excellence. Together with the renowned Technische Universität Berlin, they belong to the select circle of the 100 best research universities worldwide. Internationally famous is also the Charité - Universitätsmedizin Berlin and the strong presence of non-academic research institutions in Berlin. Fourteen institutes of the Leibniz Association make Berlin their home, doing their namesake proud. In addition, there are five Max Planck Institutes, three centres of the Helmholtz Society, four Fraunhofer Institutes and numerous other non-academic institutions. Many excellent scientists work in Berlin, as the research

awards of the European Research Council and the Leibniz Prizes repeatedly show. At the same time, collaborative research in Berlin is unleashing some truly special potential. In clusters of excellence, large collaborative research centres, and research training groups, scientists from various disciplines and institutions are conducting research together and providing important insights that will help master complex social, medical and technological challenges. In addition to established research areas, Berlin is thus also able to react to new developments and repeatedly drive innovation. This work is specifically supported by the Einstein Foundation Berlin, which the state established to strengthen top-level research in the city. It is financed from state funds and grants from other donors and institutions, and serves as a catalyst for new research initiatives.

#### Institute for Advanced Study

Berlin The Institute for Advanced Study Berlin, enables both internationally recognised and promising young scientists to spend a year doing research on a project of their choosing in Berlin.

## Hotspot for digitalisation

The 21st century has been characterised by the rapid digitalisation of every aspect of life. The ways we communicate, work and, of course, research are all changing. Supported by the state's digitalisation strategy, Berlin is developing into a centre for digitalisation research. The entire spectrum of scientific expertise represented in Berlin, from computer science to the humanities, is being put to use. Berlin's economy also benefits from this – both the established companies, which have to cope with massive changes, and the creative scene, which is making Berlin a booming start-up metropolis.

The central component of the strategy is the Einstein Center for Digital Future, which combines the competence of four Berlin universities, two universities of applied sciences and eight non-academic research institutions. It was developed in cooperation with the state of Berlin and numerous companies and institutions. More than 50 new professorships have been funded to advance research in areas such as digital infrastructure, digital industry and services, and digital health. They can use synergies with the Weizenbaum Institute for the Networked Society, which is investigating the effects of digitalisation on society and providing recommendations for policymakers and business. More than 100 scientists from several universities and research institutions are collaborating in 20 interdisciplinary research groups on such topics as work environments, digital markets, education and social justice, and democracy and participation. The third pillar of the digitalisation strategy is the Fraunhofer Center for Digital Networking of the four Fraunhofer



The humanoid robot Myon from the Beuth University of Applied Sciences Berlin.

Institutes in Berlin. Its work focuses on the needs of Industry 4.0 and the development of practical solutions for the Smart City. Research is being conducted on basic and cross-sectional technologies as well as on solutions for four specific areas of application: telemedicine, mobility in the city of the future, industry and production, and critical infrastructures.

#### **Einstein Foundation**

Since 2009, the Einstein Foundation Berlin has been pursuing the goal of strengthening top research in Berlin. It supports cooperation between universities and non-academic research institutes, their international networking, and recruiting the best minds for Berlin. The innovative Einstein Centers are expanding research priorities and developing new ones, currently in the fields of catalysis research, applied mathematics, neurosciences, classical sciences, regenerative medicine and digitalisation.



At the Research Institute for Molecular Pharmacology in Berlin-Buch, scientists are investigating key biological processes and thus the causes of diseases at the molecular level.

### Centre for medical research

Alternatives to animal testing As a large centre for biomedical research. Berlin has set itself the goal of taking on a pioneering role in the development of alternatives to animal experiments. To this end, a new research centre is being set up at the Charité in cooperation with other Berlin universities and institutes and funded by the state of Berlin.

