

YEARBOOK 2021



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The Rectorate of TU Dortmund University: President Prof. Manfred Bayer (third from left) with Vice President Academic Affairs Prof. Wiebke Möhring, Vice President Finance Prof. Gerhard Schembecker, Vice President International Affairs Prof. Tessa Flatten, Vice President Research Prof. Nele McElvany and Chancellor Albrecht Ehlers (from left to right).

Dear readers,

Every year, the TU Dortmund University yearbook offers a review of the events that shaped university life over the previous year. The review for 2021 will be the first to be published in purely digital form. Whether it's research or teaching, campus or sustainability, start-ups or networking – get an overview of the various areas of our university and find the key facts and figures on the individual topics.

In 2021, the COVID-19 pandemic continued to shape research and teaching at TU Dortmund University: In order to safeguard courses such as laboratory practicals or music rehearsals that cannot take place digitally, we established a comprehensive testing concept in spring (p. 4). Starting in the summer, we were also able to offer vaccination campaigns in an effort to protect TU members and their families from the virus as best as possible (p. 5). From the winter semester onwards, a lot of teaching was allowed to take place in person again, in compliance with the 3G rule. A digital access authorization in the TU app made it possible to quickly check whether people met one of the 3G criteria (p. 5).

In October, we were finally able to welcome our approximately 3,200 first-year students at our traditional welcome event at the Borussia Dortmund stadium (p. 27). Interested members of the public were also welcomed back onto the campus for our open day (p. 45). We expanded the range of programs of-

ferred at TU Dortmund University in the winter semester to include a bachelor's degree in sociology and an international master's degree with a focus on particle physics (p. 27). Our long-standing programs in physics and chemistry earned top scores in the Centre for Higher Education's University Ranking: These degree programs were among the frontrunners for numerous criteria (p. 26).

New research opportunities also came to light in the past year: In November, the German Research Foundation announced the second extension of Transregio 142 (p. 10). The joint project with the University of Paderborn deals with the fundamental concepts of photonics and quantum optics. In September, the foundation was laid for the new research building "Center for Advanced Liquid-Phase Engineering Dortmund" (CALEDO) (p. 13). With CALEDO, TU Dortmund University is establishing an internationally visible research center for liquid design. In June, the Volkswagen Foundation announced it would be funding the Rhine-Ruhr Center for Science Communication Research, in which the Institute for Journalism is involved (p. 21). The aim of the new center is to advance research on science communication.

Within the University Alliance Ruhr, we promote cutting-edge, international research in future-focused research fields. Last summer, TU Dortmund University, Ruhr-Universität Bochum and the University of Duisburg-Essen signed the cooperation agree-

ment that founded the Research Alliance Ruhr (p. 37). Until 2024, the state government will be providing up to 75 million euros in funding for the development of the four research centers and the college. Just recently, in June 2022, we managed to appoint Prof. Edvardas Narevicius from Israel to a Humboldt Professorship at TU Dortmund University. He will be taking on the first international professorship at the Research Alliance Ruhr.

You will find out more about the series of events that made up 2021 on the following pages.

Kind regards,

Prof. Manfred Bayer

in July 2022



COVID-19

Summer semester 2021 | Testing facilities

Lollipop tests open the door for a hybrid summer semester

In the summer semester, day-to-day operations can in part take place in person again – but not without a test concept. TU Dortmund University follows the strategy of the “No-Covid” initiative, which recommends opening educational institutions alongside series of tests for the coronavirus. Since social distancing and hygiene rules are still required, the majority of the courses are being held online. However, lab and workshop practicals cannot be offered online, nor can practical exercises in subjects like music, art, sports or journalism.

These classes have been authorized for in-person sessions for this very reason. With this in mind, TU Dortmund University offers COVID testing, which is carried out in dedicated test centers on campus. The method for collecting samples is very simple: First,

you suck on a cotton swab for 30 seconds, then wipe your left and right nostrils with the pad. The samples collected with this “lollipop method” can be analyzed in the laboratory using PCR.

Klinikum Dortmund is responsible for evaluating the samples. To ensure this process is as efficient as possible, multiple samples are collected in one vessel and analyzed together. If the results of such a “pool” are negative, it is clear that none of the people are infected. If the results are positive, each of the B samples are then re-analyzed individually. The university also uses self-tests. Employees can use these to test themselves at home in order to detect possible infections before visiting campus.



February | Prof. Matthias Schneider's initiative

Great media response for “No-Covid”

Numerous media outlets such as DIE ZEIT, FAZ and DER SPIEGEL are reporting on the “No-Covid” initiative, which sees leading scientists from various disciplines joining forces. Prof. Matthias Schneider, Head of Medical and Biological Physics at TU Dortmund University, is a member of the 14-person group. In a strategy paper, the initiative calls for reducing the number of coronavirus infections to zero in order to break through the constant switching between lockdown and opening up, and to create long-term prospects for society.



April | Media interest

ZDF and WDR report on testing facilities



With TU Dortmund University implementing a testing strategy to ensure the necessary face-to-face teaching can continue, RKI President Lothar Wieler describes the university as a model project at a federal press conference. ZDF, WDR and the press agency AP then come for a visit to the campus at the start of the semester. These public broadcasters showcase

pictures from the testing tent on the evening news. TU President Manfred Bayer explains why a testing concept has been chosen early on: “It’s important for the students not to lose another semester to canceled practical classes. At the same time, we have to prevent the virus from spreading on campus.”

July and December | Vaccination campaigns

1,570 COVID vaccinations are administered on campus

Vaccination campaigns are carried out on campus in July and December. A total of 1,570 students, employees and interested members of the public are vaccinated against COVID there as a result. TU Dortmund University collaborates with the medical service provider Wallmeyer GmbH. Several vaccinators and their teams administer the first, second and booster doses of the BioNTech/Pfizer or Moderna vaccines. “We are delighted that the service has been so well received. Every vaccination – whether it’s the first, second or booster dose – is an important step in protecting us from the virus,” says Marlene Schmidt from the Office of Occupational Safety, Environmental and Health Protection which organizes the campaigns.

The vaccines are administered in the seminar building on Friedrich-Wöhler-Weg. Two vaccination booths

and waiting areas are set up there for this very purpose. The the vaccinations are reported directly to the RKI. Long waiting times are successfully avoided using a structured process – but also with the help of the volunteers actively supporting the Office of Occupational Safety, Environmental and Health Protection on the vaccination days. This is also emphasized by TU staff member Anja Fischer: “Of course having a fixed appointment for your vaccination is more convenient than standing in a long line in front of the vaccination bus.”

In the summer, TU Dortmund University also uses an anonymous survey to determine the need for vaccinations among the student body. Around 6,600 TU students take part in the short online survey from 21 to 26 July. The results show that, at this point, 92 percent have already been fully vaccinated or had their first dose.



Winter semester 2020/21 | Second wave of COVID-19

Exams are held predominately online

With some students having taken their oral exams online in the summer of 2020, the majority of written exams are also being held digitally in the 2020/21 winter semester – for the first time in the history of the university. The reason for this is the high number of infections in the second wave of COVID-19. TU Dortmund University makes the systems Moodle, EvaExam Online, Zoom and Webex available for the exams. It also provides guidelines how to set up online exams.

Winter semester 2021/22 | Research project

Chair of Medical Physics conducts PCR pool tests on campus

Free PCR pool tests are offered on campus in the winter semester. Despite nationwide shortages, this is possible because the Chair of Medical Physics evaluates the samples itself on site for a research project, so no certified laboratory is required. The Chair analyzes over 3,000 samples every week. The project makes it possible to better understand the movement of the virus and increase on-campus security and control the infection process.

Winter semester 2021/2022 | Digital access authorization

TU app allows for quick 3G checks



In the winter semester of 2021/2022, the 3G rule is in place at TU Dortmund University for indoor events in accordance with the Coronavirus Protection Ordinance. Only those who have been fully vaccinated, recovered or been tested are allowed to attend courses, for example. To conduct 3G checks on its almost 40,000 members, TU Dortmund University mainly re-

lies on digital access authorization, the “green tick” in the TU app. TU members can then present these to security staff at the entrances to the main buildings to gain access to classes. The tick can be obtained by presenting proof of vaccination or recovery. Employees check this proof at around 50 check-in points on campus.

February | Statistical models

Improved forecasts for COVID-19 infections



Prof. Markus Pauly from the Chair of Mathematical Statistics and Industrial Applications of the Department of Statistics works alongside scientists from the University Medical Center Göttingen and from the Institute of Biometry and Clinical Epidemiology of Charité - Universitätsmedizin Berlin and the Berlin Institute of Health on a COVID-19 research project. The

aim is to find out whether there are ways to reliably predict the progression of COVID-19 infections or other pandemic infectious diseases. To achieve this, the statisticians are developing models that allow for improved forecasting on the basis of existing data. The Volkswagen Foundation is funding the project.

April | Quantitative survey

The pandemic makes care work more difficult

A team from the Department of Social Sciences led by Prof. Martina Brandt studies how the pandemic is affecting support networks, health and well-being in people aged between 40 and 90. The results of the quantitative survey from summer 2020 are published in the scientific journal *Zeitschrift für Gerontologie und Geriatrie*. They show that the pandemic is making care work more difficult. Older and elderly people in particular are withdrawing from supporting others. Judith Kaschowitz (photo) is a co-author of the study.



February | European Journalism Observatory

Falling revenues in European media



As a result of the COVID-19 pandemic, media outlets across Europe are under stress. The network of the European Journalism Observatory (EJO), based at TU Dortmund University, spoke to media experts, journalists and trade unions and provides some insight on its website into the economic effects of the pandemic on the media in Germany, Georgia, the

United Kingdom, Italy, Latvia, Poland, Portugal, Spain and Ukraine. In both Western and Eastern Europe, print media in particular experienced a steep drop in revenue in 2020. As a result, numerous media outlets in many countries were and are affected by reduced working hours and job cuts.

September | Cooperation with BVB

Large-scale survey of football fans

Prof. Uwe Wilkesmann, Professor of Organizational Research and Training Management, conducted a survey of fans in collaboration with Borussia Dortmund. The aim was to find out whether the COVID lockdown had an impact on fan loyalty. BVB publishes the results in September: The importance of soccer in general and BVB in particular fell during the pandemic. However, the approval ratings for BVB are significantly higher than for soccer in general, both before and during the pandemic.



March | German School Award

How school can work in the pandemic



The German School Award (Deutscher Schulpreis) 20/21 honors innovative concepts developed by schools when dealing with the COVID crisis that can change learning and teaching in the long term. As a member of the panel of judges, Prof. Silvia-Iris Beutel from the Chair of General Didactics and School Pedagogy highlights the value of interaction when schools are closed.

July | Online platform

Student honored for volunteer project

In honor of the tenth anniversary of the Deutschlandstipendium, the Stifterverband awards volunteer projects run by Deutschlandstipendium recipients as part of the “Commitment to the Power of Ten” competition. Jana Konkel from TU Dortmund University is awarded for her “Learn Fair” project: Using an online platform, students offer schoolchildren voluntary tutoring that takes place digitally – via Skype or Zoom, for example. This way, the children can achieve their educational goals regardless of their financial circumstances.



February | Lessons in the pandemic

Second nationwide survey of teachers is launched



The Center for Research on Education and School Development (IFS) headed by Prof. Nele McElvany launches a second nationwide survey of teachers on the subject of teaching in the COVID pandemic. The aim is to find out what has changed since spring 2020, and what teachers’ experiences are with the new digital lesson format.

April | Homeschooling

Big differences in distance learning



Prof. Ricarda Steinmayr and her team from the Institute of Psychology conduct a second study on the quality of homeschooling in collaboration with Philipps-Universität Marburg, 3,400 parents are surveyed for this study. It shows that distance learning in German schools has improved since spring 2020. However, the implementation still differs greatly be-

tween primary and secondary schools and also between schools of the same type. For example, while some schools are still not teaching via video conferencing, other schools that have the same learning platforms are already offering distance teaching across their timetable.

September – October | “Workshop University”

2020 exhibition on research and teaching

The “Workshop University” exhibition on the university floor in the Dortmunder U takes a look back at the year 2020 and showcases, among other things, various digital formats created during the coronavirus pandemic. For example, the exhibition takes video productions created in light of the pandemic restrictions and brings them together all in one place: You can see the digital contributions from the Children’s University and the public lecture series “Image and Sound,” which presents five films in the “edition ortlos” (“placeless edition”).



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TU Dortmund University in the Coronavirus Pandemic

2021 is the year of the coronavirus pandemic and all about vaccinating and testing. The abbreviation “3G” – vaccinated, tested, recovered – is ubiquitous. TU Dortmund University also relies on a testing strategy to safeguard in-person teaching as well as possible and organizes vaccination campaigns. In the winter semester, “3G” status must be checked exhaustively.



20,000

TU members use TU app to prove “2G” status (vaccinated/recovered) from October 2021 onwards



27,000

COVID-19 popsicle tests in the 2021 summer semester



1,570

vaccinations on campus



28,000

COVID-19 gargle tests from October 2021 onwards

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November | Photonics and quantum optics

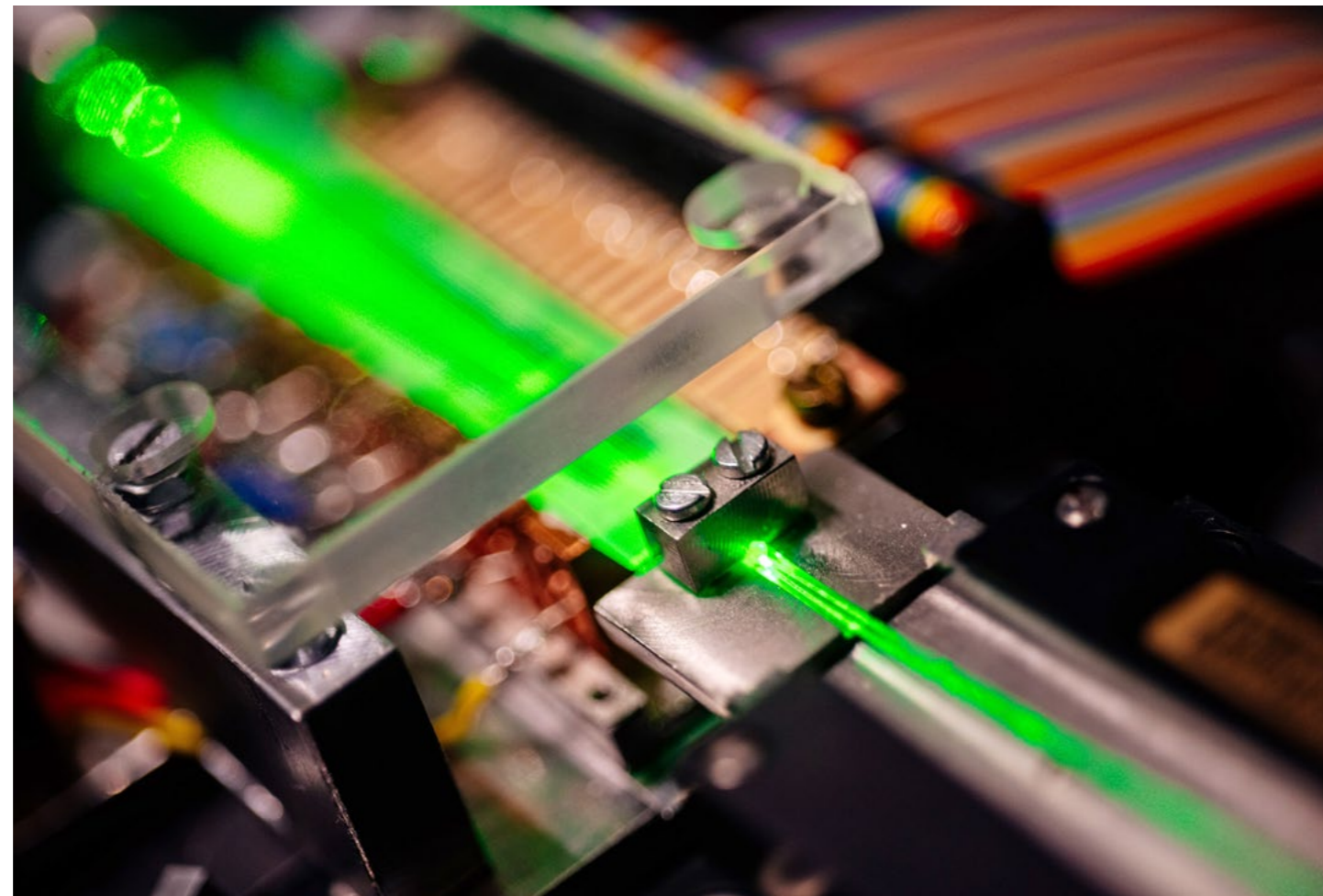
DFG extends Collaborative Research Center/Transregio 142 again

The German Research Foundation (DFG) announces the second extension of the Collaborative Research Center/Transregio (TRR) 142 “Tailored nonlinear photonics: From fundamental concepts to functional structures”. The joint project between the University of Paderborn and TU Dortmund University deals with the fundamental concepts of photonics and quantum optics. The aim is to break new ground in the field of nonlinear photonic systems through the targeted manipulation of light – in communication technology, for instance. Photons are considered the key to developing a new generation of IT systems.

The TRR was approved for four years in 2013 and funded with approximately ten million euros. The first extension for a further four years was announced in 2018. The Transregio is now entering its third phase.

The project combines the expertise of the University of Paderborn in the fields of photonic materials and quantum optics and TU Dortmund University in the field of nonlinear spectroscopy.

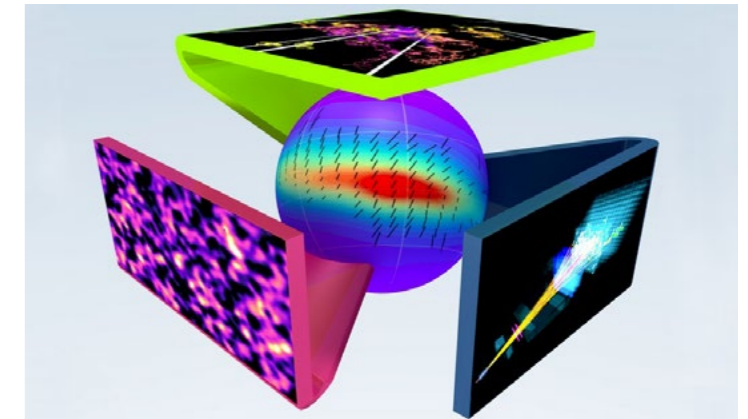
“For eight years, we’ve been continuously expanding the cooperation between Paderborn and Dortmund on the basis of our complementary expertise. We are delighted that the reviewers recognized this again, as well as our plans for the next four years,” says Prof. Manfred Bayer, TRR site spokesman and TU President. Dr. Ilya Akimov, Prof. Marc Assmann, Prof. Mirko Cinchetti, Prof. Christoph Lange, Dr. Claudia Ruppert, Dr. Alexey Scherbakov and Prof. Dmitri Yakovlev from TU Dortmund University are also involved in TRR 142.



November | Astroparticle physics

TU physicists also involved in new RUB CRC 1491

The German Research Foundation decides to establish the Collaborative Research Center (CRC) 1491 at Ruhr-Universität Bochum (RUB). Physicists from TU Dortmund University also contribute their expertise in particle and astroparticle physics to the new CRC: Prof. Johannes Albrecht, Dr. Dominik Elsässer and Prof. Wolfgang Rhode. The Collaborative Research Center titled “The Interplay of Cosmic Matter – from Source to Signal” aims to systematically investigate how matter and energy interact.



January | Forming processes

Transregio 188 enters second phase



At the beginning of the year, the Collaborative Research Center/Transregio (TRR) 188 starts its second funding phase. An additional 11.4 million euros will go to the project by the end of 2024. At the TRR, scientists from the Department of Mechanical Engineering and the Department of Architecture and Civil Engineering work with partners to research “damage-controlled forming processes”. They want to understand

how internal material damage occurs when metals are formed, and how this affects the product properties. TU professor A. Erman Tekkaya from the Institute of Forming Technology and Lightweight Construction hands over the role of spokesperson to RWTH Aachen University on a rotating basis, while remaining the spokesperson for TU Dortmund University.

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July | National Research Data Infrastructure

Sustainably harnessing research data



TU Dortmund University is involved in three interdisciplinary consortia that have been accepted into the “National Research Data Infrastructure” funding program: The physics professors Johannes Albrecht and Kevin Kröninger work in the PUNCH4NFDI consortium, Prof. Nguyen Xuan Thinh from the field of spatial planning works at *NFDI4Earth*, and TU physicists works at *FAIRmat*.

December | DFG priority program

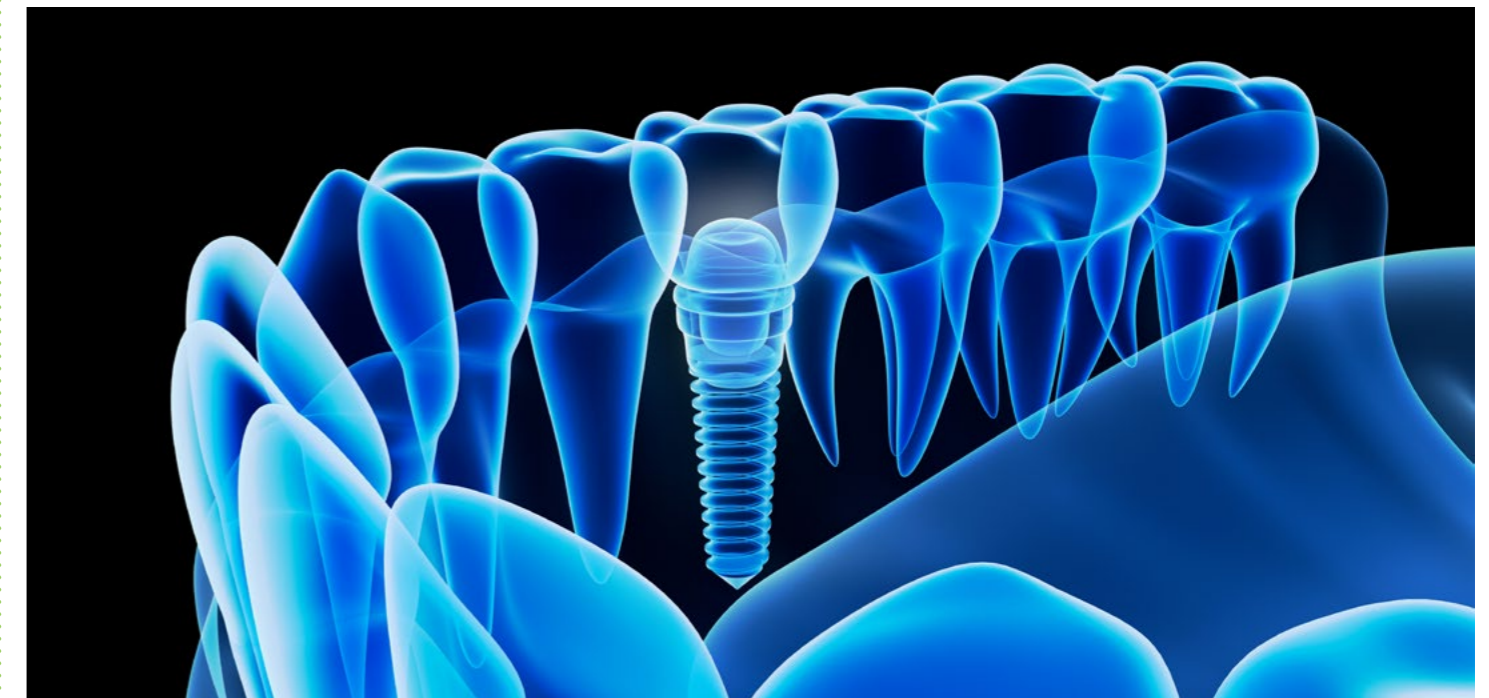
Researching the role of liquids in production processes



Since 2020, Prof. Dirk Biermann from the Institute of Machining Technology has headed the DFG priority program FLUSIMPRO, which funds around 20 projects, amounting to a total volume of around 2.3 million euros per year, to investigate the role of liquids in production processes. The DFG starts submitting applications for the second round of funding in late 2021.

December | DFG research group

Innovative implants for dentistry



The German Research Foundation (DFG) announces it plans to establish a new research group at TU Dortmund University. Frank Walther, Professor of Materials Test Engineering, is the spokesman for the network of eight institutions. Jochen Tenkamp takes over as manager. Together, the partners will develop innovative implants for maxillofacial medicine. The group

conducts research at the interface between materials engineering and dentistry, ranging from production to the characterization and simulation of the implants and taking into account physiological conditions in the body. The DFG is providing 3.4 million euros of funding to the project for an initial four years.

July | Particle physics

Another 4.3 million euros for research at CERN

Around 50 physicists from TU Dortmund University work at the CERN research center in Switzerland, where the Large Hadron Collider (LHC) is run. The Federal Ministry of Education and Research is funding their work with an additional 4.3 million euros for three years as part of the ErUM-Pro project funding scheme. Prof. Johannes Albrecht’s team is researching the LHCb experiment. The group headed by Prof. Kevin Kröninger is working on the ATLAS experiment. The team led by Prof. Gudrun Hiller conducts theoretical investigations.



March | Conference

Particle physics: Challenging the standard model

At a particle physics conference and in a seminar at the CERN research center, international researchers present two central measurements from the LHCb experiment. The team led by Prof. Johannes Albrecht from TU Dortmund University is significantly involved in the measurements. The observations of extremely rare particle decays point to explanations and models that go beyond the standard model of particle physics – such as the existence of so-called leptoquarks.

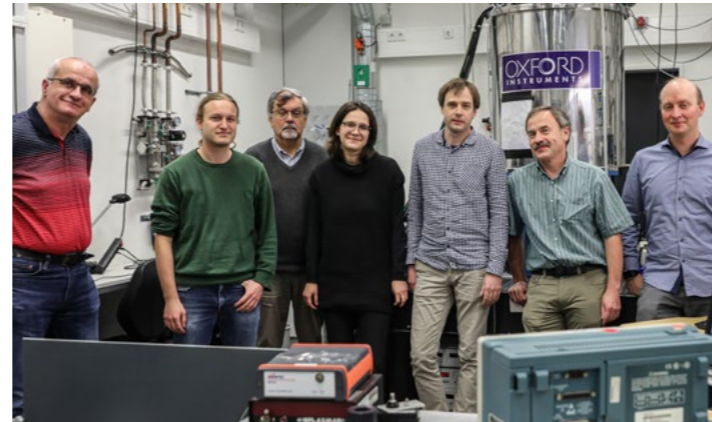


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November | Publication in *Advanced Materials*

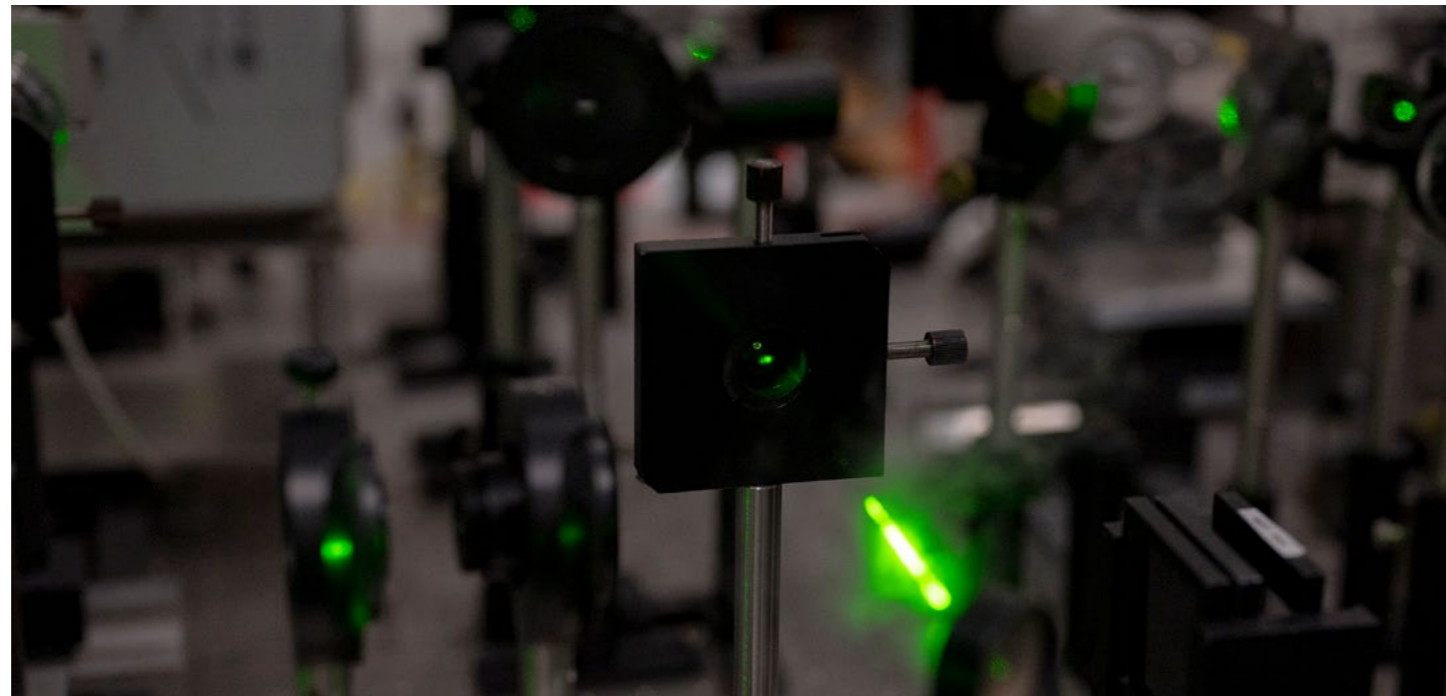
Materials research for the “Energiewende”

While searching for new materials for solar cells, a TU team working with international partners made a discovery: High-resolution investigations carried out on an ultrafast time scale show that the electron dynamics in perovskite crystals are determined by lead. Material properties could be modulated by changing the element. The following are involved in the publication in *Advanced Materials*: Prof. Manfred Bayer, Erik Kirstein, Dr. Evgeny Zhukov, Dr. Nataliia Kopteva, Eiko Evers, Prof. Dmitri Yakovlev and Dr. Dennis Kudlacik.



July | Publication in *Nature Communications*

Exotic interactions in semiconductors



The working group led by Prof. Marc Aßmann from the Department of Physics, alongside partners from the universities of Rostock, Aarhus and Harvard, investigated the extraordinarily strong interactions between Rydberg excitons in copper oxide. They discovered a blocking effect between excitons, which, at a size of several micrometers, look like giants in the quan-

tum mechanical system. The ability to control such effects is a highly relevant factor for optical circuits and quantum information processing. The Dortmund team tailor-made two laser beams in order to precisely examine the interactions. The results are published in *Nature Communications*.

October | Publication in *Small*

New insights into molecular interfaces

Molecular interfaces formed between metals and molecular compounds can be used as components for future optoelectronic and spintronic devices. Prof. Mirko Cinchetti (right), Dr. Giovanni Zamborlini (left) and Henning Sturmeit from the Department of Physics researched important properties of the porphyrin molecule, which is promising for interfaces of this kind, and in doing so brought it closer to practical application. Their results are presented in the journal *Small*.



January | Publication in *Nature Physics*

Innovative measurement for ultrafast electron processes



An international team has developed a kind of stopwatch that measures electron processes in atoms: In concrete terms, these processes involve Auger electrons that atoms release within femtoseconds after being bombarded with high-energy X-rays. JProf. Wolfram Helml from the Department of Physics is involved in the publication in *Nature Physics*.

July | Publication in *Nature Communications*

Cutting-edge responsive materials unveiled



A team led by Prof. Sebastian Henke from the Department of Chemistry and Chemical Biology, together with partners from the Ruhr-Universität Bochum, investigated the responsive behavior of porous metal-organic frameworks. These can crumple up like a sheet of paper and unfold again. The findings are published in *Nature Communications*.

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23 September | CALEDO

Foundation stone laid for research center for innovative liquids

After the groundbreaking ceremony in March, with the NRW Science Minister Isabel Pfeiffer-Poensgen in attendance, the foundation stone for the new research building “Center for Advanced Liquid-Phase Engineering Dortmund” (CALEDO) is laid in mid-September. With CALEDO, TU Dortmund University is establishing an internationally visible research center for liquid design. The federal government and the state of North Rhine-Westphalia each share half of the funding of approx. 72 million euros for the research building, which came out on top in a tough nationwide funding competition. At the event, TU President Prof. Manfred Bayer (second from left), the spokesperson for the research building Prof. Gabriele Sadowski (middle) and representatives of the federal and state governments symbolically sink a capsule filled with

contemporary objects in a brick cube. “CALEDO offers the infrastructure for top international research at TU Dortmund University and in cooperation with the University Alliance Ruhr,” says Prof. Manfred Bayer.

In the laboratories, liquids will be tailored for environmentally friendly and innovative processes in chemistry and biotechnology or for pharmaceutical products. The aim is to study the interactions between the molecules involved in order to significantly reduce the number of costly and time-consuming series of tests. The building on Otto-Hahn-Strasse will have around 4,000 square meters of floor space and approx. 100 workstations in state-of-the-art laboratories. The building, designed by the architecture firm Gerber, is scheduled to be completed by the end of 2024.



November | Life sciences

Dortmund Life Science Center planned

TU Dortmund University is expanding the life sciences and is tendering four new biology-focused professorships for the Dortmund Life Science Center (DOLCE). The center aims to reinforce research in chemical biology, biotechnology and drug research with expertise in fundamental biology. DOLCE makes it possible to map the entire spectrum of preclinical research into drug development and its production processes at the Dortmund site. It is supported by the Department of Chemistry and Chemical Biology as well as the Department of Biochemical and Chemical Engineering.



September | Groundbreaking ceremony

Expansion of Drug Delivery Innovation Center



The groundbreaking ceremony for an extension of the Drug Delivery Center (DDIC) in Leverkusen takes place in September. In 2017, TU Dortmund University founded the DDIC together with the Heinrich Heine University Düsseldorf and the German companies Bayer AG, LB Bohle GmbH, Merck KGaA and UCB S.A.. Representatives from the world of science and indus-

try have been working together in this consortium to develop advanced manufacturing processes and delivery forms for state-of-the-art drugs. Prof. Gerhard Schembecker (third from left) from the Department of Biochemical and Chemical Engineering, which is significantly involved in the DDIC, attends the groundbreaking ceremony.

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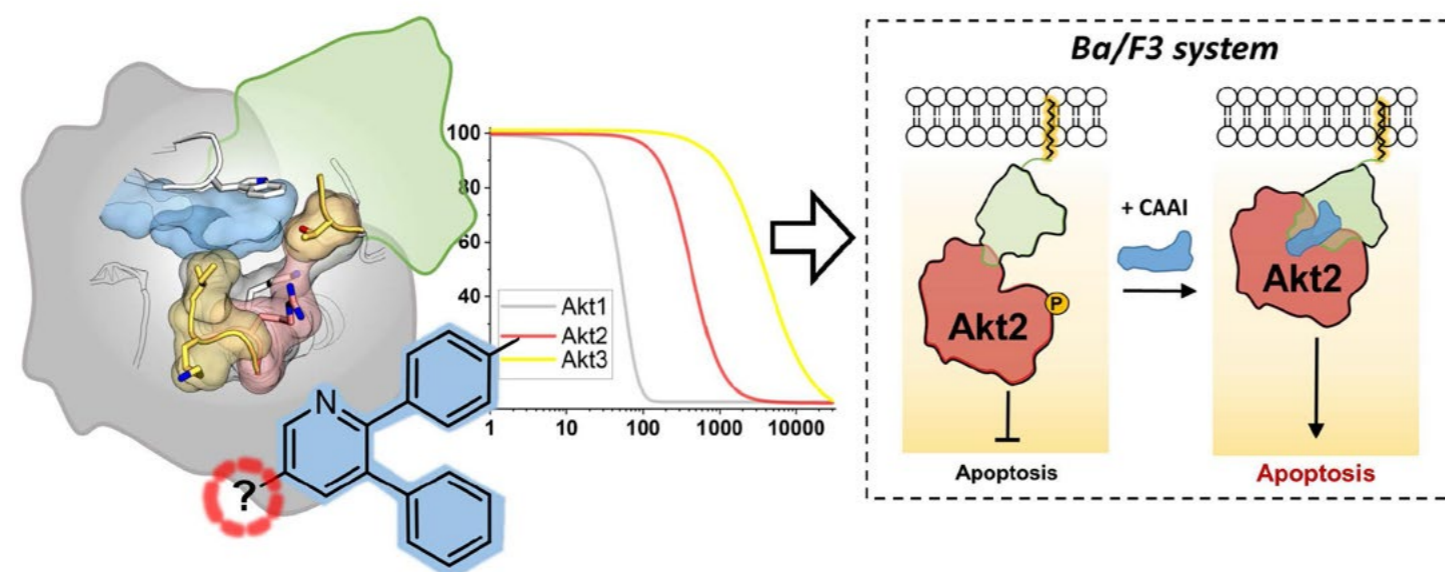
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September | Nature Communications

New chemical tools developed



Prof. Daniel Rauh from the Department of Chemistry and Chemical Biology, with the help of his working group, including the two doctoral students Lena Quambusch and Laura Depta, developed new chemical tools to help understand the specific functions of the three isoforms of Akt protein kinase, which play a major role in the development of cancer. New insights

into these functions – in both healthy and diseased cells – can promote the development of next-generation therapeutics. The results are published in the journal *Nature Communications*. The work was funded in part by the Federal Ministry of Education and Research.

February | Applied chemistry

Biomolecules analyzed with coal-tar dyes

A research team led by Prof. Guido Clever and Dr. Irene Regeni from the Department of Chemistry and Chemical Biology has discovered new, promising ways of using well-known coal-tar dyes to analyze biomolecules. The results are published in *Angewandte Chemie International Edition*. The journal selects the publication as a “hot paper” and in doing so underlines the future potential of the method, which is the first to retain the intense color, making it possible to better measure the chirality of the biomolecules.



August | Nature Chemistry

The role of RNA in the origin of life



In an interdisciplinary team, scientists from Dortmund and Munich led by Prof. Hannes Mutschler from the Department of Chemistry and Chemical Biology study what role ribonucleic acids (RNA) may have played in the origin of life. The findings are published in *Nature Chemistry*.

May | Nature Chemistry

New stable organic compound synthesized



JProf. Max Martin Hansmann (pictured) and Patrick Antoni from the Department of Chemistry and Chemical Biology have achieved a novelty in organic chemistry: They have managed to successfully isolate and characterize a new variant of the compound class of highly reactive diazoalkenes at room temperature. The findings are published in *Nature Chemistry*.

April | Two publications

Write and erase DNA methylation with light

Prof. Daniel Summerer, Dr. Shubhendu Palei and Jan Wolffgramm (from left to right) from the Department of Chemistry and Chemical Biology have made significant progress in the field of chemical epigenetics: They are the first to describe how the writing and erasure of DNA methylation can be switched directly with light. DNA methylation is a central biological process that controls embryonic development, for example. The results are published in *Journal of the American Chemical Society* and *Angewandte Chemie*.



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May | Applied chemistry

RNR protein studied in living cells

JProf. Müge Kasanmascheff (right) from the Department of Chemistry and Chemical Biology and her team have gained new insights into the structure and properties of the protein ribonucleotide reductase (RNR), which is essential to the production of DNA building blocks in the cells of plants, mammals and humans. The studies were carried out on living cells and not in an artificial environment, as is usually the case. The results, which could be significant for cancer research, are published in *Angewandte Chemie*.



November | EU project

Upcycling materials from old refrigerators



A consortium of nine European countries wants to upcycle valuable plastic waste in the future: As part of the “Circular Foam” project, old refrigerators or facade elements that contain high-quality plastics like rigid polyurethane foam are transformed back into new raw materials for the chemical industry. One of 22 participating partners from research and industry

is Prof. Sebastian Engell from the Department of Biochemical and Chemical Engineering (BCE). He was involved in the conception of the project and is set to lead a work package. A total of around 19 million euros will be allocated to the project over four years from the EU funding program “Horizon 2020”, 760,000 euros of which will go to the BCE Department.

October | Megawatt charging systems

Consortium to promote electric heavy-duty transport

A collaborative project on electric heavy-duty transport is launching with 13 partners from industry and research. Under the title “High performance charging for long-haul trucking”, two powerful charging points are to be set up, operated and examined in real logistics operations at four locations. Prof. Christian Rehtanz and his team from the Department of Electrical Engineering and Information Technology are responsible for the accompanying research. The project has a budget of 27 million euros, including 12 million euros in funding and will run until the end of 2024.



October | Conference presentation

Sustainable superheated steam dishwasher simulated



Prof. Natalie Germann from the Department of Biochemical and Chemical Engineering simulated a dishwasher that cleans with hot steam alone. The results are promising – clean dishes and low resource consumption. She presents her findings at an international conference of the American Physical Society in the USA.

September | Cooperation

The kynurenine pathway and its biomedical role



Prof. Philipp Zimmer (right) and Dr. Niklas Joisten from the Institute of Sports and Sport Science describe the results of international cooperation on the kynurenine pathway in the magazine *Trends in Molecular Medicine*. The health-promoting effect of regular exercise for sufferers of chronic diseases is set to be researched further on this basis.

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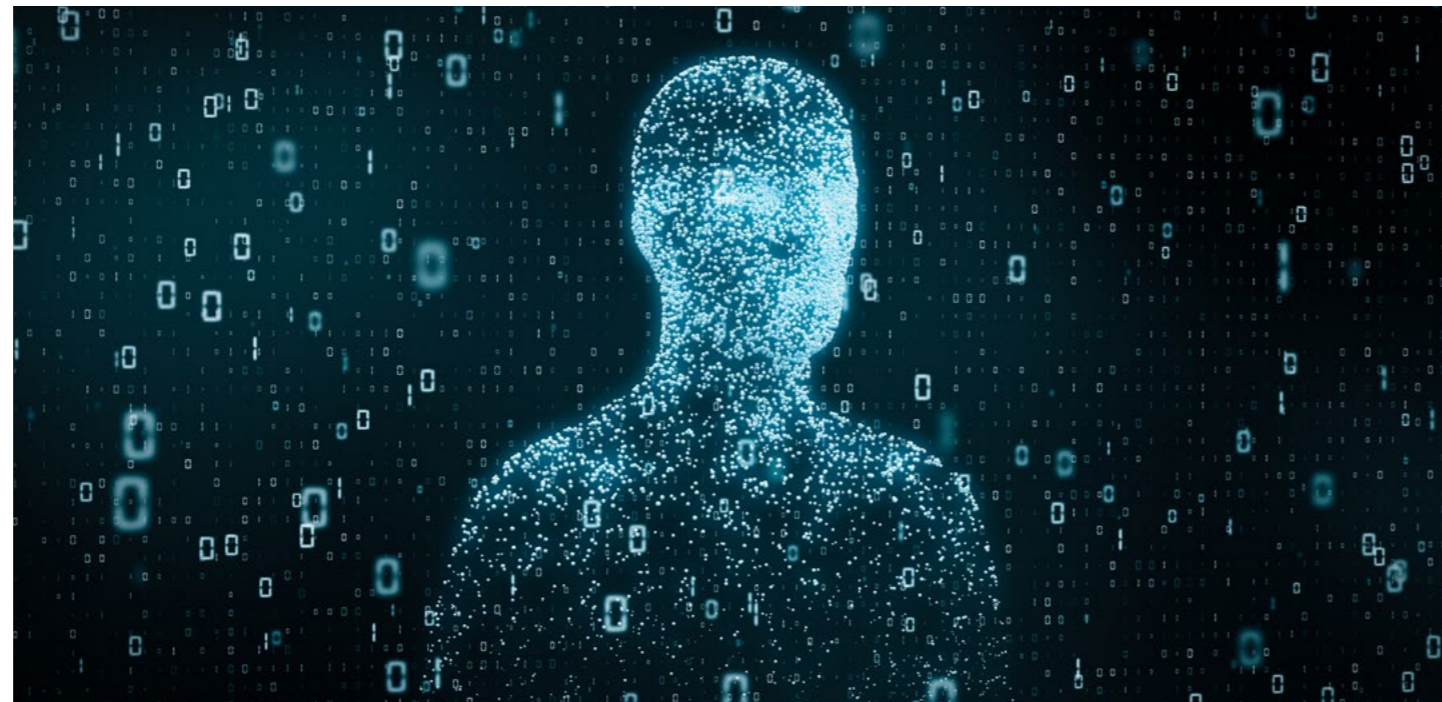
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August | "Profile building" funding line

New data analysis methods for social research



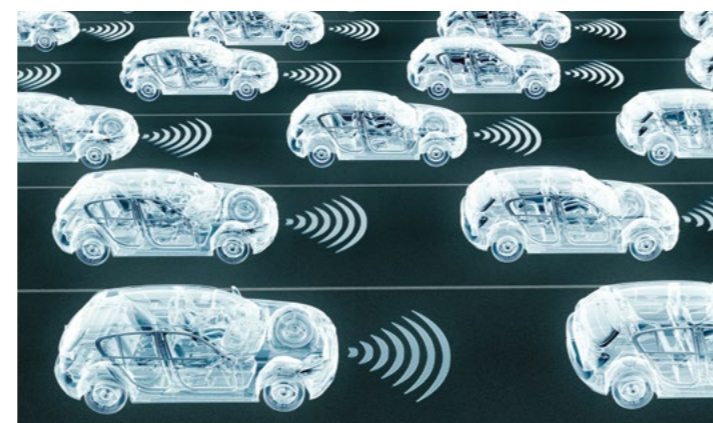
North Rhine-Westphalia Ministry of Culture and Science is funding two new TU research projects with approximately 2.2 million euros. The new "Profile Building" funding program is designed to help universities establish new networks and further develop existing research focuses. The FAIR project is based exclusively at TU Dortmund University. A research team will

develop data science methods for social research to help overcome societal challenges. The B3D project, which combines artificial intelligence and astronomy, is a state-wide joint project in which physicists from TU Dortmund University are heavily involved.

April | Cooperation

Project aims to make automated driving safer

Scientists from the Robotics Research Institute at TU Dortmund University headed by Prof. Torsten Bertram and partners from the automotive supply industry are jointly developing a key component for automated networked driving: The aim of the "KISSaF" project is to improve the perception of the environment and predict traffic situations using artificial intelligence. The name of the joint project stands for "AI-based situational interpretation for automated driving". The Federal Ministry of Economics is funding the project with 2.75 million euros.



January | Use of AI

Understanding and explaining intelligent systems

How can we ensure that machines behave morally? This is a question that JProf. Eva Schmidt from the Institute of Philosophy and Political Science addresses in a project with Saarland University. The "Explainable Intelligent Systems" project deals with the explainability of AI-based decisions and, by extension, with one of the key questions surrounding the use of artificial intelligence in society. The Volkswagen Foundation is supporting the research conducted by JProf. Schmidt and a doctoral student with 160,000 euros over three years.



April | Agriculture

Artificial intelligence for tractors



In the "resKIL" project – short for "Ressourceneffiziente KI für eingebettete Systeme in Landmaschinen" or "Resource-efficient AI for embedded systems in agricultural machinery" in English – a consortium of agricultural engineering, software development and research is transferring methods and technologies from the field of artificial intelligence to agricultural machinery. Prof. Markus Pauly from the Department

of Statistics is also involved in the project. Artificial intelligence can help farmers plan their work more effectively and relieve them of routine activities. In the future, for example, large machines such as tractors could also drive autonomously across the fields. The project is receiving around 1.57 million euros in funding from the Federal Ministry of Food and Agriculture.

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January | EU funding
Searching for active ingredients using algorithms

Helmholtz Munich coordinates the new Innovative Training Network (ITN) “Advanced Machine Learning for Innovative Drug Discovery”, in which Prof. Paul Czodrowski from the Department of Chemistry and Chemical Biology is involved. The project combines drug research with chemoinformatics and is funded by the EU as part of the Marie Skłodowska-Curie Actions to the tune of 3.93 million euros, with around 150,000 euros of that going to Dortmund. A total of fifteen institutions from ten European countries and Canada are involved.



9 October | Cooperation with Telekom
Symphony completed with AI



How would Beethoven’s 10th Symphony have sounded if he had managed to finish it? This question has been on the minds of international experts in a Telekom project since 2019. And now they have their answer. The world premiere of the work, which was completed using artificial intelligence (AI) takes place on 9 October in Bonn. The team developed an AI that can “under-

stand” Beethoven’s style. Prof. Mark Gotham from the Department of Music and Musicology was responsible for establishing the connection between AI and music in the project. In order for the AI to “think” like Beethoven, it required a lot of data, so it trained with around 10,000 pieces of music. Alongside the experts, it was finally able to complete Beethoven’s 10th symphony.

April | New technologies
Concepts for the computers of tomorrow



Prof. Mirko Cinchetti’s working group at the Department of Physics has received research funding of almost one million euros from the EU. This is intended to research new technologies that could revolutionize computer processors and data storage in the future. The team is involved in two international projects funded as part of the Horizon 2020 program: SINFO-

NIA and INTERFAST came out on top in the FET open category, which supports projects with “radically new ideas”. The teams explore the possible uses of organic matter in the field of electronics and computer technology. The aim is to develop concepts from basic research towards application.

September | Amazon Research Award
Learning security tests for software

Since 2015, Amazon has been promoting research projects from all over the world – in areas such as machine learning and IT security – with its Research Award. This year, Prof. Falk Howar from the Department of Computer Science is receiving the award and the associated funding of 45,000 US dollars for his project titled “Scaling Dynamic Symbolic Execution for Java”. With his team, he uses learning and formal methods to test autonomous and safety-critical software systems for possible security gaps.



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March | UA Ruhr competence field

Digitization in the energy sector



What's next for Germany's energy supply? With this question in mind, Prof. Christian Rehtanz (left) and Prof. Christian Wietfeld (center), both from the Department of Electrical Engineering and Information Technology, and Prof. Christoph Weber from the University of Duisburg-Essen (right) are presenting the NRW Ministry of Economic Affairs with a preliminary

study on the current status of digitization in the energy sector, including a forecast of future research and development activities. With the study, the three experts are completing the state-funded Digital.ES project. It was created in the UA Ruhr competence field EST - Energy System Transformation - and is the first concrete result of this collaboration.

25 August | Alumni Day

Computer science offers insights into qubits

Quantum computers (pictured) promise a wide range of potential applications in the field of cryptography, self-learning methods and quantum simulation. At the digital Alumni Day for computer science, quantum computing is the subject of various lectures. Unlike classic computers that work with bits, so-called qubits are used in quantum computing. These allow for virtually parallel calculations. This makes it possible for very large, unstructured amounts of data, for example, to be searched, or for multiple optimization problems to be solved.