Berlin is an important centre for medical research and a dynamic provider of healthcare characterised by a large number of research institutions, R&D-driven companies and innovative start-ups. For 300 years, Berlin's Charité has made medical history and has been associated with many great names and Nobel Prize winners. With around 17,500 employees, the Charité is Germany's largest university hospital and the heart of the medical research landscape in Berlin. Over 800,000 people are treated there each year. Patients benefit from the proximity and knowledge transfer between research and practice. The life science institutes of the three major universities are also of great importance for medical research in Berlin. The many non-academic institutions, such as the renowned Robert Koch Institute and the Max Planck Institute for Molecular Genetics, also play an important role. The Berlin Institute of Health (BIH) also focuses on the transfer of research findings to hospitals and vice versa. The institute is unique in

Germany and is a joint project of the Charité and the Max Delbrück Center for Molecular Medicine (MDC). BIH is developing new approaches for better prognoses and novel therapies for progressive diseases and unsolved health problems.

Two questions are at the heart of the work of the Berlin Institute of Health: How can research be put to use more quickly and more specifically for therapies, diagnostics and prevention? How can clinical observations be transferred into basic research?



### A leader in the humanities and social sciences

Berlin has a long research tradition in the humanities and social sciences and enjoys an excellent international reputation. An unusually diverse range of subjects and institutions opens up special research potential and attracts young talents and top researchers from all over the world. The world itself, from ancient times to current events and global change processes, is one of the focal points of Berlin research. This is also made possible by a unique spectrum of regional scientific expertise that extends from Asia to the Middle East, Africa and Europe, to North and South America, making Berlin scholars sought-after consultants for politics, business, and international organisations. The humanities and social sciences in Berlin are interdisciplinary and cooperate closely with numerous institutions in the capital. They are thus responding to new social challenges and research needs, such as the establishment of the Berlin-based German Center for Migration and Integration Research to coordinate a nationwide research network.

#### **Open access strategy**

access to scientific resources and publications. Since 2016, Berlin has expressly committed itself to the principles of open access to promote science, culture and society. The city is a pioneer in this field in Germany. Around one-third of the scientific articles published in Berlin were already freely accessible on the Internet in 2016. The state of Berlin is supporting its institutions in this process, hoping to increase the share of resources placed online to 60 percent by 2020.

The Philological Library of the Freie Universität, itself known as "The Brain" because of its design, contains 750,000 books.

## FACTS & FIGURES

is the total volume of basic funding for state universities and the Charité for the period 2018–2022



48,000

endowed professorships

Berlin universities have joint appointments with the non-university research institutions

More than

More than



oostgraduate programmes

special research areas







## 187,000

students at 11 state, two denominational and about 30 private universities, as well as the Charité



universities and universities of applied sciences



universities of excellence

16%

international academics

#### each year since 2008, the Governing Mayor has awarded the Berlin Science Prize endowed with a €40,000 grant

20%

22,000

jobs created by university spin-offs

#### LEGAL NOTICE

Publisher Press and Information Office of the State of Berlin Berliner Rathaus Jüdenstraße 1 10178 Berlin Email: presse-information@senatskanzlei.berlin.de

**Concept and editing** Senate Chancellery - Higher Education and Research

> **Desigr** ing. Brandideas GmbH

**Printing** Laserline Druckzentrum Berlin GmbH & Co. KG

#### Photo credite

Page 3 Lena Giovanazzi Page 5 Carola Radke/MfN Page 6 Berlin Partner/Schlovien Page 7 Ewald Thiel Page 8 Landesarchiv Berlin/Platow Page 9 Dipl.-Ing. Cem Avsar: Berlin Partner Iaffner: Berlin Partner/Philipp Jester Dr. Birgit Felden: Konstantin Börner

Iwa Cho: private

BBAW: Angelika Fischer Charité: Charité/Peitz

HWR Berlin: HWR Berlin TU Berlin: Philipp Arnoldt Photography UdK Berlin: Bjoern Wilck

#### Page 12

Dr. Tatiana Korotkova and Professor Regine Buchheim: Berlin Partner/Philipp Jester Professor Jesse Prinz: Pablo Castagnola Professor Jean-Pierre Bourguignon: ERC communication unit **Page 15** Berlin Partner

> Page 16 Berlin Partner/Wüstenhagen Page 17 David Aussesbofor

> > Last updated: August 2018

This brochure is part of the public relations work of the federal state of Berlin. It may not be sold or used for political party purposes.