18 June | Events

TU Dortmund University participating in nationwide Digital Day

TU Dortmund University is taking part in the nationwide Digital Day with three events. Researchers from the Competence Center Machine Learning Rhine-Ruhr (ML2R) are offering a workshop on "Getting Started with Machine Learning". Anyone interested can learn the basics and put them into practice. In addition, a podcast on the topic of inclusion through digital participation is offered, and in the Digital Day Talk, TU professors give insights into what the digital logistics of the future could look like.

5 November | Rise of the internet

Alumni Day celebrates the 35th anniversary of the .de domain

The beginnings of the internet in Germany can also be traced back to Dortmund. Because with the EU-net project, the IT computer operations group of the former University of Dortmund operated one of the first German Internet service providers. On 5 November 1986, the first six domains ending with .de were created, including uni-dortmund.de. To celebrate the anniversary, the Alumni Day of the Department of Computer Science is held, with contemporary witnesses from Dortmund also in attendance.

September | SPIEGEL journalist appointed

First professorship for data journalism



The rise of digitization is making it increasingly important in almost all disciplines to be able to analyze and interpret the growing amounts of data. The understandable communication of data is also playing an increasingly important role in journalism. The Institute for Journalism at TU Dortmund University is therefore filling a new professorship for digital journalism/data

journalism for the winter semester 2021/22 – the first W2 professorship with this focus at a university in Germany. The person appointed is the data journalist Christina Elmer from DER SPIEGEL. This new professorship is intended to help anchor data skills even more broadly in the training of prospective journalists.

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October | THE rankings by subject

Educational science in top 10



With the subject of educational science, TU Dortmund University is once again among the ten best universities in Germany in the THE World University Rankings by subject for 2022: Here, the university ranks sixth in Germany, and even takes top place for NRW. With the global group placement of 101-125, it is in the top quarter of the 597 ranked universities. The rankings

published by the scientific magazine "Times Higher Education" garner a high level of international attention. The special evaluations are based on key figures on teaching, research, publications and citations, internationality and third-party funds, the weighting of which is adapted to suit subject-specific conditions.

August | Publication

Model explains motivation in teamwork

Is teamwork demotivating? According to a group of TU researchers, the answer is not per se. It depends on the concrete configuration of the teamwork. In a meta-analysis published in the journal *Psychological Bulletin*, Ann-Kathrin Torka, Dr. Jens Mazei and Prof. Joachim Hüffmeier from the Department of Educational Sciences and Psychology took data from over 320,000 people into account and used this to develop a theoretical model to explain motivation in teamwork.



April | IGLU study

IFS studies children's reading capacity

How well can fourth graders read and understand texts? This is what the International Elementary School Reading Survey (IGLU) regularly examines. Prof. Nele McElvany from the Center for Research on Education and School Development (IFS) is leading the study in Germany. The new survey cycle is set to start here in April 2021. Almost a year later, in March 2022, the IFS team is already able to demonstrate, in an interim analysis, how the COVID-19 pandemic has affected school education processes: Pupils have lost out on half a year of learning due to the pandemic.



March | BMBF project

How all-day schools can encourage reading



In collaboration with experts from the field, the Center for Research on Education and School Development is developing an all-day reading program under the leadership of Prof. Heinz Günter Holtappels. The program is the result of the reading sub-study of the larger study on the development of all-day schools, which was funded by the federal government until 2019.

November | Federal Indicator

Just how digital are German schools?



The study "Digital School – The Federal Indicator" funded by the Deutsche Telekom Foundation examines the use of digital media in the classroom. Under the direction of Dr. Ramona Lorenz from the IFS, 1,512 teachers were interviewed: Only 56.6 percent described the IT equipment in their schools as adequate. In a federal comparison, NRW ends up in the middle of the ranking.

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December | Initiative of the Conference of Ministers of Education and Cultural Affairs

Program for better mathematics teaching



Just under half of all young people in Germany achieve the mathematical skills required by the regulatory standards. The Conference of Ministers of Education and Cultural Affairs is therefore launching a ten-year program to strengthen mathematical education in Germany: “QuaMath - developing teaching and further education quality in mathematics”. The new program is

being developed by the German Centre for Mathematics Teacher Education (DZLM), which will receive 17.6 million euros in funding for the first 5.5 years from 2023. The entire Institute for Development and Research in Mathematics Education (IEEM) at TU Dortmund University is involved – under the leadership of Prof. Susanne Prediger (left) and Prof. Christoph Selter (right).

March | Joint project

Special training for mathematics teachers

Federal Ministry of Education and Research is funding a new project from TU Dortmund University and the University of Münster with 1.5 million euros: “Födima” stands for “Support-Oriented Diagnostics in Inclusive Elementary Mathematics Teaching”. The project aims to improve mathematics teaching through advanced teacher training. Prof. Christoph Selter from the Department of Mathematics is in charge of Födima on behalf of TU Dortmund University, the former TU professors Franz Wember (rehabilitation sciences) and Marcus Nührenböcker are also involved.



June | Catching up on learning deficits

New website offers compact materials for parents

The pandemic has presented challenges for many children with distance learning and alternating in-person class groups. It has also created learning gaps in math. Prof. Christoph Selter’s team wants to help make up for this deficit with the “Mathehilfe Kompakt” website, where scientific findings have been prepared for parents. Videos show how they can support elementary school children with their math learning. The project is funded by the Deutsche Telekom Foundation and the NRW Ministry of Education.

December | Work life

Improving the participation of people with disabilities

A team from the Social Research Center Dortmund (sfs) led by Dr. Bastian Pelka is working with three partner institutions to launch a project to improve the transition of employees in workshops for disabled people into the general labor market. The federal government is funding this joint project to the tune of 1.2 million euros over five years. An AI-supported app, the real laboratory method and the social innovation approach are among the tools used.

February | BMBF funding

Project tackles educational inequality



Increased need for language support, high staff turnover, parents at risk of poverty: These are some of the conditions under which schools operate in socially challenging situations. This has a negative impact on the performance of the schoolchildren there. In order to reduce this educational inequality nationwide, Prof. Susanne Prediger and Prof. Christoph Selter are develop-

ing measures in collaboration with 13 institutions and a total of 200 schools. Central to this campaign is support in mathematics and German. The project “Schule macht stark – SchuMaS” (“School makes you strong”) is part of a federal-state initiative and is funded by the Federal Ministry of Education and Research. The Dortmund teams will receive 1.86 million euros over five years.

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October | European network

How religious education can strengthen democracy

Populist movements are threatening democracies in Europe. Religious education has the potential to promote a democratic understanding of values and strengthen social cohesion, because for many people religion shapes their individual values. JProf. Alexander Unser from the Department of Humanities and Theology is building an EU-wide network on "Religion and Citizenship" in order to develop new concepts at the intersection of religious and civic education. The federal government is funding the project with 210,000 euros.



October | Federal comparison

Project studies party competition over religion



What role does religion play in party competition? A TU team is investigating this in a project funded by the German Research Foundation with 370,000 euros, in which the United Kingdom, Germany, the Netherlands and Sweden are compared. It is headed by JProf. Matthias Kortmann from the Department of Humanities and Theology.

November | Political education

TU researcher contributes to NRW democracy report



The NRW Centre for Civic Education presents the first democracy report on the state of political education in NRW. The report also presents the results of a representative survey taken among the population of North Rhine-Westphalia, which was scientifically overseen by Prof. Thomas Goll from the Department of Social Sciences.

June | Research center

VW Foundation funds Rhine-Ruhr Center for Science Communication Research

In order to advance research on science communication, the Volkswagen Foundation is funding four new centers with a total of 15 million euros. One of them will be the Rhine-Ruhr Center for Science Communication Research, in which the Institute for Journalism is involved with Holger Wormer (pictured, third from left), Professor of Science Journalism. Other project partners include the University of Bonn, the Institute for Advanced Study in the Humanities (KWI) Essen headed by Prof. Julika Griem (pictured, third from right) and Hochschule Bonn-Rhein-Sieg in Sankt Augustin.

In view of the current crisis of factuality, the project aims to reorganize both the content of science communication and the structures of its exploration. In three sub-projects, instructions and quality stand-

ards are to be developed in order to allow for a better-informed public to make more informed decisions and to be even more actively involved in communicating with science. With the Science Media Center and the science press conference, infrastructures for the exchange between science, journalism and politics and other target groups are also set to be developed.

"For good science communication, it is not enough to simply demand more communication from all researchers," says Prof. Holger Wormer. "Instead, not unlike the rules of good scientific practice, more quality standards for communication must be developed and the general understanding of science among different target groups must be better researched."



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May | Social innovation

sfs helps build German Competence Center



Combating poverty and exclusion, ensuring better working conditions, promoting sustainable employment—these are the goals under which the EU program for employment and social innovation was launched. The Social Research Center (sfs) of TU Dortmund University is part of the international network and participates under the leadership of Dr. Christoph Kaletka

in setting up a German Competence Center for Social Innovation. The individual Competence Centers aim to bundle the expertise in the countries of the EU and further develop the different ecosystems of social innovation in the member states. International exchange processes are set to be organized on top of that.

March and September | Study and conference

More media freedom in the Arab world

In March, the Erich Brost Institute for International Journalism (EBI) presents a study on the state of media responsibility in the Arab world, where journalists have often come under pressure as a result of the pandemic. In September, the EBI is also organizing a conference for media companies and editors-in-chief in Amman, Jordan on the topic of ensuring the existence of independent media in the countries of North Africa and the Middle East. Support for the study and the conference comes from the German Federal Foreign Office.



July | Training and further education

Better reporting on migration

The Erich Brost Institute for International Journalism (EBI), headed by Prof. Susanne Fengler, has drawn up a handbook for reporting on migration and refugees for UNESCO. This is the first time a German institute has written a UNESCO handbook that sets global standards for journalism training. With the Media Service Integration, the EBI is also developing an e-learning platform on the topics of migration and discrimination, which will be launched in 2022 and allow journalists to continue their education.



June | Interdisciplinary project

Study on media education in childhood is launched



The project “Politics, journalism and media – skills at preschool and elementary school age” is launched. The study examines the role that exposure to the media plays in the formation of political knowledge in children. The interdisciplinary research team consists of Prof. Michael Steinbrecher, Prof. Thomas Goll and Prof. Gudrun Marci-Boehncke.

June | Scientific review

Professors involved in federal government media report



The Federal Cabinet approves the Federal Government’s media and communications report for 2021. The basis is an independent scientific review on the subject of new cooperative media platforms in a future media order, in which journalism professors Frank Lobigs and Tobias Gostomzyk were also involved.

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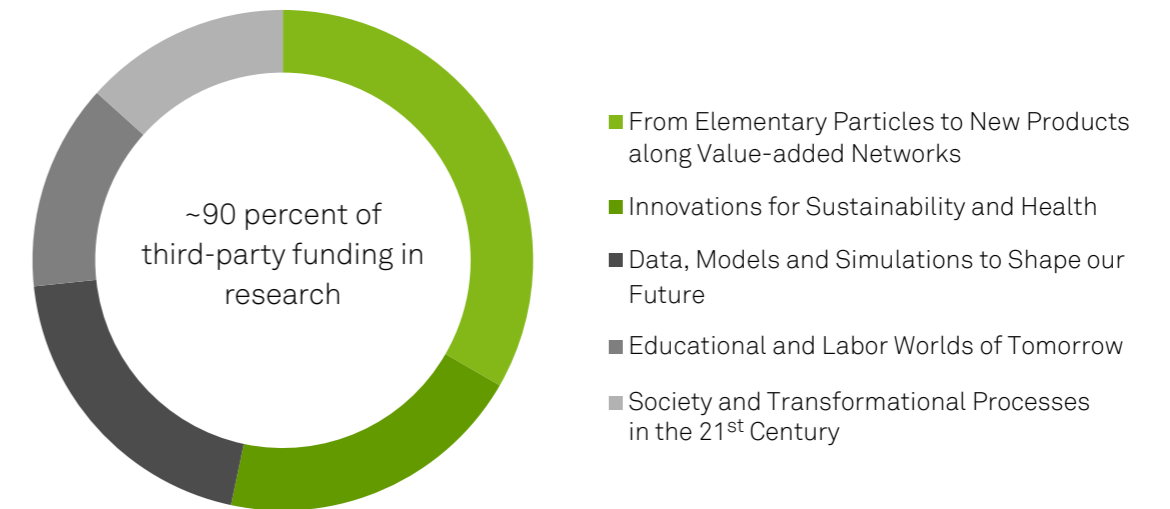


Outstanding Research

TU Dortmund University is a university strong in research. In total, there are around 900 third-party funded projects.

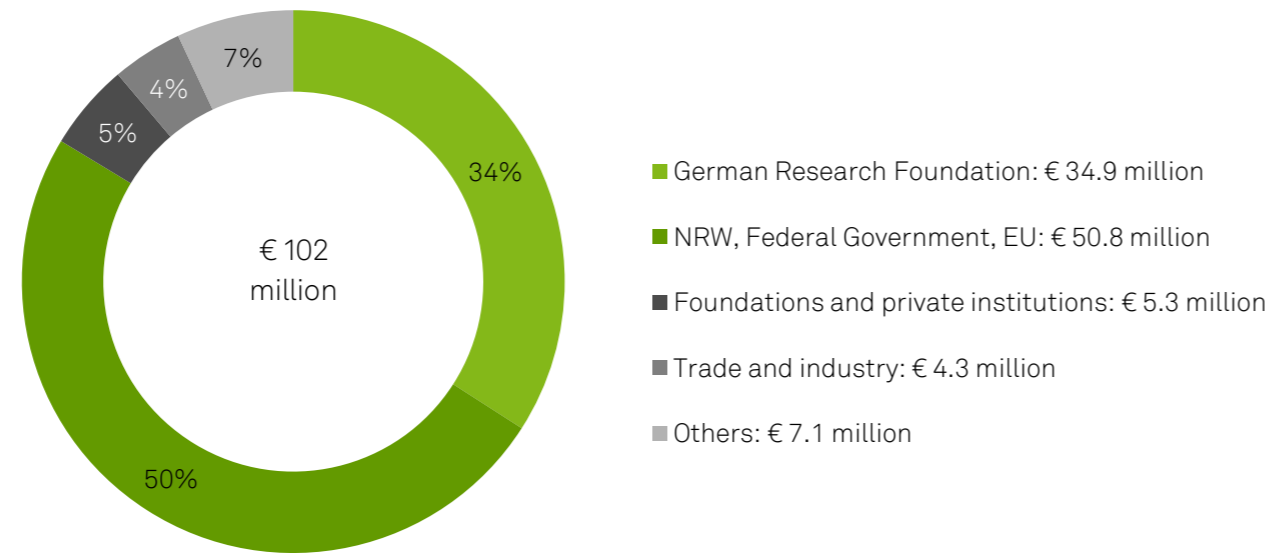
Five Strong Profile Areas

TU Dortmund University's five scientific Profile Areas represent outstanding research fields. The competitive acquisition of third-party funding and prestigious international publications attest to their strength. These research priorities account for about 90 percent of funding.



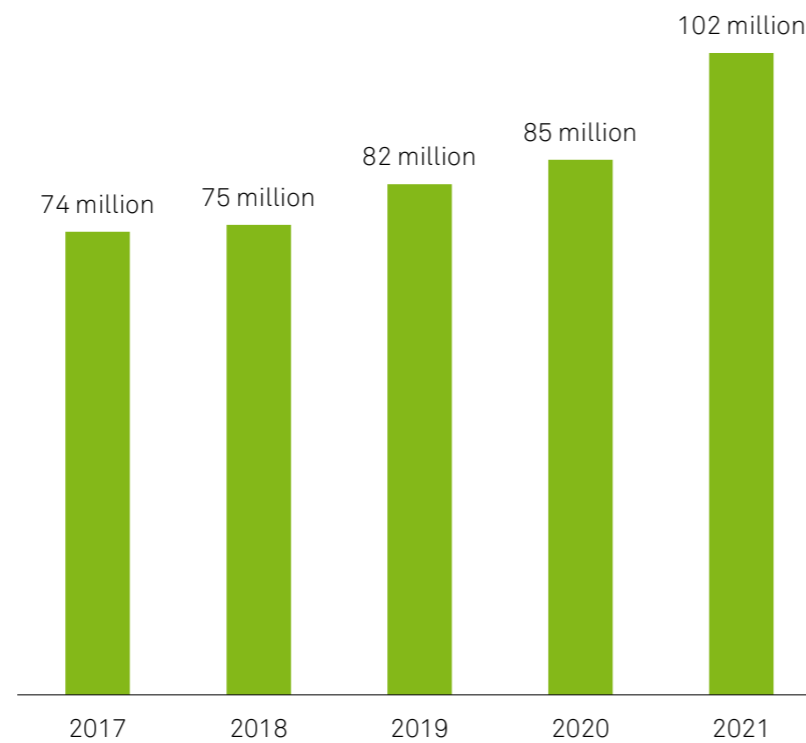
1	<p>From Elementary Particles to New Products along Value-added Networks</p> <p>The Profile Area brings together research on matter at different scales – from elementary particles to finished materials. Outstanding research activities by scientists at TU Dortmund University are dedicated to the study of matter in its various properties and different states of aggregation, using customized technologies and methods. Likewise, researchers in materials science and production engineering are driving innovations in the processing, shaping and future-oriented production of materials.</p>
2	<p>Innovations for Sustainability and Health</p> <p>Scientists at TU Dortmund University find solutions for sustainability and health in outstanding third-party funded and large collaborative projects. Interdisciplinary research supports the seminal topic of health through the development of active substances and drug delivery forms, radiotherapeutic innovations and advances in medical technology. New technologies in the natural sciences and engineering, energy management research and solutions for resource-conserving, emission-reduced construction methods provide groundbreaking innovations for a sustainable future.</p>
3	<p>Data, Models and Simulations to Shape our Future</p> <p>Researchers at TU Dortmund University are shaping our data-based future. Their outstanding research activities are characterized by the vision of not only developing and using digital technologies and data-driven research, but also driving them forward in a demand-oriented, safe and ethically responsible manner. In flagship projects, the course is set for the future use of machine learning and artificial intelligence in interaction with modern simulation techniques. The efficient and sustainable use of digital data in different sciences and groundbreaking technologies is what motivates researchers in interdisciplinary collaborative projects.</p>
4	<p>Educational and Labor Worlds of Tomorrow</p> <p>Investigating, shaping and further developing the educational and labor worlds of tomorrow is the focus of various high-profile research projects at TU Dortmund University. Our scientists cover the entire spectrum in their research – from studies on learning ability and cognitive development, to surveys on teaching and learning situations, or to interdisciplinary observations of changing work context.</p>
5	<p>Society and Transformational Processes in the 21st Century</p> <p>Researchers at TU Dortmund University provide well-founded analyses and innovative solutions for the social and societal challenges of the 21st century in outstanding third-party funded projects. Research priorities range from fundamental questions about the structure, cohesion and transformation of societies to the conditions of social coexistence: Solidarity, age, sustainability and urbanity are just a few of the seminal topics to which scientists at TU Dortmund University devote their research.</p>

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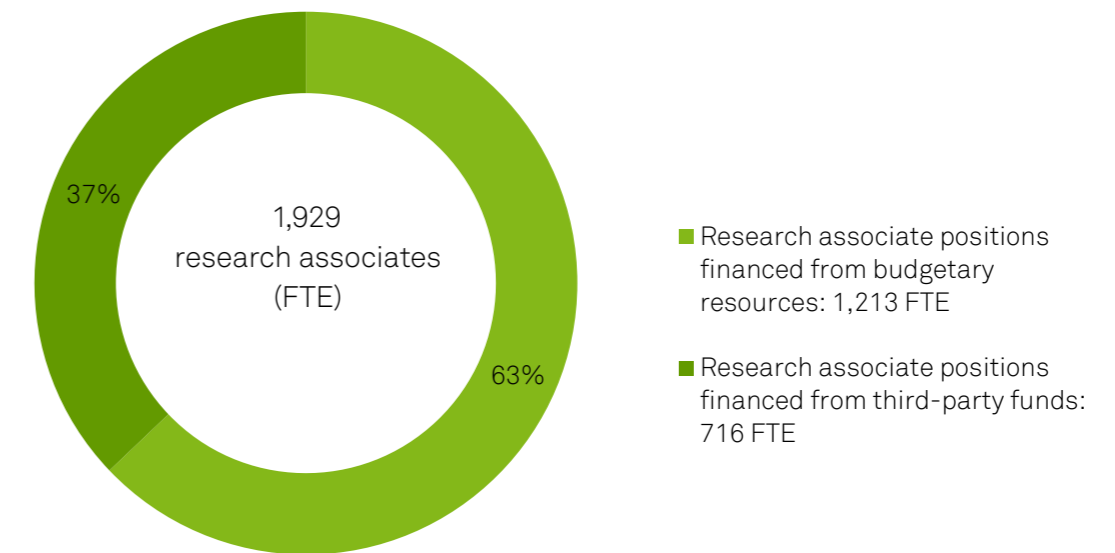
Third-Party Funds for Research

In 2021, TU Dortmund University secured third-party funds of around EUR 102 million, of which over 80% is public money.



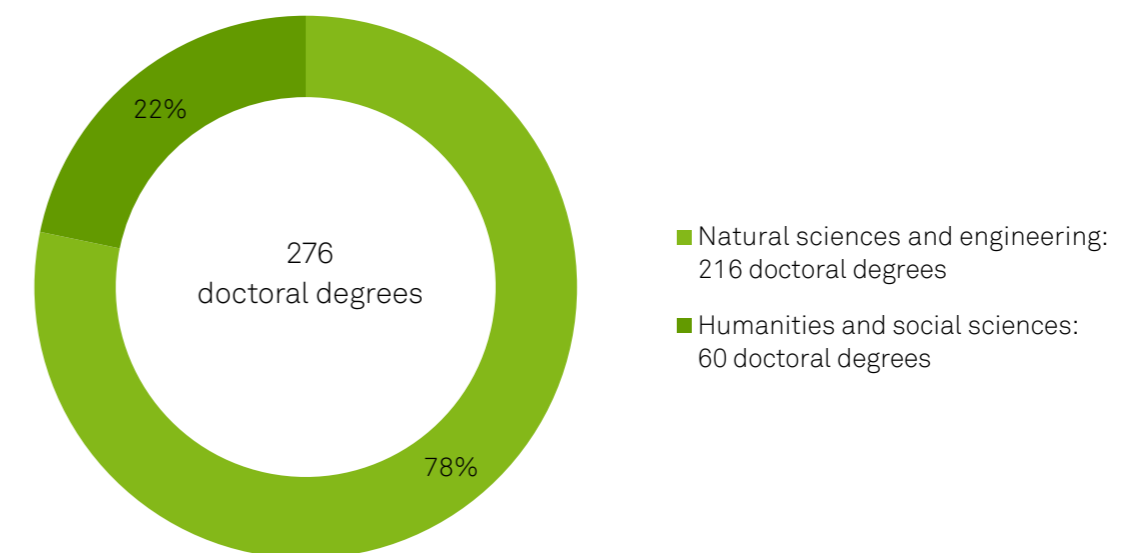
Growing Third-Party Revenues

TU Dortmund University's third-party revenues have continuously increased in the past years.



Hundreds of Jobs from Third-Party Funds

Around a third of all research associate positions at TU Dortmund University are financed from third-party funds. This shows that the acquisition of third-party funds not only facilitates excellent research but also creates jobs in the region. (FTE = Full-Time Equivalents)



Early Career Researchers

Many scientists undertake a doctoral degree at TU Dortmund University. In the 2021 calendar year, 276 people completed their doctoral degrees, of which 105 women and 171 men.

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October | DaCoNet

Prepared for secure data handling



The Data Competence Network (DaCoNet) awards a total of 38 certificates to students who have obtained the “DaCoNet Basic” certificate by successfully participating in a basic course and lecture series. The aim of DaCoNet is to train students at TU Dortmund University when it comes to handling data. The project is funded by the Stifterverband. TU Dortmund Univer-

sity is also one of the first to sign the Data Literacy Charter, which the Stifterverband für die Deutsche Wissenschaft passed in February 2021. With it, the signatories express a common understanding of data skills and their significance in educational processes.

June | Chemistry programs

First internal accreditation successfully completed

The Rectorate takes decisions on the accreditation of the degree programs in the Department of Chemistry and Chemical Biology. An external team of experts had previously confirmed the outstanding quality. For TU Dortmund University, this marks the first self-accreditation without an agency. The procedure is a successful test run for the requested system accreditation. If the university is successful in this, it can grant its degree programs itself the seal of the Accreditation Council in future.

26 January | Deutschlandstipendium

242 scholarship holders meet their sponsors virtually

In 2021, the ceremony for the Deutschlandstipendium does not take place as usually in the Westfälischer Industrieklub: The 242 scholarship holders receive their sponsorship certificates by post before the online event, allowing students and sponsors to get to know each other in virtual chat rooms. TU Dortmund University was able to gain seven new sponsors for the 2020/21 funding year. Of the 300 euros that scholarship holders receive per month, the private sponsors and the federal government each provide 150 euros.

May | Study conditions

Physics and chemistry at the top of the CHE university ranking

TU Dortmund University receives excellent ratings in physics and chemistry in the University Ranking of the Centre for Higher Education (CHE). The degree programs land in the top group for numerous criteria. The chemistry and physics students praise the support provided during their studies and the organization of their program. The chemistry students speak very highly of the laboratory practicals and the way scientific, methodological and interdisciplinary skills are imparted. At the same time, physics students are particularly impressed by the supervision provided by the teachers, the range of courses, the library facilities, the program’s scientific orientation and the support offered for studying abroad, among other things.

The university has managed to improve on numerous criteria since the last survey in 2018. The com-

puter science and mathematics degree programs also achieve excellent results. In computer science, for example, the IT infrastructure and the equipment at workstations are also met with high praise, while mathematics students appreciate the organization of the program as well as the library facilities, among other things. The university provides exceptional support for first-year students across all four programs.

The university ranking of the Centre for Higher Education is published in the ZEIT Study Guide for 2021/22 and is, in its own words, the most comprehensive and detailed ranking in the German-speaking world. Its results are based on students’ evaluations of their academic conditions and statistical data provided by the universities.



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11 October | Kick-off

The University welcomes new students in the stadium for the start of the semester

The university officially welcomes its first-year students: Most of the approximately 5,000 newly enrolled students come to the Borussia stadium for a welcome party. "I am delighted that you have decided to study at our university and that I am able to welcome you here today instead of just at home in front of the screen," says Prof. Manfred Bayer. The TU President wishes the students a successful and enjoyable start to their studies, vital stamina and many new friendships: "After three mainly digital semesters, the university is finally returning to predominately face-to-face teaching."

Dortmund's Mayor Thomas Westphal welcomes the students to the city with a video message. Till Zschel from the General Student Committee, Thomas Tress from the Borussia Dortmund sports club, Heribert Germeshausen from the Dortmund Opera, Julia Wis-

sert from Theater Dortmund, Britta Lefarth from the Dortmund Concert Hall, and Thomas Schlootz from the Studierendenwerk Dortmund all give the new students a warm welcome. The event features musical contributions from the opera, the Philharmonic and the artist houaïda. In addition, vouchers for the canteens and a soccer ball signed by professional BVB players are raffled off.

To ensure people can return to the campus this winter semester, there are extensive COVID safety measures in place at TU Dortmund University. In accordance with Germany's federal rule of three for tackling the COVID (3G rule), only people who have been vaccinated, tested, or have recovered from the virus will be allowed to attend classes. Throughout the entire campus a medical mask must still be worn in the buildings and in classes, even when seated.



20 July | Information event

Taster day organized for Study Program for Seniors

At a digital event, those interested can find out more about the Study Program for Seniors in the winter semester 2021/22 and gain some insight into the program, which covers a total of five semesters. The Study Program for Seniors offers scientific further education for adults over the age of 50 who wish to actively plan and shape their lives after their career or family phase and who are looking to acquire skills for social commitment.

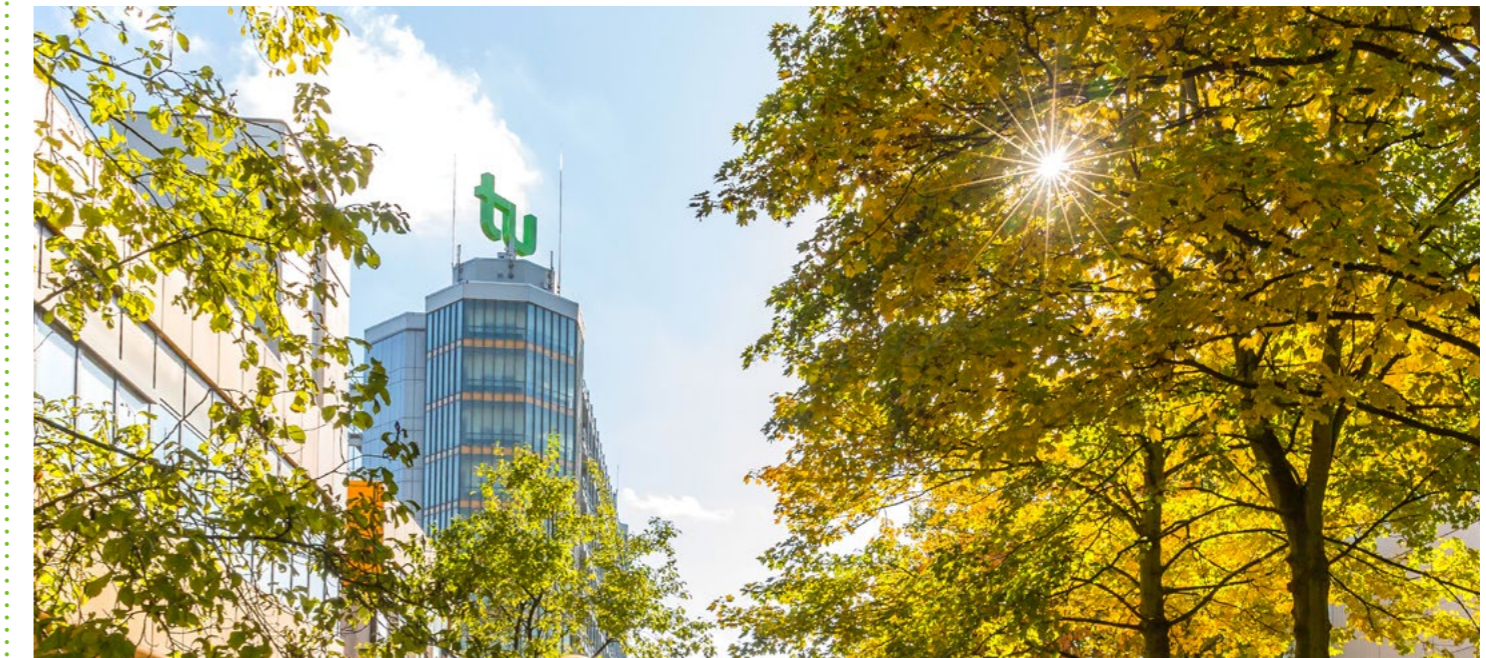
June | Campus portal

Milestone reached in the "Campus Management" project

The campus portal goes online as the first part of the new campus management system HISinOne. Some 14,000 prospective students use the new portal to enroll in programs with no admission restriction for the 2021/22 winter semester or to find out more about studying at TU Dortmund University. In future, HISinOne will also be expanded to include applications for restricted-admission programs and will be opened to international applicants.

Winter semester 2021/22 | Sociology and particle physics

Two new degree programs launched



In the 2021/22 winter semester, it is possible for the first time to enroll in the bachelor's program in sociology and an international master's program with a focus on particle physics. The bachelor's program in sociology at the Department of Social Sciences has a very successful start with 168 enrollments. In the future, there will also be a master's degree program

in sociology. The "International Master of Advanced Methods in Particle Physics" (IMAPP) program is launched at the Department of Physics. This highly specialized program with a focus on particle physics is offered in cooperation with the University of Bologna in Italy and the University of Clermont Auvergne in France.

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March | digiFellows

100,000 euros for digital fellowships

The winners of the “digiFellows” program, which TU Dortmund University tendered university-wide together with the NRW Ministry of Science and the Digital University NRW, have been announced: In the “Materialcaching” project, (from left to right) Prof. Jeanette Orłowsky from the Department of Architecture and Civil Engineering and Dr. Lukas Wojarski from the Department of Mechanical Engineering develop a learning app. As part of the “ePortfolios” project, Dr. Nina Göddertz digitizes the portfolio work in the teacher training program in social pedagogy. Both projects are funded with 50,000 euros each.



May | HyLeC and CrossLabs

4.5 million euros for two innovative projects



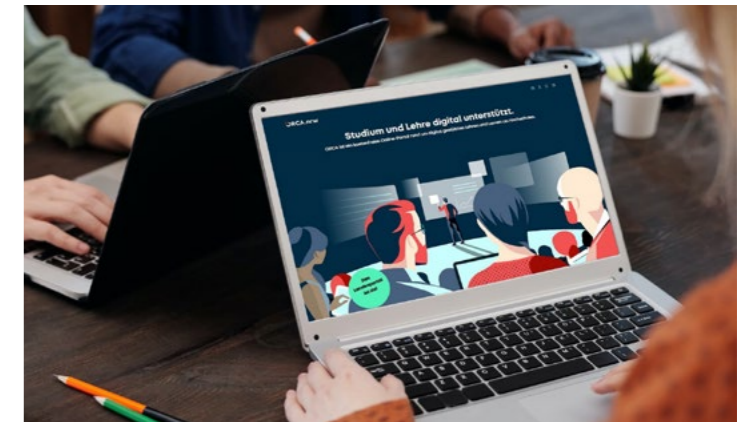
Stiftung Innovation in der Hochschullehre is funding two TU projects in the “Strengthening University Teaching through Digitization” program, which are led by Dr. Tobias Haertel in the field of engineering didactics and Prof. Uwe Wilkesmann from the Center for Higher Education (zhb). Over three years, 3.3 million euros will go to the Hybrid Learning Center (HyLeC),

which provides students and teachers with physical and virtual resources, rooms and advisory services. A further 1.2 million euros over three years has been allocated to the “CrossLabs” joint project at TU Dortmund University, in which easily combinable cross-reality laboratories are being developed in collaboration with partners.

September | ORCA.nrw

TU members develop teaching concepts for NRW

Isabel Pfeiffer-Poensgen, NRW Minister for Culture and Science, opens the Open Resources Campus NRW (ORCA.nrw). On the new website www.orca.nrw, lecturers and students at NRW universities can find extensive information and services relating to digitally supported teaching and learning. Projects from the OERContent.nrw funding line are also presented. Scientists from TU Dortmund University are involved in the concepts on four occasions, in the projects LArS, NRW and TZ Digital, even as consortium leaders.



28 September | Digital Teaching Day

Lecturers discuss the potential of digital formats



On the second day of digital teaching, university teachers discuss the potential of digital formats and their challenges. A survey has shown that digital teaching and examination formats should be retained even after the pandemic. The support on offer is therefore set to be expanded.

November | Interface

Tobias Ortelt is coordinator for digital teaching



Tobias R. Ortelt is the new coordinator for digital teaching. Moving forward, he will coordinate all activities in the digitization of teaching and act as the interface between the various parties involved. The position is based at the Center for Higher Education (zhb) in the Department of Academic Teaching & Faculty Development.

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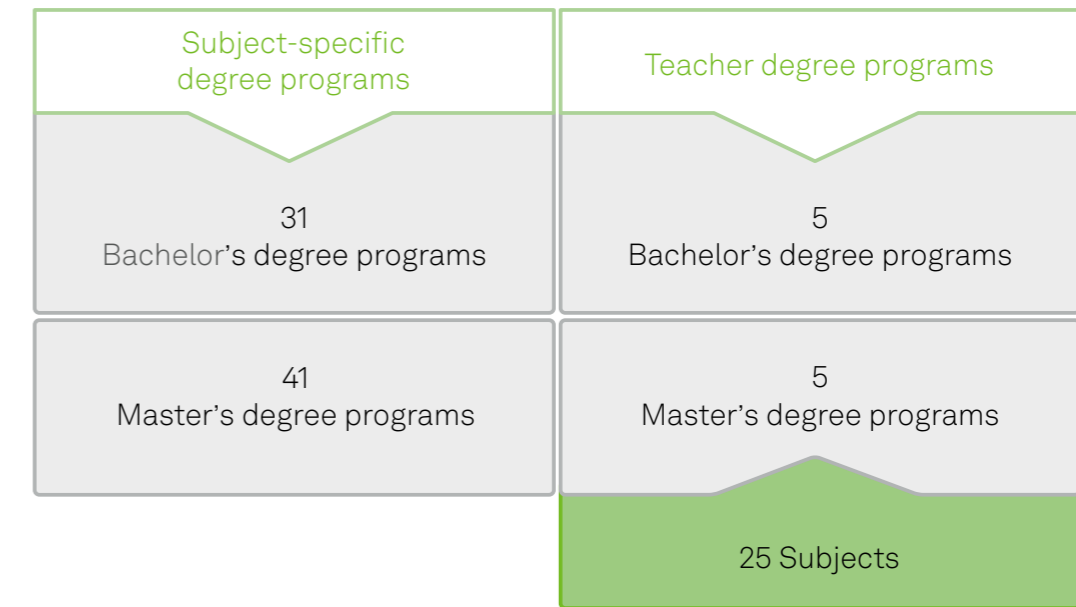
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The Degree Programs

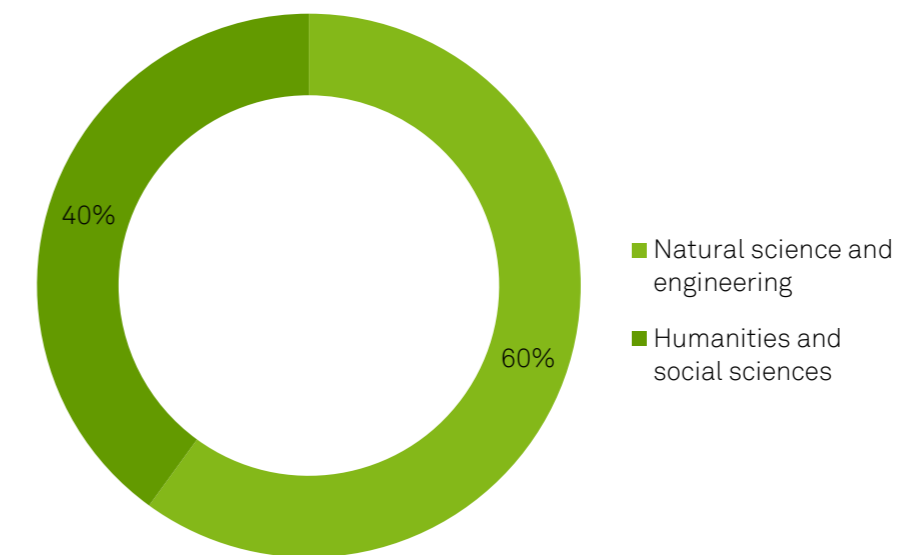
Subject-specific degree programs	Bachelor's degree	Master's degree
Advanced Methods in Particle Physics		EN
Ageing Societies		DE
Applied Computer Science	DE	DE
Applied Literary and Cultural Studies	DE & EN	DE & EN
Applied Linguistics	DE & EN	DE & EN
Architecture and Urban Design	DE	DE
Automation and Robotics		EN
Civil Engineering	DE	DE
Biochemical Engineering	DE	DE
Chemistry	DE	DE/EN
Chemical Engineering	DE	DE
Chemical Biology	DE	DE/EN
Data Science	DE	EN
Econometrics		EN
Economics and Journalism		DE & EN
Electrical Engineering and Information Technology	DE	DE
Empirical Multilingualism		DE
Educational Sciences	DE	DE
Real Estate and Construction Management		DE
Computer Science	DE	DE
Information and Communication Engineering	DE	
Journalism	DE	DE
Cultural Analysis and Cultural Intermediation		DE
Logistics	DE	DE
Manufacturing Technology		EN
Mechanical Engineering	DE	DE
Mathematics	DE	DE
Medical Physics	DE	DE
Music Journalism	DE	DE
Philosophy and Political Science		DE
Physics	DE	DE
Process Systems Engineering		EN
Spatial Planning	DE	DE/EN
Rehabilitation Pedagogy	DE	
Rehabilitation Sciences		DE
Religion, Ethics, and Politics		DE
Sociology	DE	
SPRING – Spatial Planning for Regions in Growing Economies		EN
Statistics	DE	DE
Technomathematics	DE	DE
Industrial Engineering	DE	DE
Business Mathematics	DE	DE
Economic Policy Journalism	DE	
Business Administration and Economics	DE	DE
Science Journalism	DE	DE
Total	31	41
Teacher training		
Elementary schools	DE	DE
German Secondary Schools (<i>Haupt-, Real und Gesamtschulen</i>)	DE	DE
Grammar Schools (<i>Gymnasien</i>) and Comprehensive Schools (<i>Gesamtschulen</i>)	DE	DE
Vocational Schools	DE	DE
Special Education	DE	DE
Total	5	5

DE = in German, EN = in English



Broad Choice of Degree Programs

There are around 80 degree programs at TU Dortmund University. Bachelor's and Master's degree programs are offered for all five types of schools in the teaching degree program, where in total, there are around 25 different subjects to choose from. In addition, there are six subjects in the area of special educational needs.



Wide Spectrum of Subjects: More than Just Technology

Around 60 percent of students are enrolled on natural science and engineering degree programs, around 40 percent on degree programs in the humanities and social sciences. A fifth of them are studying for a teaching degree.

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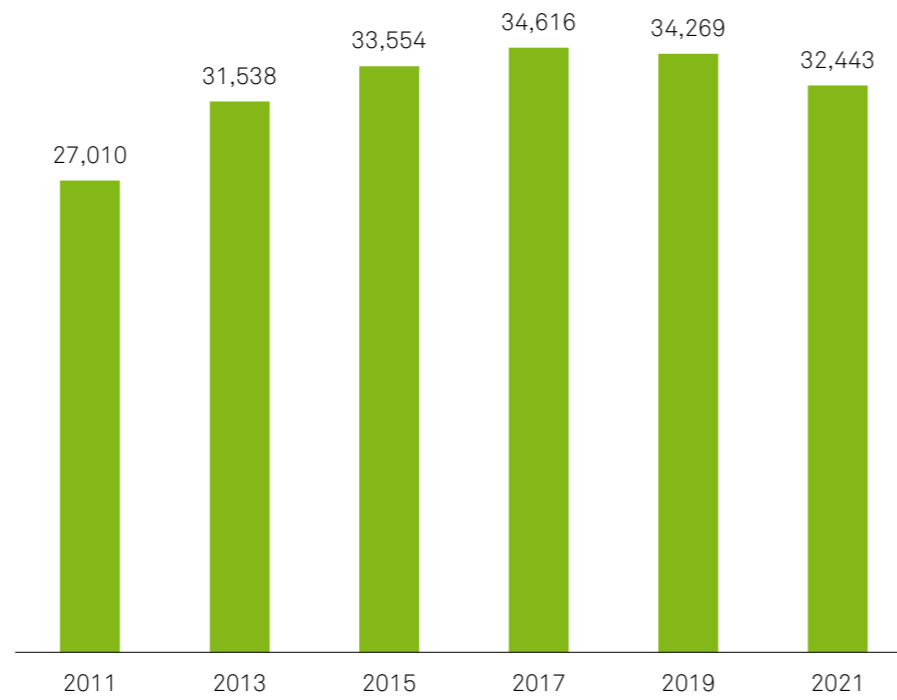
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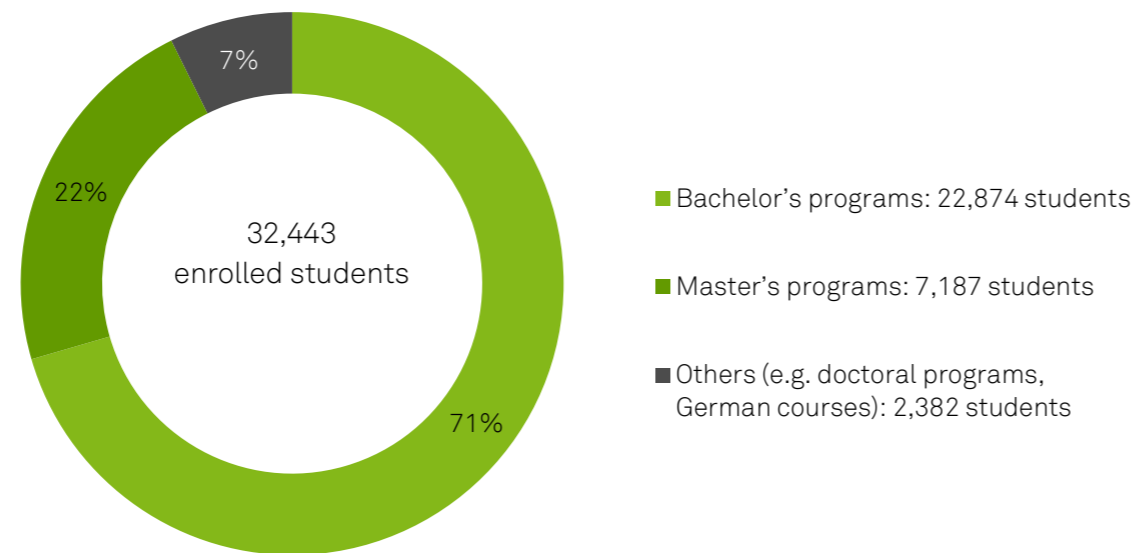
Congratulations

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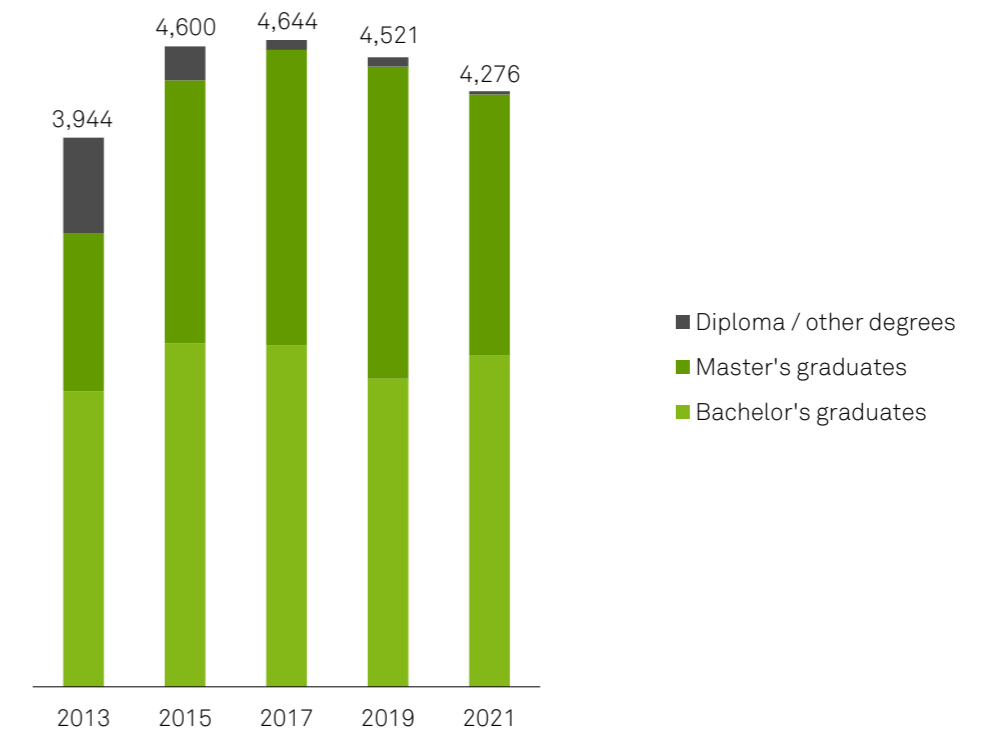
Student Numbers at a High Level

TU Dortmund University has got around 32,400 students in the 2021/22 winter semester, including about 5,000 new enrolments. The number of students has risen continuously for many years and meanwhile stabilized at a high level.



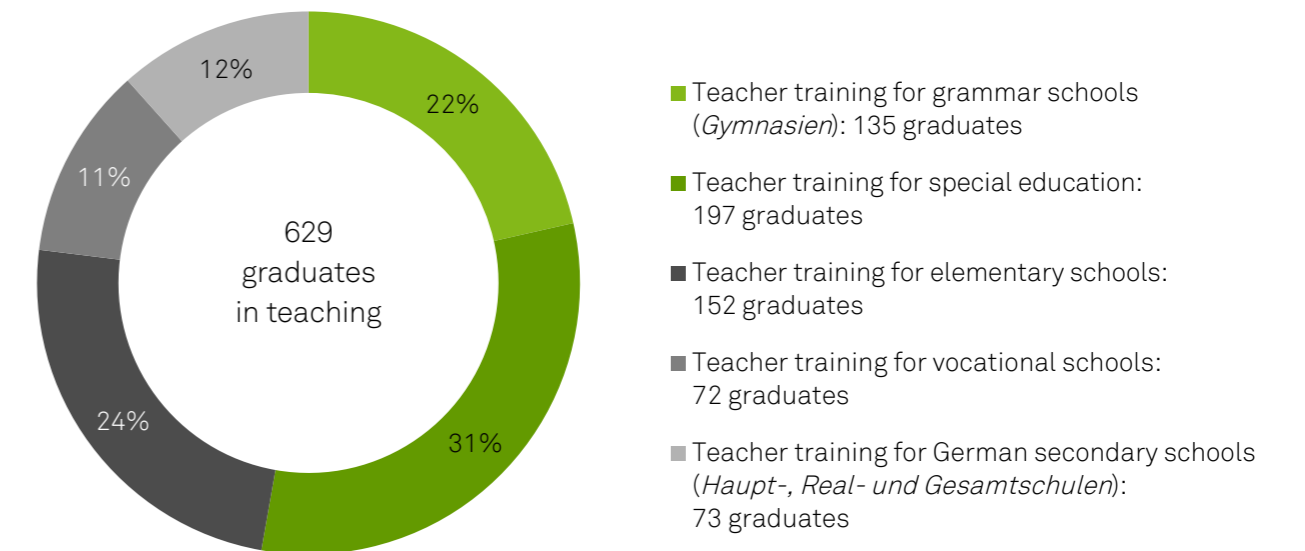
Bachelor-Master: Studies in Two Stages

In 2021, over two thirds of all students at TU Dortmund University are enrolled on Bachelor's programs and one fifth on Master's programs. The remaining seven percent are enrolled as doctoral candidates or taking German courses.



Training of Highly Qualified Professionals

In the 2021 exam year, a total of around 4,300 students graduated from TU Dortmund University, including some 2,400 Bachelor's and about 1,900 Master's graduates. The number of graduates remains at a high level despite the coronavirus pandemic.



Teachers for All Five Types of School

In the 2021 exam year, around 630 students at TU Dortmund University completed their Master's degree in teaching. The university trains teachers for all five types of school.

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May | Tandem2Job

Mentoring for international students



The new *Tandem2Job* mentoring program developed by the International Office is launched with a digital kick-off event: It supports international students with their entry into the German job market. Mentors give their mentees an insight into the professional world over a period of six months, thus facilitating the transition from university into the world of work.

The mentors are mostly TU alumni who work in well-known companies in the energy, pharmaceutical and chemical industries, the automotive industry, electrical engineering and other sectors. The mentees are international master's students or advanced bachelor's students.

February | Fritz Höger Award

“Newcomer” in architecture awarded

TU employee David Jan Wilk has won over the expert jury of the Fritz Höger Award with his master's thesis “Pathos Brick - A study of the development of teaching and reception of visible brickwork” and receives an award in the “Newcomer” category. He was able to set himself apart from almost 600 other submissions from all over the world. The award is one of the most important architecture prizes in Germany and also attracts international attention. It is awarded to projects that harness the potential of brick as a building material.



October | DAAD prize

Honored for outstanding academic achievements

Brian Daniel Hess, a student of the Department of Cultural Sciences, receives the DAAD prize from TU Dortmund University. Every year, the German Academic Exchange Service (DAAD) awards a prize for outstanding achievements by foreign students at German universities. The 27-year-old American is not only characterized by excellent academic achievements, but he is also committed to involving international students in his work. Professors praised the enthusiasm with which he approached his academic and extracurricular activities.



March | Architecture

9th International Spring Academy



At the 9th International Spring Academy, around 40 architecture students from Dortmund, Potsdam, Eindhoven and Naples study how planned settlements can be successfully adapted to the requirements of modern urban life. Over the course of ten days, they work in international teams to develop ideas and concepts for the modernization and densification of the Dortmund

district of Scharnhorst-Ost, which they then present at a virtual final conference: Large-scale public spaces with surrounding stores and parks are also proposed, as well as better transport links. The results are handed over to the city of Dortmund.

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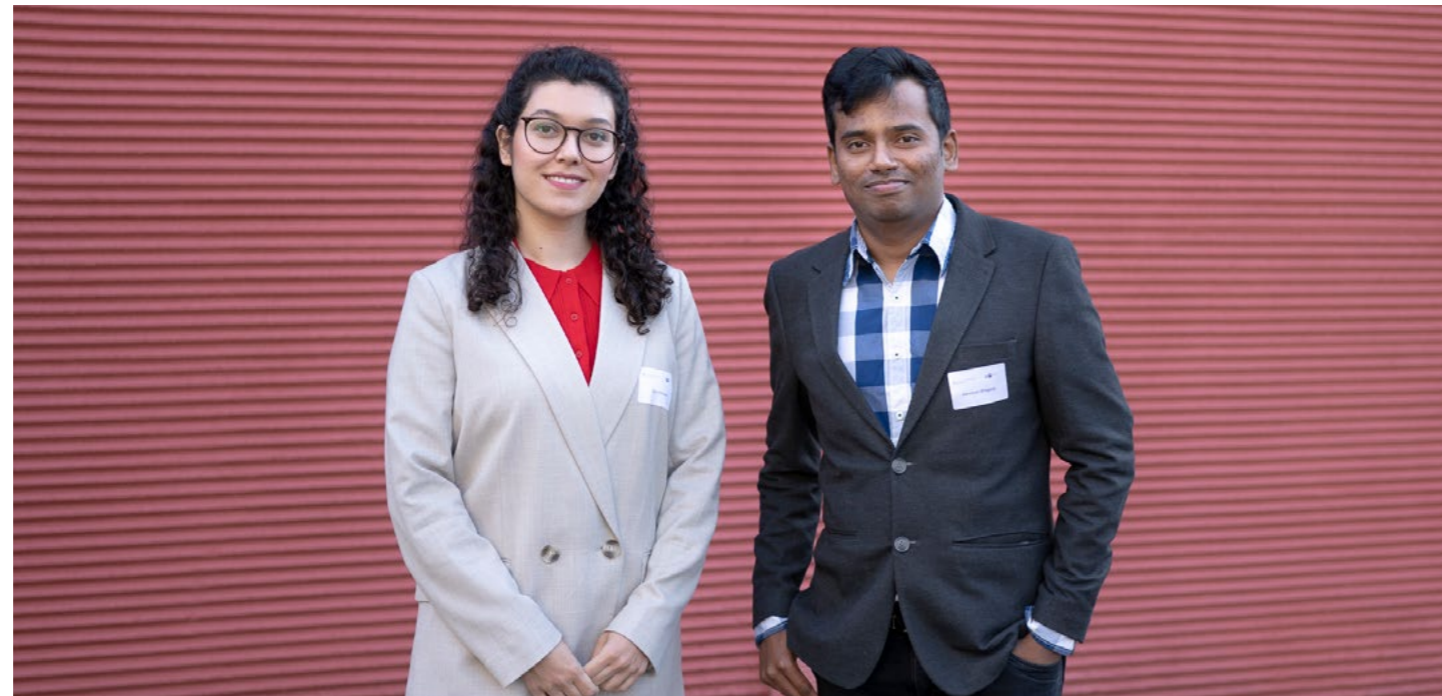
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28 October | Specialists

10th International career fair



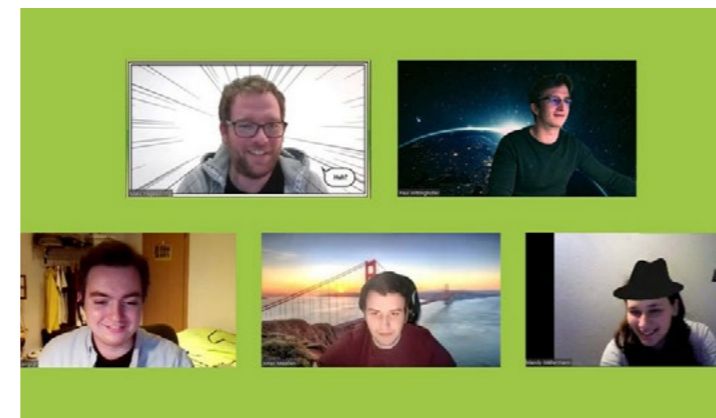
The international career fair offers 90 students from 23 countries the opportunity to introduce themselves to 17 companies based in the region. These students include master's students Zahra Bonakdar (left) and Ashutosh Bhagwat. There are vacancies in many sectors and well-trained specialists are in high demand, explains Wulf-Christian Ehrich from the Dortmund

Chamber of Industry and Commerce (IHK). The companies received student profiles with CVs in advance and were able to choose who they wanted to get to know in one-on-one interviews. The fair is organized by the International Office in cooperation with the IHK and the Association of Friends of TU Dortmund University (GdF).

February | Student competition

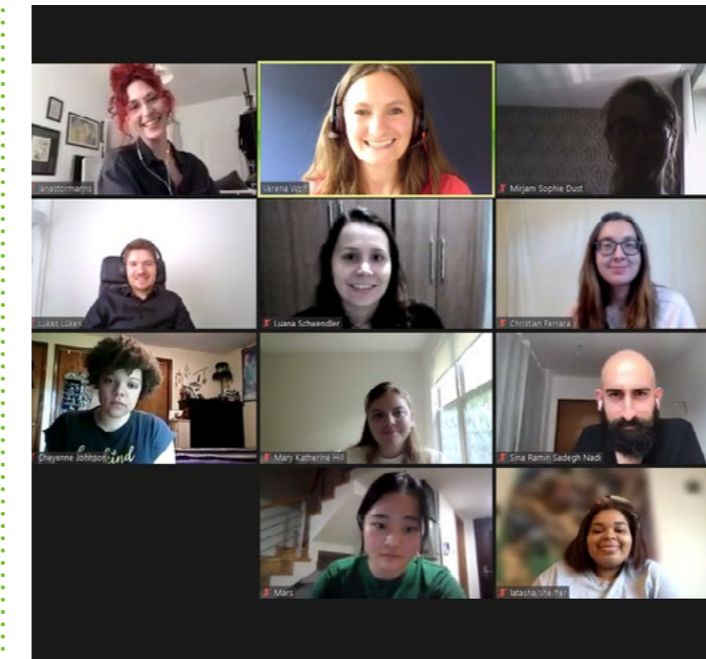
Success in Engineers Without Borders Challenge

Five students from TU Dortmund University finish second place in the "Engineers Without Borders Challenge", in which more than 1,000 students from nine universities competed against each other. Mandy Wältermann, Marc Hageböling, Jonas Maassen, Lukas Weyergraf and Paul Wittinghofer wowed the jury with their idea "ZipLeaves", a rope slide for transporting waste wood in Nepalese forests. In the "Engineers Without Borders Challenge", students look for solutions to problems in development cooperation.



June | International Summer Program

Students from all over the world as virtual guests



Ten students from Brazil, China, the USA and the UK are taking part in the International Summer Program at TU Dortmund University. Alongside Dortmund students, they collect credit points in English-language courses. They also attend an intensive German course and a cultural studies class.

March | Erasmus+

Student exchange goes ahead despite the pandemic



Ceren Ateş came to Germany from Turkey in March to study statistics for a semester. "Even though everything takes place online, I can still make friends with fellow students," she says. Ateş is one of around 130 students from abroad to complete an exchange semester at TU Dortmund University in 2021.

December | Lifeworld Campus

DAAD funds research seminar in sociology

The German Academic Exchange Service (DAAD) supports the "Lifeworld Campus. An ethnographic research seminar" project. The Department of Social Sciences at TU Dortmund University is cooperating with the Department of Sociology at the Quaid-i-Azam University Islamabad in Pakistan. Students from both universities carry out ethnographic research projects at their own locations over the course of two semesters and exchange ideas digitally. The project is funded in the DAAD program "International Virtual Academic Collaboration".



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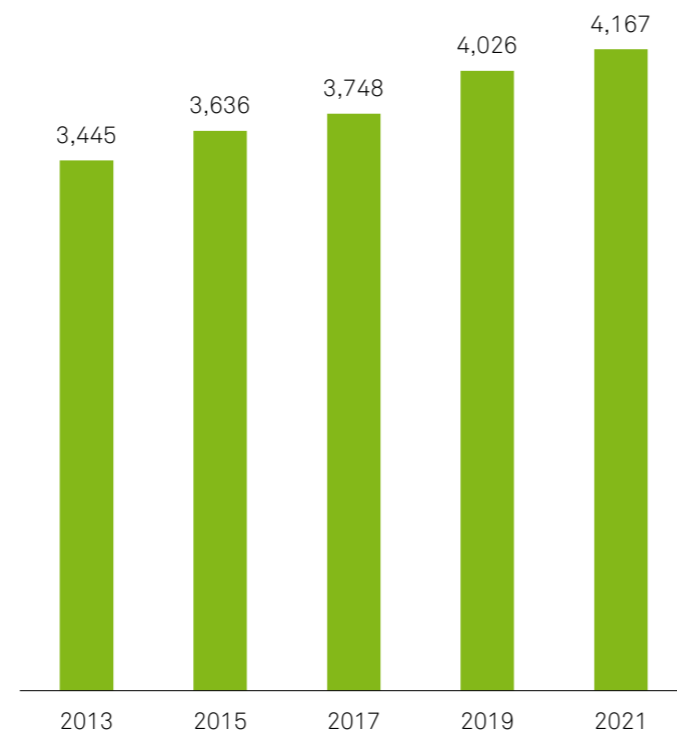
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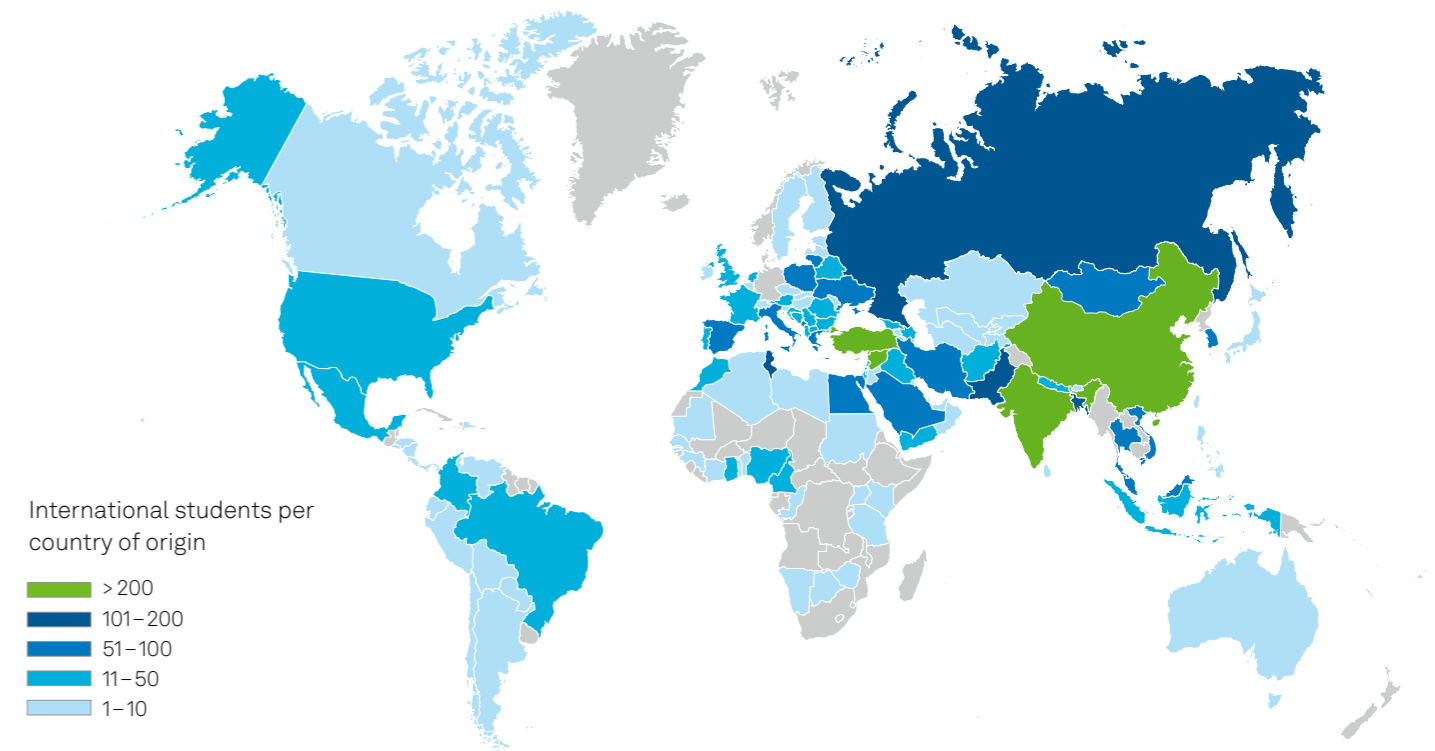
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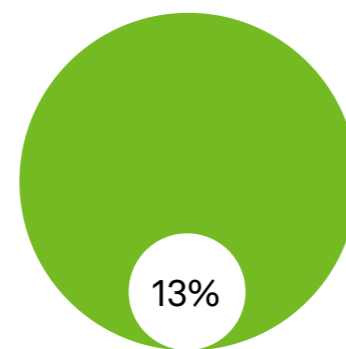
Attractive Place to Study for International Students

TU Dortmund University is popular among international students. Since 2013, the number of non-German students has increased by over 20 percent.

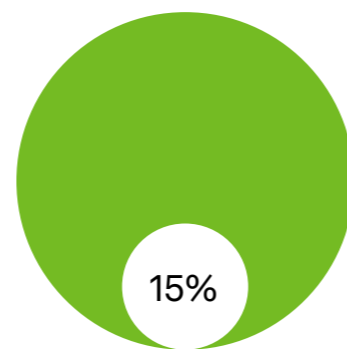


Students from All Continents

The students at TU Dortmund University come from around 120 different countries. Of those who acquired their university entrance qualification abroad, most come from India, followed by China and Syria. Among the international students who acquired their university entrance qualification in Germany, around 40 percent hold a Turkish passport.



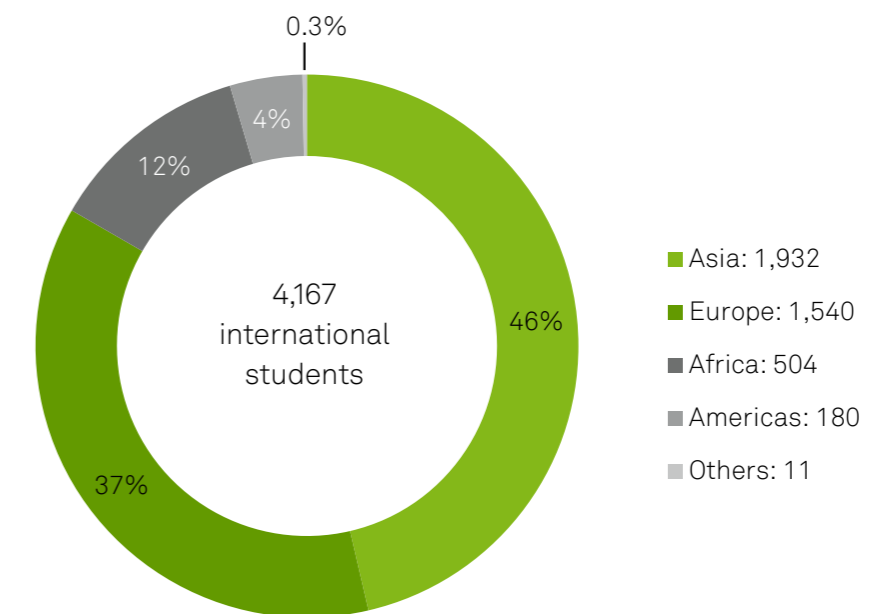
International students



International doctoral candidates

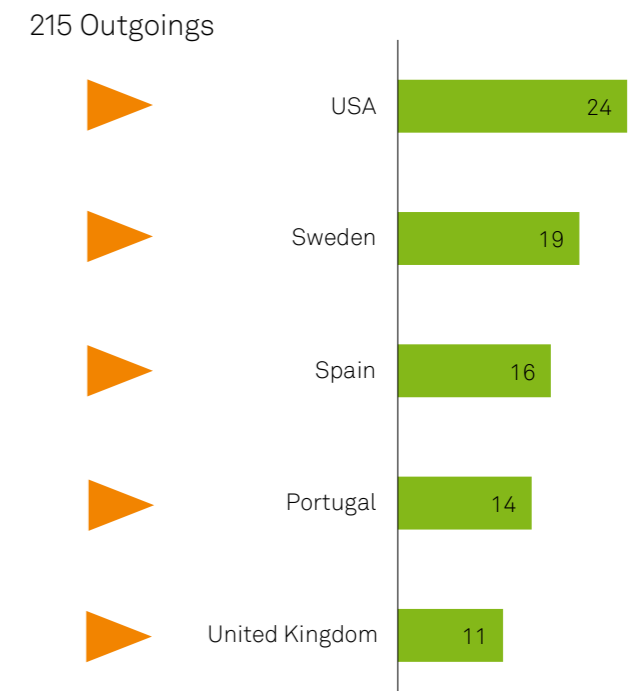
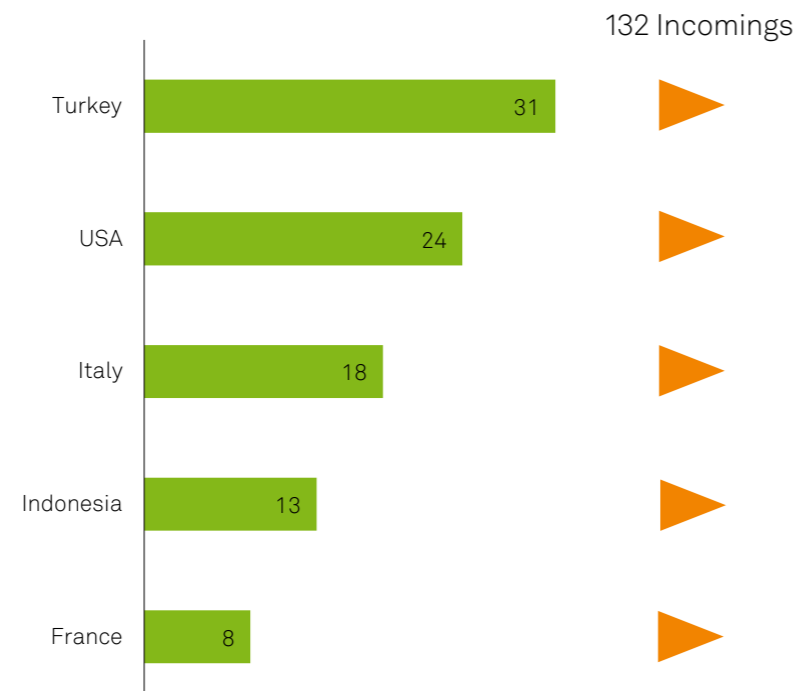
Students and Doctoral Candidates Come to Dortmund

Of the students at TU Dortmund University, 13 percent come from abroad. Among the early career researchers, the proportion is slightly higher at 15 percent.



Just under half of all international students come from Asia. Europe is also very strongly represented. From Australia and Oceania, on the other hand, there are only three.

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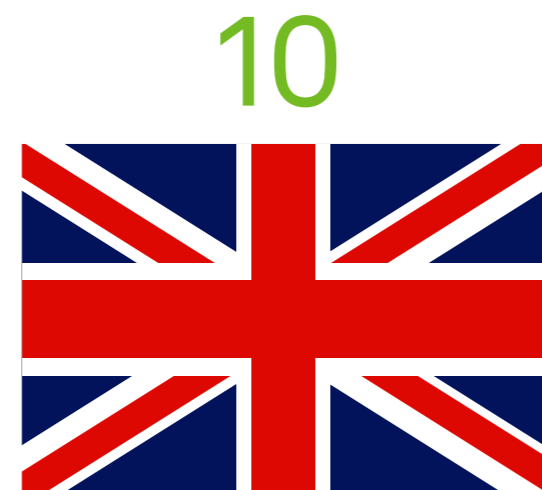


Incoming Students Come to Dortmund for an Exchange Semester

In the 2020/21 academic year, around 130 students came from abroad to TU Dortmund University for an exchange semester, most of them from Turkey and the USA. Due to the coronavirus pandemic, fewer students than usual undertook an exchange semester.

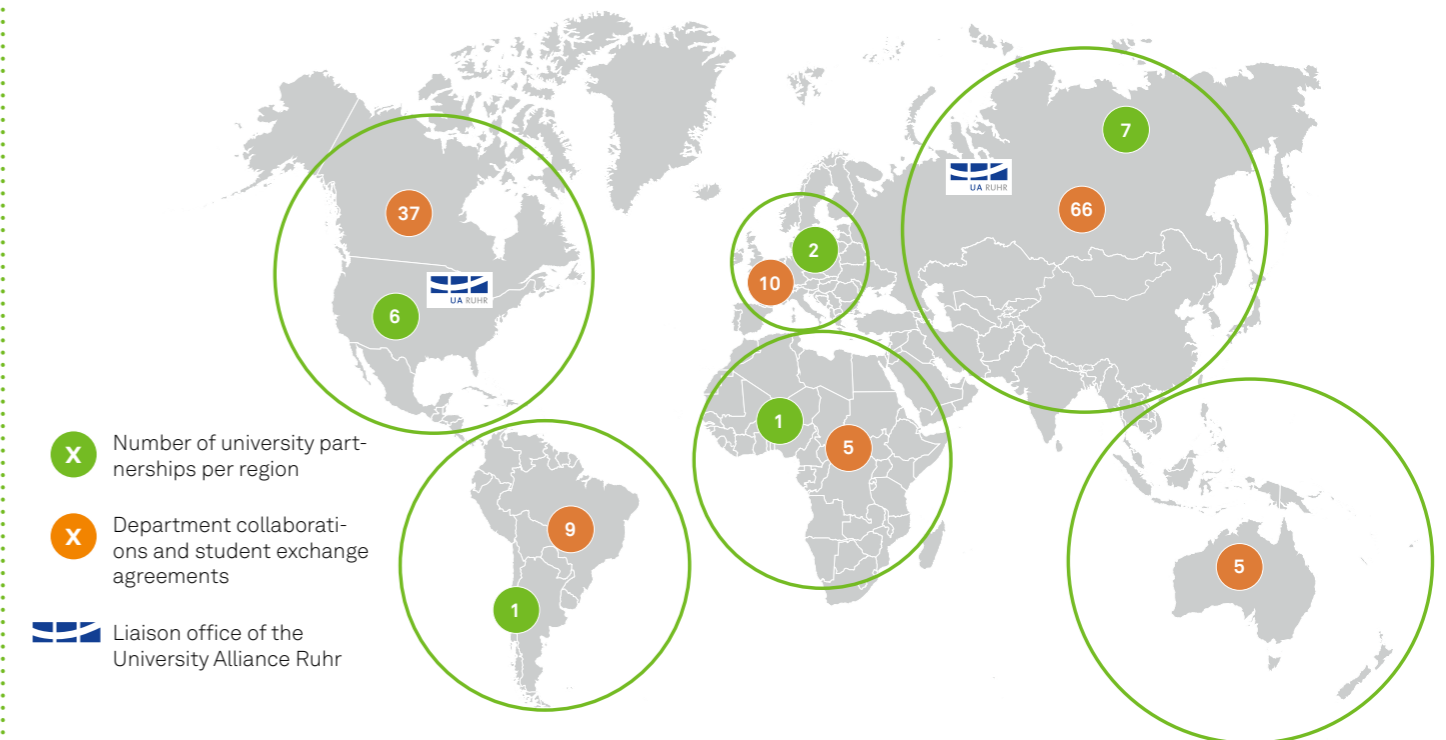
Outgoing Students go Abroad for an Exchange Semester

Despite the restrictions caused by the coronavirus pandemic, around 210 students from TU Dortmund University were able to gather experience abroad in the 2020/21 academic year. The three most popular destinations were the USA, Sweden and Spain. In addition, there were around 30 students who completed an internship abroad.



Studying in English

In the 2021/22 winter semester, TU Dortmund University is launching three new English-taught Master's degree programs, bringing the total number to ten. The university's goal is to further expand the range of programs on offer.



University Partnerships throughout the World

TU Dortmund University has concluded around 370 cooperation agreements with universities worldwide, including 17 partnerships at university level and almost 240 Erasmus+ partner universities. In addition, there are study places at 265 universities in the ISEP network. Liaison offices represent the university on two continents, together with Ruhr-Universität Bochum (RUB) and the University of Duisburg-Essen.

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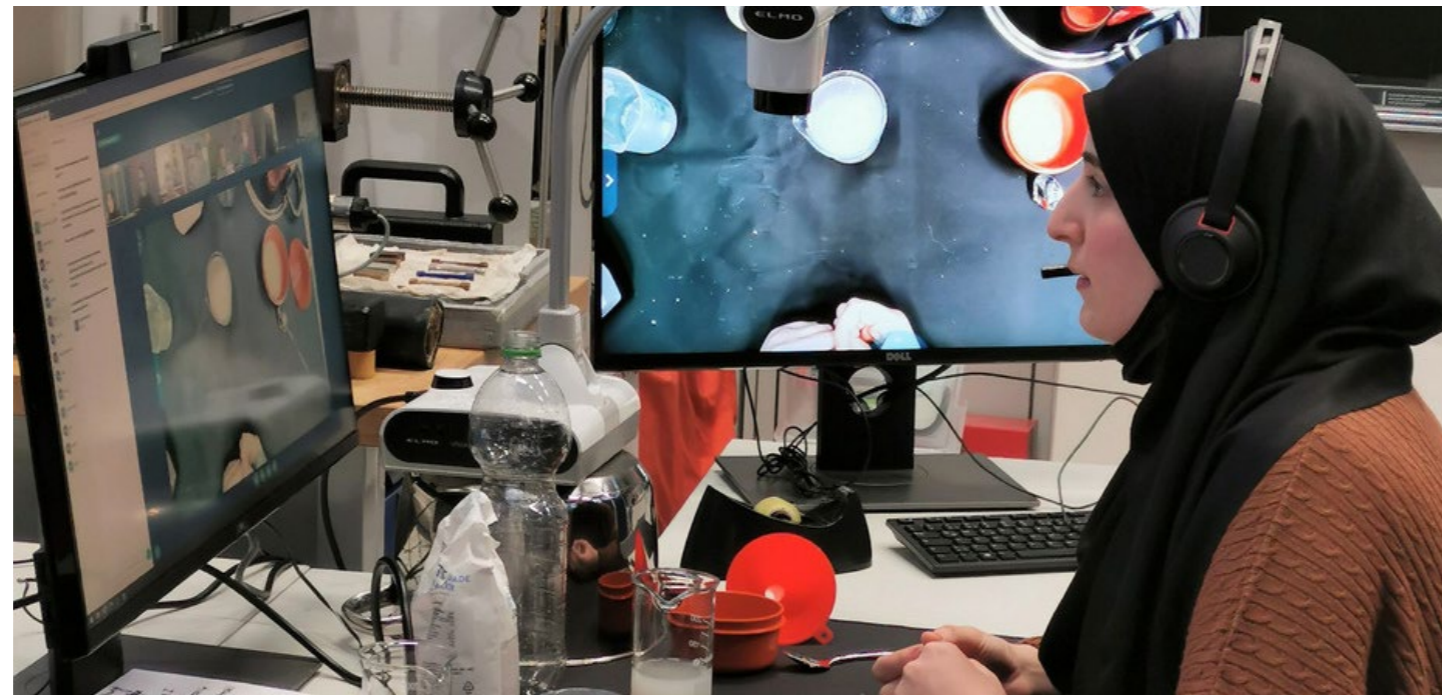
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August | TasterUni

Teenagers give uni a try



At the digital TasterUni, teenagers in tenth grade get a peek at program content over three days at the end of the NRW summer holidays. What is examined in laser physics? How do you distinguish facts from fakes? How do you experiment in psychology class? Questions like these are answered in over 30 online sessions. Experiments take place, halls, laboratories and

workshops of TU Dortmund University are presented and lectures are held on various topics. In addition to technical input, there is also information on student financing. On top of that, the participants make digital contact with students, teachers and people with hands-on professional experience.

20 January | Dortmund University Days

Everything about degree programs and universities

At the Dortmund University Days, students and parents can find out about the degree programs and universities available in Dortmund – and all digitally. All departments at TU Dortmund University as well as the Central Student Advisory Service, the University Library, the Dortmund Competence Center for Teacher Training and Educational Research (DoKoLL), the International Office and the Disability and Studies Department (DoBuS) are involved in the program. They offer over 40 events – individual office hours, lectures and question and answer sessions with students.



May – June | Lecture series

High school graduates learn about study opportunities

When high school is over, many people ask themselves: What's next? With the "Abi! Und dann?" lecture series, the Central Student Advisory Service offers prospective students the opportunity to gain insight into studying at TU Dortmund University and get to know the 31 bachelor's degree programs and about 25 teacher training subjects. On four dates, the student advisors present individual programs and career opportunities. Another presentation then covers application and enrollment.

August – October | Lecture series

First-year students get valuable tips for starting their studies

With the "Starting on the Right Track" lecture series, the Central Student Advisory Service offers first-year students the opportunity to gain extensive information about study-related issues such as work techniques, self-management and financing. In eleven online lectures, first-year students receive numerous tips to help make their transition from school to university easier. The lecture series is being held digitally in 2021 from August to October.

December | Interuniversity cooperation

For a successful start to student life



What does it take for first-year students with different backgrounds and requirements to arrive prepared for university and successfully start their studies? What kind of support must universities provide for this? To find answers to these questions, TU Dortmund University, FH Dortmund and the Ruhr West University of Applied Sciences have worked together on the

two projects "AWiDA" and "DZS Upgrade" – with the support of the RuhrFutur education initiative. The results of their collaboration are presented in the final reports. They provide other universities with suggestions and tips on how they can implement services for a successful introductory phase.

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7 July | Research Alliance Ruhr

UA Ruhr seals the deal on Collaboration for cutting-edge international research

The expansion of the cutting-edge, international research endeavors of the UA Ruhr can now get underway: The presidents/rectors of TU Dortmund University, Ruhr-Universität Bochum, and the University of Duisburg-Essen sign a cooperation agreement for the establishment of the Research Alliance Ruhr in the presence of the NRW State Minister of Culture and Science, Isabel Pfeiffer-Poensgen.

For the development phase, the state government will provide up to 75 million euros from Ruhr Conference funds until 2024. "With the establishment of the Research Alliance Ruhr, we are bundling top-level university research at the universities of Bochum, Dortmund and Duisburg-Essen in future-focused research fields. With the cooperation that has now been concluded, a new, highly innovative university network

is being created that meets the highest scientific excellence criteria," explains the Minister of Science.

The Research Centers "One Health – from Molecules to Systems", "Chemical Sciences and Sustainability", "Future Energy Materials and Systems" and "Trustworthy Data Science and Security" deal with urgent issues such as holistic health of humans and the environment, sustainability and renewable energy, and trust in digital systems. The "College for Social Sciences and Humanities" offers an open platform for international exchange in any and all fields of the humanities and social sciences. The 17 founding directors are tasked with building up the five units over the next four years in coordination with the rectorates of the three universities.



February | Research Academy Ruhr

Young scientists successfully promoted

A panel of experts gives the Research Academy Ruhr a very positive evaluation. The joint platform of the UA Ruhr was set up in 2017 to further strengthen the Ruhr area as a scientific hub. In the Research Academy Ruhr, TU Dortmund University, Ruhr-Universität Bochum and the University of Duisburg-Essen pool their offerings for the promotion of young scientists. They have offerings for the around 10,000 young scientists of the UA Ruhr at any career level: doctoral candidates, postdoctoral researchers and junior faculty.



June | Joint application

BMBF approves 6G research hub



RWTH Aachen and the partners of the UA Ruhr come out on top in a call for tenders from the Federal Ministry of Education and Research (BMBF) with their proposal "6GEM open - efficient - secure - safe". In collaboration with four non-university research institutions, they will work on future communication technologies in 6G mobile communications starting August 2021.

The BMBF is providing 6GEM with 43 million euros in funding until June 2025. Highly industry-relevant applications for 6G systems are to be shown on seven test fields, including at the German Rescue Robotics Center in Dortmund. The site spokesperson is Prof. Christian Wietfeld from the Department of Electrical Engineering and Information Technology.

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August | Long-term networks

MERCUR funds three new research projects

Starting 2022, the Mercator Research Center Ruhr (MERCUR) will be funding three new cooperative research projects within the UA Ruhr to the tune of 1.25 million euros. TU scientists will work together with the Ruhr-Universität Bochum on three projects: Prof. Norbert Zmyj in the field of developmental psychology, Prof. Guido Clever in DNA nanotechnology and Prof. Mirko Cinchetti in ultrashort pulse lasers. The researchers involved will be using the funding to build up long-term research networks within the UA Ruhr.



June | Mobility transition

Sustainable mobility in the Ruhr area



Among the members of the UA Ruhr, there is a great deal of support for switching to environmentally friendly means of transport when traveling to campus. This is shown by a survey conducted by the InnaMoRuhr project among students and employees at the three universities. The four locations of UA Ruhr play a major role in the mobility transition in the Ruhr area: 120,000

students and around 16,000 employees commute here regularly. As part of the Ruhr Conference, the interdisciplinary research project is therefore studying how mobility at the four locations could be designed in an innovative and sustainable manner. The coordinator is Prof. Johannes Weyer from the Department of Social Sciences at TU Dortmund University.

October | DIVR Science Award

“Virtual Reality Moves” project awarded

For their teaching and research project “Virtual Reality Moves – movement in the digital learning laboratory”, Dr. Caterina Schäfer (left) from the Department of Rehabilitation Sciences at TU Dortmund University and her colleagues from Ruhr-Universität Bochum and the University of Duisburg-Essen receives the 2021 DIVR Science Award in the “Best Impact” category. The German Institute for Virtual Reality (DIVR e.V.) presents the Science Award annually to the most innovative university projects. The project studies the way people move while exploring virtual worlds.



January | School development concept

Supporting schools in challenging situations



In the project “Developing Potential – Strengthening Schools”, TU Dortmund University has cooperated with the University of Duisburg-Essen under the direction of Prof. Heinz Günter Holtappels. The researchers worked with 36 schools and trialed a development concept. A publication now shows how schools can make improvements themselves.

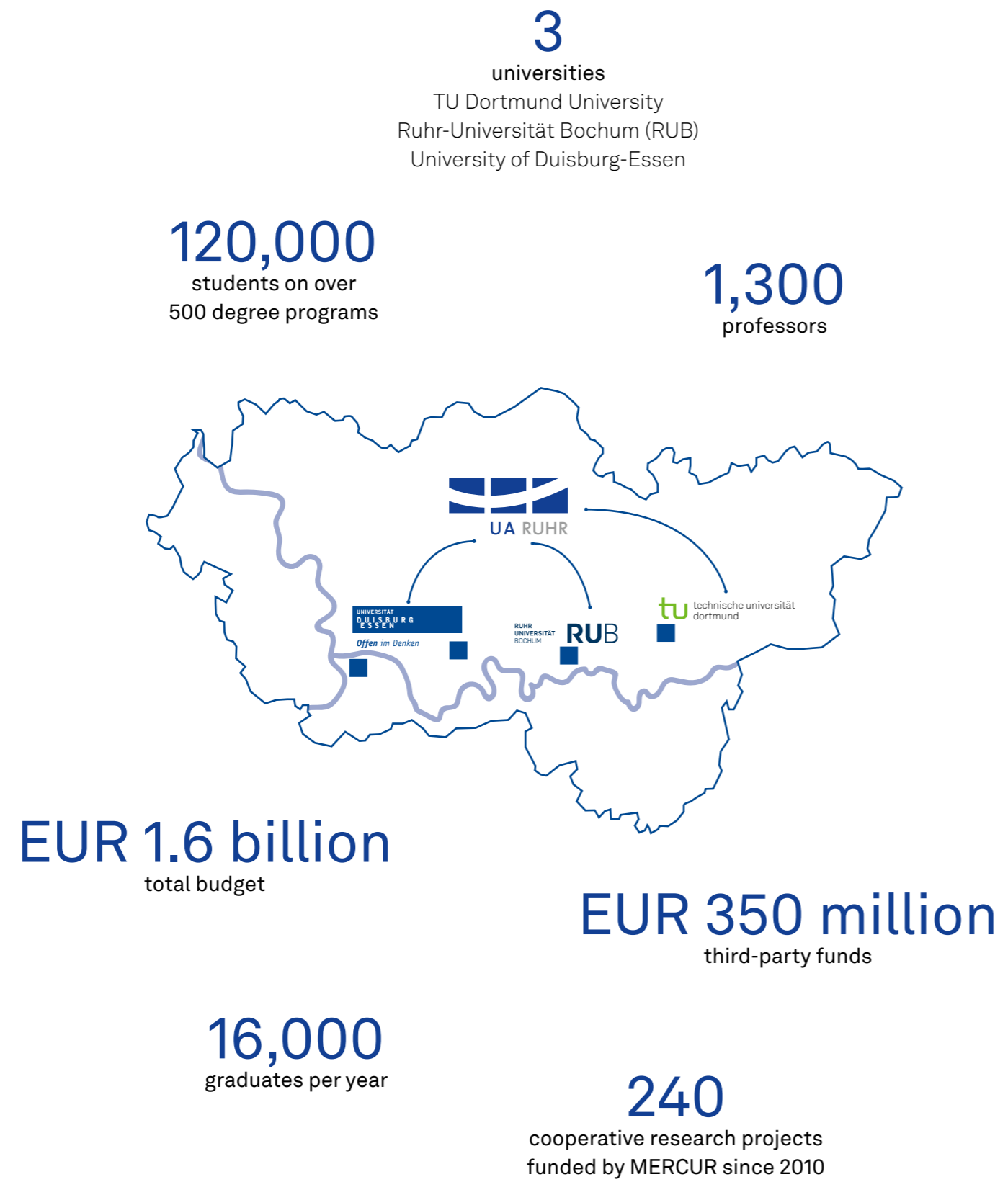
February | Photo competition

“Familien*bilder” competition shows diverse insights



In early 2020, the Equal Opportunity Offices of the UA Ruhr universities announced the photo competition “Familien*bilder” (“Family Pictures”) among students and employees. The photos should show what family means to them. The concept of family is used broadly here. In February 2021, the winners are chosen from 70 submissions.

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Better Together – University Alliance Ruhr
 TU Dortmund University has been working closely and strategically with Ruhr-Universität Bochum (RUB) and the University of Duisburg-Essen within the University Alliance Ruhr (UA Ruhr) since 2007 – true to the motto “better together”.

Research Center Chemical Sciences and Sustainability

Research Center One Health Ruhr – from Molecules to Systems

Research Center Trustworthy Data Science and Security

College for Social Sciences and Humanities

Research Center Future Energy Materials and Systems

Research Alliance Ruhr
 The University Alliance Ruhr bundles its international, pioneering, cutting-edge research under the umbrella of the Research Alliance Ruhr in four research centers and a college. The state is providing up to EUR 75 million for the start-up phase until 2024.

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March | Start-Up Radar

TU Dortmund University achieves top ranking



TU Dortmund University successfully supports scientists who have set up their own companies from within the university. As part of the Stifterverband's "Start-Up Radar", TU Dortmund University ranks fifth in the overall ranking of German universities with over 15,000 students. According to the study, it offers "exemplary start-up support". One of the keys to its

success is the Center for Entrepreneurship & Transfer (CET). "With the CET being named an Excellence Start-up Center.NRW and with the associated funding, we have been able to significantly expand our activities over the past year and a half," says Albrecht Ehlers, TU Chancellor and CET board member.

January | Major research project

Silicon Economy produces first start-up

With the large-scale research project Silicon Economy, which is funded by the Federal Ministry of Transport and Digital Infrastructure and in which TU Dortmund University is involved, the Fraunhofer Institute for Material Flow and Logistics wants to establish a decentralized, open platform economy in Germany. The first company to be founded is Logistikkbude, an app-controlled platform for cloud-based load carrier management based on artificial intelligence. This is the first example of open-source components from the Silicon Economy being used.



April | Pre-Incubation Program

Developing viable business models with cetup.PREINC



The Center for Entrepreneurship & Transfer (CET) is offering a pre-incubation program for start-up projects for the first time this spring. With the new program cetup.PREINC, the CET helps the teams to further develop business ideas and research technologies, thus closing the gap between idea generation and incubator.

April | Start-Up EMVICORE

Making production in factories safer

Dr. Markus Buschhoff (left) and Dr. Boguslaw Jablkowski (right) from TU Dortmund University are working on making computer-controlled production in factories safer and more flexible. With their EMVICORE project, they want to become self-sufficient as another university start-up in 2022. Their real-time system software won over the research funding team: On the way to self-sufficiency, the two have been supported with an EXIST start-up grant and advised by the Center for Entrepreneurship & Transfer at TU Dortmund University.

February | Regional network

New cooperation in start-up and transfer funding

Fachhochschule Dortmund

University of Applied Sciences and Arts



HOCHSCHULE
HAMM-LIPPSTADT



University of Applied Sciences

The Center for Entrepreneurship & Transfer (CET) at TU Dortmund University cooperates with three other universities: In addition to FH Dortmund, the Hamm-Lippstadt University of Applied Sciences and the South Westphalia University of Applied Sciences will become partners of the Excellence Start-Up Center. The NRW Ministry of Economics granted the CET this award in 2019.



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August | Business ideas

The cetup.INNOLAB program enters its fifth round



The fifth round of the cetup.INNOLAB starts in August. With the four-month incubator program, the Center for Entrepreneurship & Transfer offers young start-ups and prospective entrepreneurs the opportunity to help their business ideas mature. Experienced mentors advise the teams and develop a training program tailored to their needs.

May | EXIST funding

Checking and optimizing construction planning

Improving planning processes in the construction industry – that is the goal of a research team in the “Building Information Cloud” project. With this in mind, three postdoctoral researchers – (from left to right) Dr. Jan Winkels, Dr. Julian Graefenstein and Dr. Lisa Lenz – work alongside Prof. Mike Gralla (right) from the Department of Architecture and Civil Engineering to develop a cloud-based analysis software. With the support of the Center for Entrepreneurship & Transfer, the team qualifies for the “EXIST Research Transfer” program and raises 700,000 euros in funding.



24 June | Inside CET

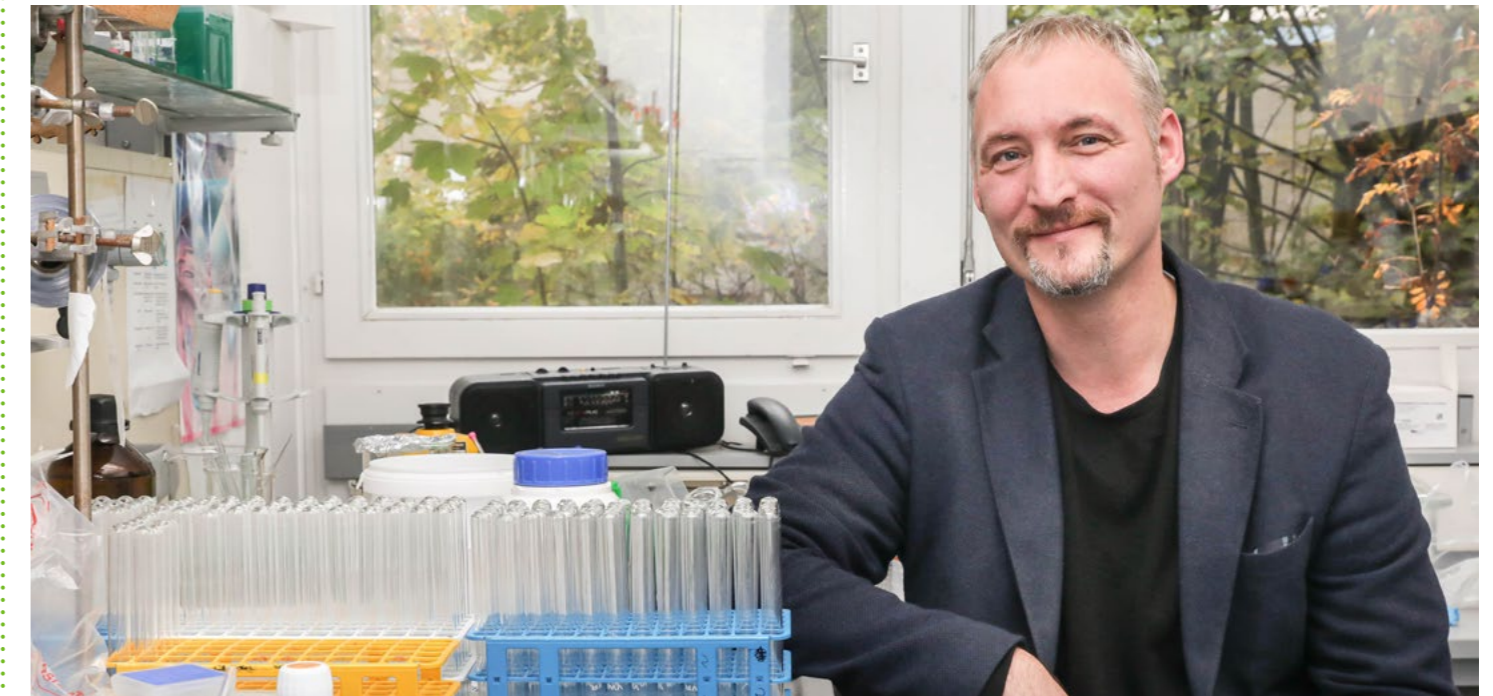
The CET team offers a look behind the scenes



The Center for Entrepreneurship & Transfer (CET) uses a virtual tour to showcase its activities relating to start-ups and transfer. The participants can get to know start-ups alongside the CET team and explore the premises in TechnologieZentrumDortmund. On top of that, the winning teams of the cetup.INNOLAB are selected.

September | Serengen spin-off

Efficiency boost in drug research



In 2019, Dr. Andreas Brunschweiger from the Department of Chemistry and Chemical Biology, together with his partners, founded the biotech start-up Serengen GmbH based in the Dortmund Technology Park. With the help of DNA coding, the search for suitable active ingredients for medicines is set to become significantly more efficient and less expensive,

since many more molecules can be tested for their effectiveness at the same time. In the summer of 2021, TU Dortmund University and PROvendis GmbH – a subsidiary of 28 universities – conclude a license agreement with Serengen GmbH, which means that the start-up can now put the new screening technology into practice.

May | EXIST funding

3D printer combines silicones and plastics

With 1.3 million euros in financing, the MedTech-Multiprint project is the most highly funded EXIST project that TU Dortmund University has obtained to date. Jasper Gruson (left) and Philipp Kemper from the Department of Mechanical Engineering want to work with software developer Frithjof Pollmüller to develop a 3D printer that can print plastic-silicone compounds. These hybrid products are required in the production of custom prostheses. The team is accompanied by the Center for Entrepreneurship & Transfer on their journey towards founding a company.



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> 30
full-time positions at CET for transfer and career advice as well as support for start-ups



1,800 qm
of floor space for CET as the central contact point, including MakerSpace and DataSpace



Third Mission

Transfer and support for start-ups are anchored at the university



109
supervised teams in 2021, including 20 new start-ups



52
qualification workshops in 2021 with 1,209 participants



3
transfer options with qualification offers such as the cetttec, cetup and cetucate programs



Equity investments

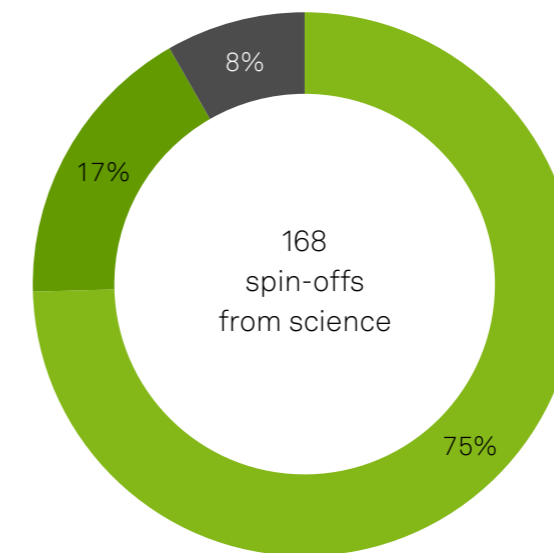
are possible via the two subsidiaries TU concept GmbH and TU Capital GmbH & Co. KG



> 100
external network partners work with CET in transfer and career advice as well as support for start-ups

Outstanding Support for Start-Ups

The Center for Entrepreneurship & Transfer (CET) of TU Dortmund University, which has been funded since 2019 by the State of North Rhine-Westphalia as an Excellence Start-up Center, supports start-ups and aspiring entrepreneurs with various programs, workshops and equity investments.



- Spin-offs founded in Dortmund
- Spin-offs founded in the region
- Spin-offs founded in other parts of Germany

TU Dortmund University's Heart Beats for Start-Ups

TU Dortmund University promotes spin-offs from science – and does so very successfully: Since 2007, around 170 spin-offs from TU Dortmund University have been founded, 75 percent of them in Dortmund. The Stifterverband has also attested to this exemplary start-up support: In its "Gründungsradar 2020" (2020 Start-up Radar), TU Dortmund University ranked fifth among the largest German universities.



> 300
companies



13,500
jobs

Largest Technology Park as Neighbor

Germany's largest technology park is located right next to the campus and is a mark of successful technology and knowledge transfer at TU Dortmund University. Over 300 companies have settled here and created around 13,500 jobs for highly qualified employees. TechnologieZentrumDortmund (TZDO) was founded over 30 years ago and is the heart of the technology park.

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August | More daycare places

Care services strengthened on campus



In early August, HoKiDo puts a 130-square-meter expansion, financed by TU Dortmund University, into operation. This makes it possible for the on-campus daycare center to introduce a new childcare group with 20 places. In addition to two new rooms, the expansion also offers space for a new child-friendly bathroom and an office. In addition to this, TU Dortmund University is also providing new kitchen appliances,

toys and playground equipment for the outdoor area. With this expansion, the university is strengthening the range of care services available on campus and helping people strike a better balance between their studies, research, work and family. The parent initiative HoKiDo e.V. has been running the daycare center on the university campus since 2011.

January | New department

Department of Social Sciences officially celebrates its founding

After the founding of a new department at TU Dortmund University was decided in January 2020 and the Department of Social Sciences started operations in April 2020, it officially celebrates its founding in January 2021 – in digital form, due to the pandemic. President Prof. Manfred Bayer and Mayor Norbert Schilff congratulate and Dean Prof. Nicole Burzan is delighted to see the social science strengthened by this union.

Winter semester 2021/22 | Eight sessions

New series “TU Dortmund University in Conversation”

In the 2021/22 winter semester, the series “TU Dortmund in Conversation”, which is aimed at university lecturers, is to take place for the first time. In eight sessions, two professors from different departments present their third-party-funded research projects. They are presented by Deans of other departments. Afterwards, there is room for questions and further discussion. The event is moderated by Prof. Nele McElvany, Vice President Research and initiator of the new series.

30 October | Program for the public

Science and administration present a rich program for Open House

After a year-long pause due to the pandemic, TU Dortmund University opens its doors to the public once again. More than 1,500 visitors come to the campus to take a look behind the scenes and get to know various academic and administrative institutions. The event takes place in compliance with the 3G rule currently in force.

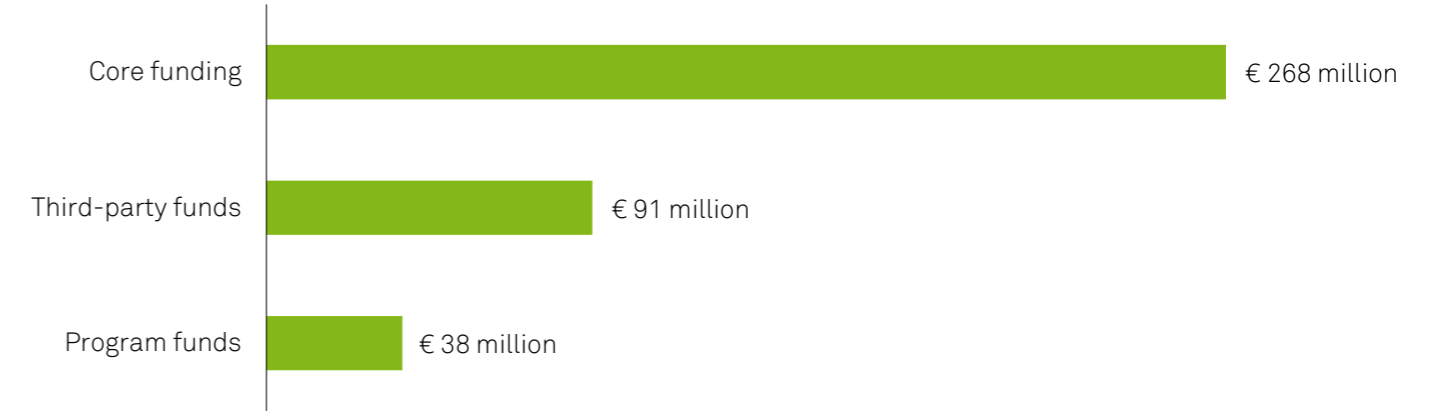
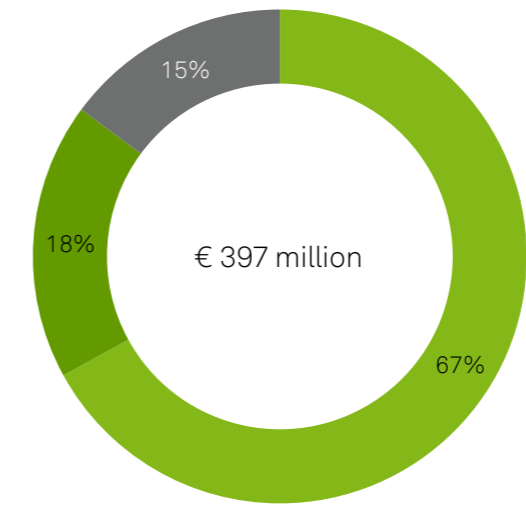
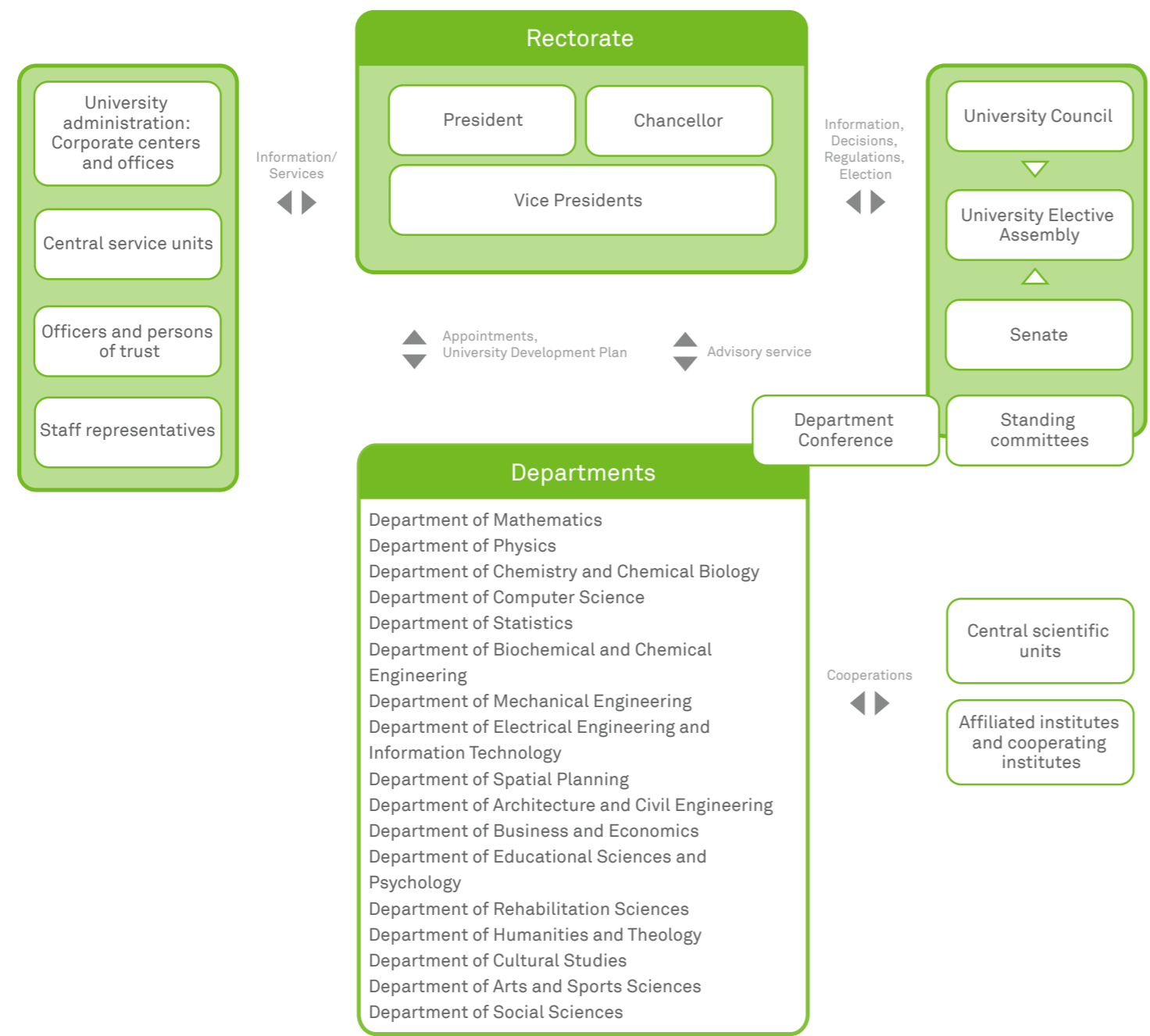
Visitors experience a rich program of lectures, guided tours, exhibitions and hands-on activities that the departments and institutions have put together. The lecture “Between Breakfast and Borussia – modern physics for everyone” provides insights into the work of the CERN international research center. Those interested can also visit Dortmund’s DELTA electron storage ring and the Chair of Data Processing Systems showcases its soccer-playing robots.

The TU Dortmund University guitar quartet and the singer-songwriter Mandy Lee Rose provide musical entertainment. The exhibition “BrandMal: A document from Mosul tells history” in the University Library is also met with a great deal of interest.

There is a great interest in the hands-on campaign “Vaccinated=Protected?”, which the Leibniz Research Centre for Working Environment and Human Factors at TU Dortmund University is offering together with the Department of Sports Medicine. People who have been vaccinated twice against COVID-19 can donate some blood to be used in a study to measure their antibody levels.



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Overall Structure of TU Dortmund University

The Rectorate presides over TU Dortmund University. The members of the Rectorate are elected by the University Elective Assembly, a body composed of the University Council and the Senate. The academic community comprises 17 departments in the natural and engineering sciences, social sciences and cultural studies. The deans convene in the Department Conference. The departments also work together with the university's central scientific units and a number of non-university research institutes nearby. University administration as well as the central service units see themselves as service partners for research and teaching operations. Officers, staff representatives and the standing committees also contribute to shaping the university.

EUR 397 Million Total Expenditure by TU Dortmund University

The total expenditure by TU Dortmund University for 2021 is just under EUR 400 million – equivalent to the budget of a large corporation. Human resources account for most of the expenditure. A good 60 percent of the total expenditure is covered by the university's core funding. The remaining budget comprises third-party funds and fixed-term program funds from the federal and state governments.

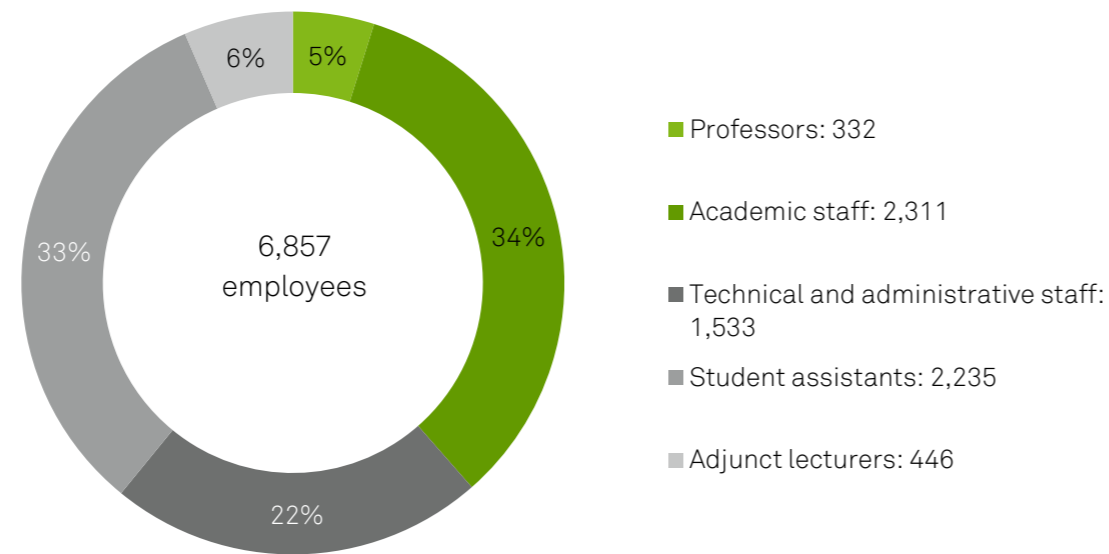
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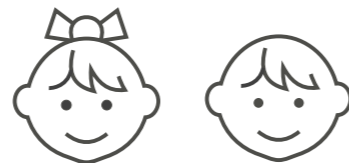


One of the Largest Employers in the City

Over 6,800 people work at TU Dortmund University, including around 330 professors. With about 130 apprentices and trainees in technical services and administration, TU Dortmund University is one of the largest training organizations in the city.

80

at HoKiDo
(Parents' initiative)



Places at daycare centers

120

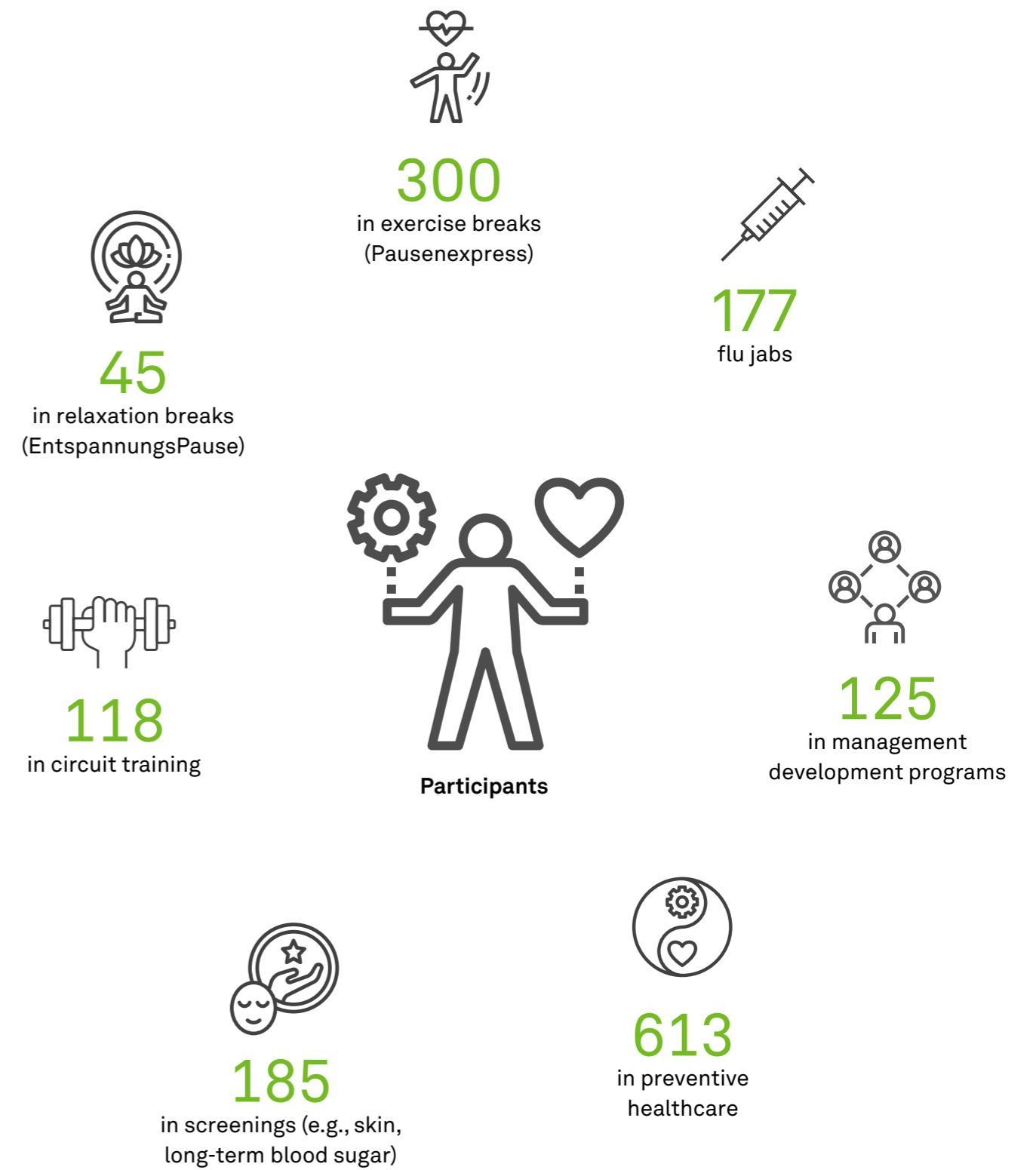
at "Kita im Grünen"
(Studierendenwerk)

9

at "9x kluge Zwerge"
(for children of employees)

Childcare

As a family-friendly university, TU Dortmund University fosters the compatibility of family and studies or career. In 2021, there are around 210 nursery and pre-school places near campus. A building for another large daycare center is being constructed on South Campus.



A Healthy Working Environment

As an employer, TU Dortmund University is also dedicated to the topic of health and takes a holistic approach. On the one hand, there are offers that encourage individual healthy behavior and, on the other, measures to create a healthy working environment. Occupational Health Management is responsible for coordinating measures.

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May | Student Olympics

World University Games are coming to the Ruhr area in 2025



In July 2025, North Rhine-Westphalia and the Rhine-Ruhr region will welcome around 10,000 athletes from 170 countries. In May, the Executive Committee of the International University Sports Federation decides to award the World University Games to the Rhine-Ruhr region. The event is the world's second largest multi-sport event after the Olympics.

Summer | Olympics in Tokyo

Students start at the Olympic Games

For four students at TU Dortmund University, the dream of going to the Olympics has come true: Maria Viktoria Schutzmeier and Miguel Mena are both starting in the 100-meter freestyle swim for Nicaragua. Track athlete Mohamed Mohamed is starting the 5,000 meters in Tokyo. For marathon runner and journalism student Hendrik Pfeiffer (photo), participation in the Olympics is also very meaningful because he had recently qualified for major events five times, but was unable to start each time due to injury or the pandemic.

July | Performance diagnostics

BVB players take strength tests at TU Dortmund University



As part of the start of training for the new soccer season, 15 players from Borussia Dortmund, including Mahmoud Dahoud, carry out performance diagnostic tests at the Institute of Sports and Sports Science. The focus of the on-campus examinations, which are scientifically monitored by employees of the institute, is on strength tests.



June and October | Running events

Campus runs take place digitally and individually

Due to the pandemic, the campus run does not take place on site as usual in June 2021, but digitally: The participants can run the routes anywhere and then upload the results to a website. Time and distance are recorded with any running app. In October, it then becomes possible to complete the traditional running distances individually on campus over four days. Everyone runs the specified route for themselves, and the time is recorded using a chip.



21 November | Pioneering role

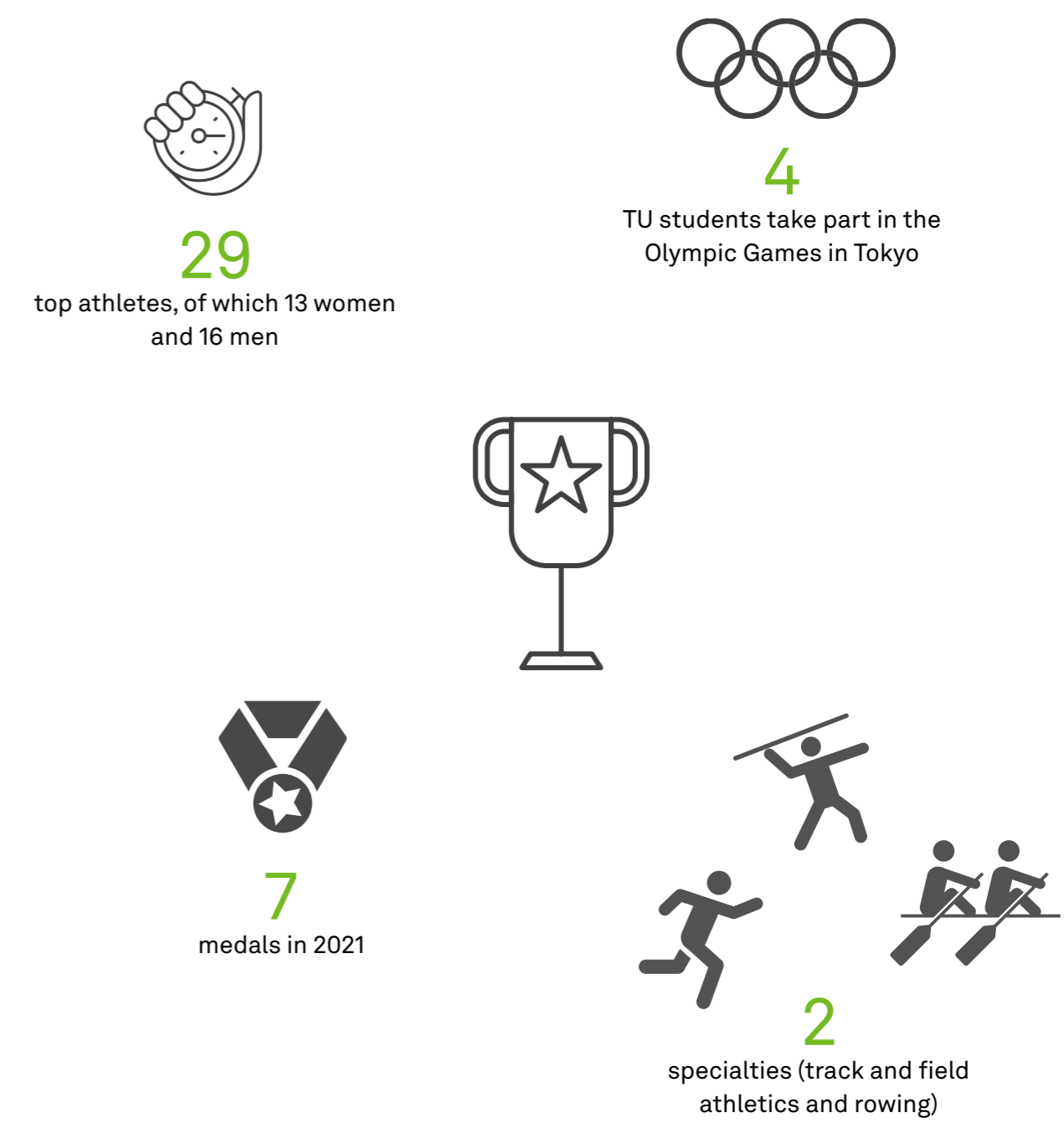
Awarded as "University of the Year"



The German University Sports Federation (adh) honors TU Dortmund University as University of the Year 2021. In doing so, the adh recognizes the University Sports of TU Dortmund University for its work in recent years and for its pioneering role in the rapid implementation of online services during the pandemic. Accepting the award (from right to left) Albrecht

Ehlers, Chancellor of TU Dortmund University, as well as Christoph Edeler, Head of University Sports, and his deputy Maximilian Roeren in Frankfurt. When face-to-face operations had to be stopped at short notice in March 2020 due to the pandemic, University Sports began streaming the first online offering in just three days.

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Extensive Sports Program

University Sports offers a broad course program for students and members of TU Dortmund University. It organizes events such as the Campus Run and encourages students to take part in competitive sport. In 2021, too, University Sports is making many offers available online due to the coronavirus pandemic.

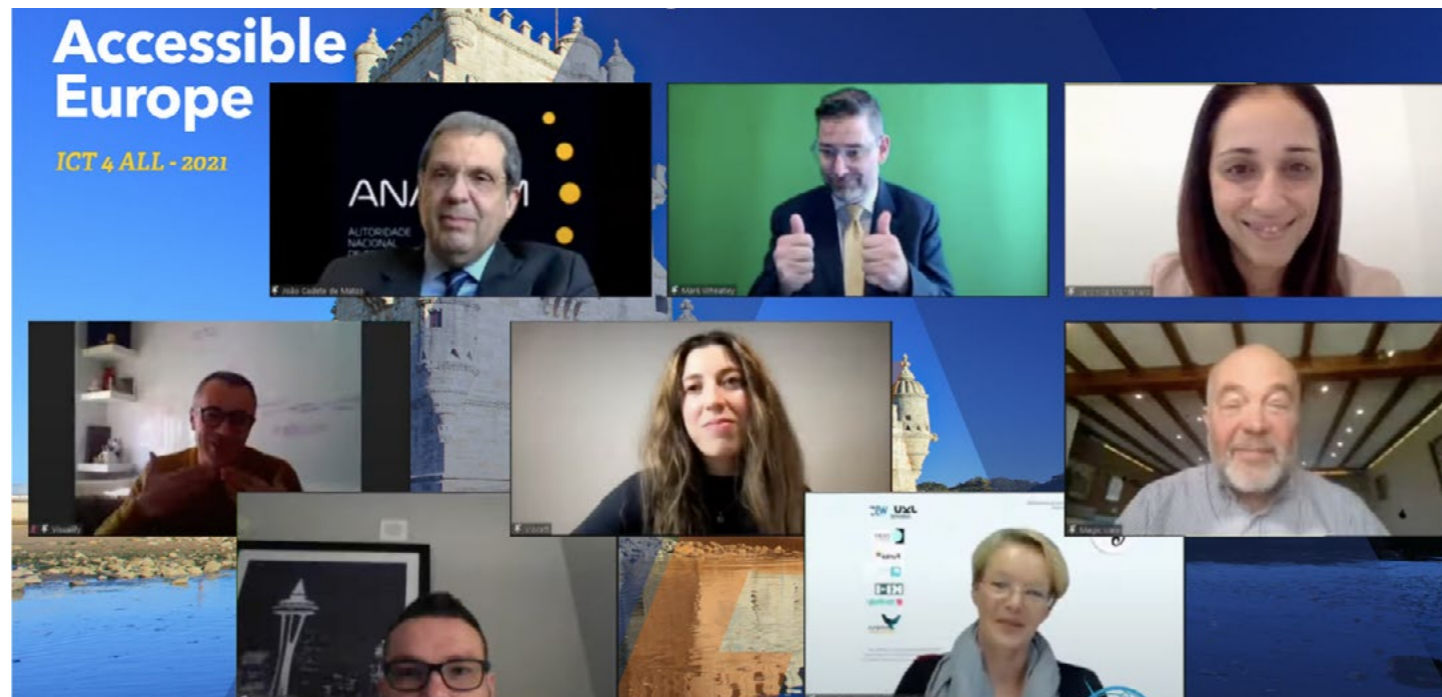
High-Performance Sport

TU Dortmund University has been a partner university in high-performance sport since 2006 and helps TU athletes to take part in competitive sport. Most of the university's top athletes are found in athletics and rowing. Despite the restrictions caused by the coronavirus pandemic, TU students achieved numerous successes in 2021, among other at the German Athletics Championships.

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March | Accessibility

UN award for “Easy Reading”



The “Easy Reading” software, which was developed by a research team from the Department of Rehabilitation Sciences together with eight international partners, makes it possible for people with cognitive impairments and learning difficulties to access the internet without barriers. Users can use it to customize the display of any website according to their needs.

In March, the UN’s International Telecommunication Union named the software framework as the “2021 innovative digital solution for a barrier-free Europe”. The project was funded with two million euros as part of the Horizon 2020 program. The software has been available to the public free of charge since 2020.

September | Peer mentoring

DoBuS program met with nationwide interest

For the three-year anniversary of its peer mentoring program, DoBuS, the Disability and Studies department at TU Dortmund University, invites universities to digital exchange and makes its expertise available. More than 30 university employees from all over Germany learn how TU students with visible and invisible impairments are supported by mentors to ensure a successful start to their studies. The successful program is now being extended to include students in higher semesters at TU Dortmund University.



April | Social participation

Prof. Brandt involved in the federal participation report

In the Federal Government’s third participation report, the Federal Ministry of Labor and Social Affairs examines how people with disabilities are supported or hindered in their social participation. The preparation of the report is overseen by an interdisciplinary scientific advisory board, which, as with the second report, also includes Martina Brandt, professor of social structure and sociology of aging societies at the Department of Social Sciences. The results show positive developments and backlog demand.



July | Gender equality

New diversity working group recommends the gender star



Prof. Sigrid Nieberle from the Institute for Diversity Studies is a member of the diversity working group appointed by the President. She explains that the working group recommends the use of the gender star (an asterisk used in German words to refer to all genders while also including non-binary people) to ensure that all people are represented in speech and writing, regardless of their gender.

April | Career choices

Schoolgirls put their interest in technology to the test at MinTU



At the digital workshop MinTU (short for “Mädchen in die TU Dortmund” or “Girls at TU Dortmund University”), 42 schoolgirls learn more about mechanical engineering and see whether this subject is something for them. The 14- and 15-year-old girls also meet Silke Telgenbüscher, who attended mechanical engineering lectures at TU Dortmund University as a schoolgirl.

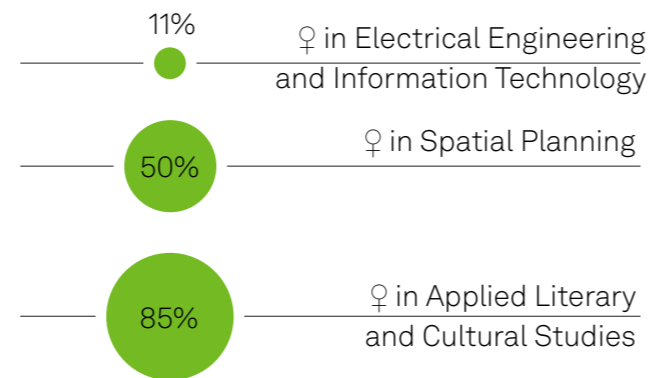
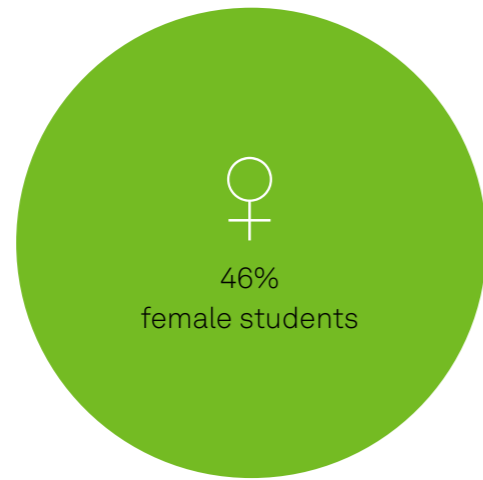
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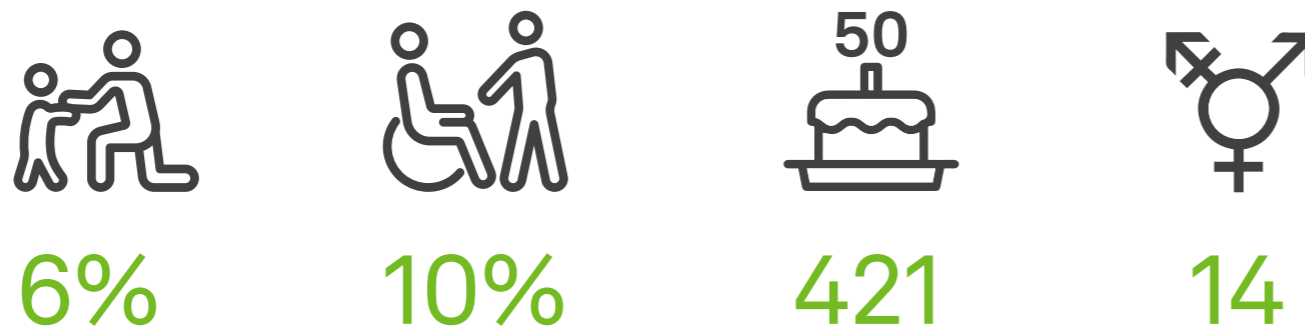
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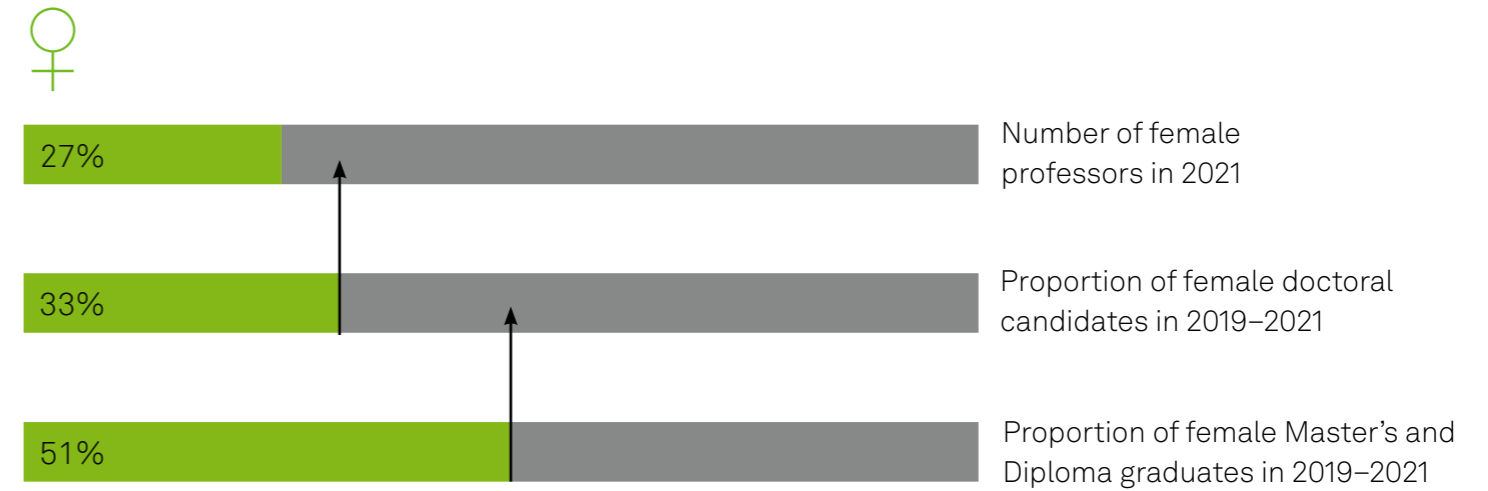
Different Study Preferences

The gender ratio among students is almost balanced: The overall proportion of women is 46 percent. However, the number of women and men in the individual Bachelor's degree programs differs. Various programs aim to inspire female school students to study subjects in which women are still underrepresented.



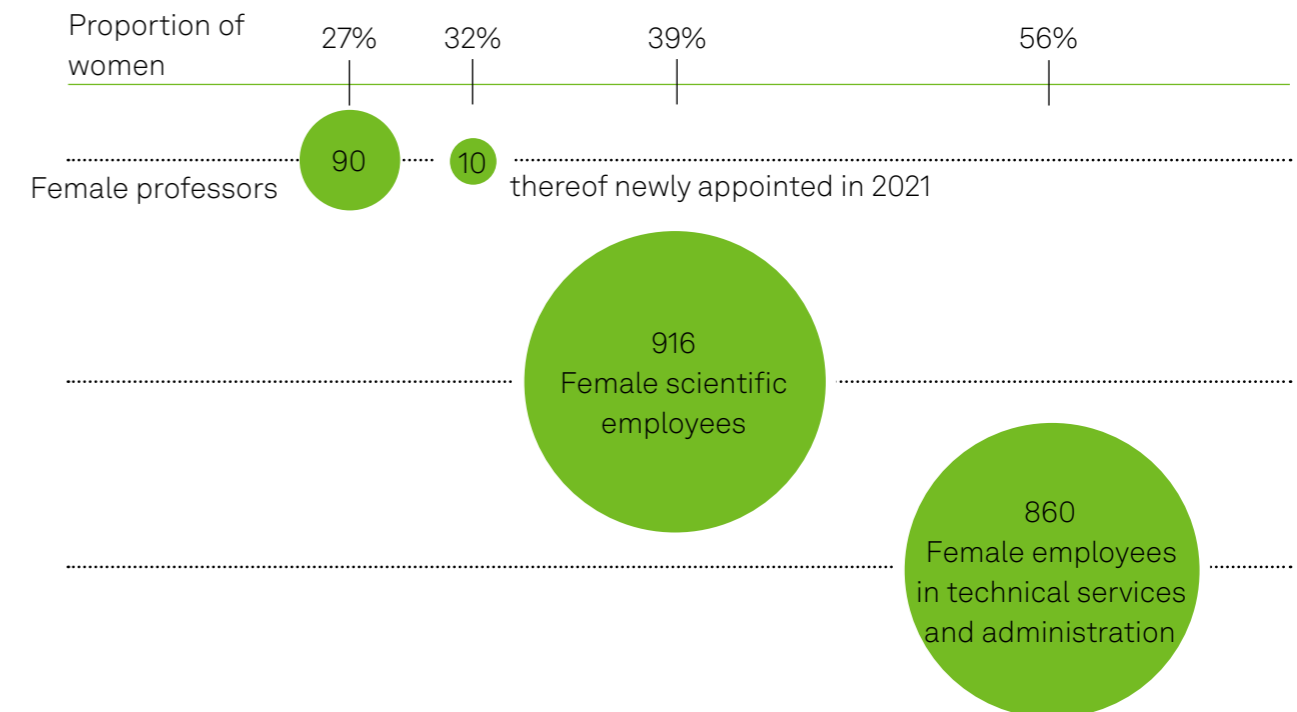
Diverse Student Body

Around 5 percent of students have one or more children under the age of 18. One in ten has an impairment that makes studying difficult. Over 400 students are over 50 years of age. 14 students do not identify as either a woman or a man.



Increasing Proportion of Women in Accordance with Cascade Model

The proportion of female professors has increased from 17 to 27 percent since 2008. The intention is to raise this further. This does not involve fixed quotas, but rather the cascade model: According to this, the existing proportion of women at one career level in a subject sets the target for the next higher one.



Proportion of Women Among Staff

A total of around 1,800 women work at TU Dortmund University. In 2021, the proportion of professorships held by women is 27 percent. Of the scientific employees, 39 percent are women, and of those in technical services and administration, the figure is even 56 percent student assistants excluded.

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August | Participation campaign

Insect hotels for species protection



It is becoming increasingly difficult for insects like wild bees and bumblebees to find shelter and places to nest. This is because nature is increasingly being pushed out of the cities in order to make room for housing. For that reason, the Sustainability Office of TU Dortmund University, the General Student Committee (AStA), the “Campus for Future” group and Bau-

und Liegenschaftsbetrieb NRW (BLB) build insect hotels for the campus as part of a joint campaign. Many endangered insect species will be able to overwinter and nest in the boxes in the future. There are set to be more participation campaigns in the future. For example, large flowering meadows will be established on campus so that bees can find food there.

February | Solar panels

New photovoltaic system installed on the South Campus

A photovoltaic system goes into operation on the roof of the test hall of the Institute for Machining Technology (ISF) on the South Campus. By the end of 2021, these and other solar panels will generate around 54,500 kilowatt hours of electricity and save the environment 20,500 kilograms of CO₂. The system on the ISF roof is just one element of the university’s efforts to reduce its CO₂ emissions by 40 percent by 2030 compared to 1990. For this purpose, newly erected buildings are to be equipped with photovoltaic panels in the future.



April | Strategy paper

Sustainability as a common mission



The Senate adopts a strategy paper that sets out the sustainability goals of TU Dortmund University. The university sees the issue as a joint mission in which all TU members are involved and is committed to sustainability in many areas. Scientists are dedicating their research to the topic and many degree programs deal with issues of sustainability. In addition,

TU members discuss new ideas in the sustainability working group and develop projects to make the university more sustainable. A new Sustainability Office serves as a central point of contact and helps the working group increase people’s openness to and the feasibility of projects.

December | Renewable energy sources

100 percent green electricity from 2022

As of 1 January 2022, the university will use certified green electricity from 100 percent renewable energy sources. As a result, it reduces its CO₂ emissions by around 8,300 tons every year compared to the average electricity mix in Germany. With the switch to green electricity, TU Dortmund University achieves one of the objectives of its sustainability strategy. In 2021, electricity consumption is around 41 million kilowatt hours per year. About 45 percent of this is already produced in the company’s own combined heat and power plant through natural gas power generation.



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October | Nationwide campaign

CITY CYCLING 2021 – title defended



The team at TU Dortmund University successfully defends its title in the nationwide CITY CYCLING campaign – logging 84,803 kilometers on the bike, the Dortmund team covers the longest overall distance. In addition, TU Dortmund University also has the largest team in terms of numbers: With 401 cyclists, more than twice as many students and employees are taking

part, compared to last year. Dortmund's Mayor Thomas Westphal (right) congratulates the TU team on winning first place. Christoph Edeler (second from right), Head of University Sports, and the most successful female cyclist, Dr. Viola Hoffmann (second from left) and the most successful cyclist, Jan Gellweiler (left), are alongside Chancellor Albrecht Ehlers (center) on site.

April – June | Lecture series

Challenges of climate change

The public lecture series “1.5 or 4°C – Challenges of Climate Change in Biochemical and Chemical Engineering” looks into what contribution research in biochemical and chemical engineering can make to overcoming the challenges of climate change. At the lecture, the “Scientists for Future Dortmund” group present the problem of climate change, and representatives from industry and research report on their sustainable projects with a focus on CO₂.



8 November | Conference

Hydrogen brings opportunities to the Ruhr area

At a conference, the Energy-System-Transformation competence field of the University Alliance Ruhr (UA Ruhr) provides insights into hydrogen research within the university network. This involves exploring the opportunity for the Ruhr area to establish itself both regionally and internationally as a pioneer in the advancement of future-oriented hydrogen technologies. The Ruhr area not only offers ideal conditions for this because of its economic structure, but also due to its diverse research landscape.



2021/22 winter semester | Additional qualification

studium oecologicum launched successfully



As one of the first universities in Germany, TU Dortmund University has been offering the *studium oecologicum* since the 2021/22 winter semester: This makes it possible for TU students to acquire interdisciplinary skills on the subject of sustainability beyond their own subject. The *studium oecologicum* is a certificate that TU students can receive as an ad-

ditional qualification during their studies. To do this, they must complete courses with a total of ten credit points from three modules. “In total, 64 students completed 18 courses in nine departments over the winter semester,” says Henning Moldenhauer from the Sustainability Office, who helped initiate the certificate.

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August | “KlimaSicher”

Preparing companies for extreme weather

The “KlimaSicher” project aims to help companies from three districts in NRW to prepare for the consequences of climate change. Researchers from the field of marketing are involved: Simon König is one of the project leaders on behalf of TU Dortmund University. The researchers have developed a marketing campaign for “KlimaSicher”. This is intended to increase awareness among small and medium-sized companies of climate change adaptation and encourage them to take part in workshops and consultations.



November | Cooperation with the city of Hagen

Flood protection measures



Prof. Stefan Greiving from the Department of Spatial Planning deals with climate impact and risk research. After the disastrous flood in the summer of 2021, he is a highly sought-after expert on flood protection and reconstruction. For the city of Hagen, he creates an adaptation concept that summarizes the findings of a research project from 2018. In this concept, Greiv-

ing proposes measures that municipalities and residents can implement themselves to limit the damage caused by flooding. He also offers ideas on how Hagen and other cities can be rebuilt after the flood, by taking into account precautionary building measures and protection priorities, for example.

December | International competition



Sustainable neighborhood concept for Seattle

“Students Re-Inventing Cities” is an international competition in which students develop ideas to make neighborhoods more sustainable. To do this, 18 cities select small neighborhoods, blocks or main streets to redesign. A team of students from the Department of Spatial Planning develops the best concept for the Westwood/Highland Park district of Seattle, USA, which envisions a shift from a car-oriented to people-oriented urban design. Seattle now wants to implement these ideas.



February | Winter aid

TU members support Dortmund homeless aid



As part of the winter aid project at Dortmunder U, homeless people receive free meals twice a day in a heated tent. About 200 volunteers support the project and help on site. Among them are the TU students Alina Falke and Marcel Kalnik (from left to right) and TU employee Hasan Cinar (right).

January | Power-to-gas plants

Outstanding master’s thesis on the subject of hydrogen



The NRW Ministry of Economics honors research work on the subject of hydrogen. The prize for the “master’s thesis” category goes to Dennis Faber. As part of a case study, the TU student researched the development of a process for finding suitable locations for power-to-gas systems in the electrical energy supply system.

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17 December | University Elective Assembly

Albrecht Ehlers re-elected as Chancellor



In an online meeting, the University Council and Senate re-elect the lawyer Albrecht Ehlers as Chancellor with a resounding majority. Albrecht Ehlers has been in charge of administration at TU Dortmund University as a member of the Rectorate since 2010. His third term of office begins in the summer of 2022 and is set to last four years. "Digitization and remote working, as well as the climate objectives and international

competition will continue to place new demands on administration. I'm looking forward to accompanying TU Dortmund University further along this path," says Ehlers. He sees the implementation of the eGovernment Act (E-GovG), the structural modernization of the campus and the development of the Research Alliance Ruhr as central projects.

May | Conference of Ministers of Education and Cultural Affairs

Prof. Susanne Prediger appointed to new commission

Prof. Susanne Prediger from the Department of Mathematics is a member of the new permanent scientific commission of the Conference of Ministers of Education and Cultural Affairs. As one of 16 experts, she will advise the federal states on central educational policy issues and help develop strategies for educational equity, inclusion and digitization, among other things. Prediger is an internationally recognized expert in mathematics tuition. Since 2006, she has been a professor at the Institute for Development and Research of Mathematics Teaching at TU Dortmund University.



January | WirtschaftsWoche

Prof. Manuel Wiesche takes top place in economist ranking



WirtschaftsWoche ranks Prof. Manuel Wiesche from the Department of Business and Economics as one of the top research economists in Germany. The business informatics specialist performed excellently in the economist ranking: He is ranked 12th among the best-performing business administration researchers under the age of 40 and 23rd in the overall ranking.

27 May | Taking office

Prof. Johanna Weber joins the University Council



The University Council of TU Dortmund University welcomes Prof. Johanna Weber as its new member, succeeding Edwin Eichler in office. Weber is professor of differential and personality psychology and psychological diagnostics and was Rector of the University of Greifswald from 2013 to 2021. Over the course of her career she has been, among other things, Vice President of the German Rectors' Conference (HRK).

6 October | RESOLV researcher

Chemistry Nobel Prize goes to Prof. Benjamin List

For his groundbreaking discoveries in the field of chemical catalysis, Prof. Benjamin List is awarded the 2021 Nobel Prize in Chemistry alongside the British David MacMillan. The two researchers found that small organic molecules can also be used as catalysts for chemical reactions. List is Director of the Max-Planck-Institut für Kohlenforschung in Mülheim an der Ruhr and Head of Research in the Cluster of Excellence "Ruhr Explores Solvation" (RESOLV), which is based at TU Dortmund University and Ruhr University Bochum.



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September | General Student Committee (AStA)

Till Zschel and Kyra Lenoudias take over chairmanship



Till Zschel (pictured) and Kyra Lenoudias take over as chairs of the General Student Committee (AStA) of TU Dortmund University, replacing Marlene Schlueter and Isabella Emken. Moving forward, they represent the students vis-a-vis the University Management, the committees and the public. In October, Till Zschel welcomes the freshmen at a stadium event.



June | International fellowship

Prize plaque for Prof. Martina Havenith-Newen



Prof. Martina Havenith-Newen receives the prize plaque of the Optical Society of America (OSA). The chemist has previously been appointed as an OSA Fellow for her outstanding research in optics and photonics. Havenith-Newen is a UA Ruhr professor and head of RESOLV, the excellence cluster of TU Dortmund University and Ruhr-Universität Bochum.

January | Richard Willstätter Prize

Accolades for Prof. Herbert Waldmann



Prof. Herbert Waldmann from the Department of Chemistry and Chemical Biology receives the Richard Willstätter Prize for Chemical Biology. The prize, endowed by four scientific societies, is awarded for the first time in 2021 and honors outstanding research achievements that have made a major contribution to a deeper understanding of the relationships between

chemistry and biology. Waldmann, who is also Director at the Max Planck Institute for Molecular Physiology in Dortmund, recognized the interdisciplinary nature of chemistry and biology as a fruitful field of research early on and promoted many areas of chemical biology, including biology-oriented synthesis.

November | Lifetime Achievement Award

Prof. Sebastian Engell receives the Arnold Eucken Medal

The research association Forschungs-Gesellschaft Verfahrens-Technik honors Prof. Sebastian Engell from the Department of Biochemical and Chemical Engineering with the Arnold Eucken Medal. The medal was first awarded in 1956 and has been awarded 23 times since then, most recently in 2014. Sebastian Engell receives the award for his outstanding work on the dynamics, automation and optimum control of chemical engineering processes. His research has helped optimize complex processes in real time and make them suitable for industrial use.



September | NRW program

Prof. Christoph Selter heads the Mathematics Offensive

The NRW state government is providing 27.5 million euros to strengthen the core skills of reading, writing and arithmetic in elementary school. Christoph Selter is responsible for the implementation of the offensive in the field of mathematics. He is a professor at the Institute for Development and Research of Mathematics Teaching at TU Dortmund University – one of Germany's leading mathematics teaching institutes. The new offensive will support teachers with materials, video sequences and academic handouts, etc.



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March | International training
 **Global Staff Fellows awarded**

Lehigh University in Pennsylvania, USA, and TU Dortmund University have been partners for over 20 years. The universities jointly implemented the “Global Staff Fellows Program” for the first time in 2021. It gives administrative staff the opportunity for international exchange and was initiated by TU Chancellor Albrecht Ehlers. A total of 16 members of the two universities took part in the seminar series, at the end of which they receive a certificate recognizing them as “Global Staff Fellows”.



November | Outstanding graduates
The best trainees in Dortmund and NRW



28 trainees at TU Dortmund University successfully completed their apprenticeship in 2021. Four of them achieved very good grades, putting them among the top trainees in Dortmund and NRW (from left to right): Alexander Wiedemann, Yannik Merettig, Quentin Federau and Felix Schuster. North Rhine-Westphalian Chambers of Industry and Commerce name the two

media designers for image and sound – Federau and Schuster – the best trainees in the state thanks to their outstanding achievements. Alongside the technical product designer Wiedemann and the electronics technician for devices and systems Merettig, they are also honored by the Dortmund Chamber of Industry and Commerce (IHK) for their excellent grades.

July | University Alliance Ruhr
 **New Head of Liaison Office in New York**


Priya S. Nayar is the new head of the University Alliance Ruhr Liaison Office in New York. Nayar has lived in New York for almost 22 years and has worked at the intersection of German and American higher education for over a decade. Most recently, she was head of the New York office of Hochschule Fresenius. She is very familiar with the American academic landscape and very well connected. Nayar is replacing Peter Rosenbaum, who has headed the office since 2014 and has moved to TU Dresden.



21 April | Rudolf Chaudoire Prize
 **Dr. Tobias Kaiser receives award for young academics**



Dr. Tobias Kaiser from the Department of Mechanical Engineering is subsequently honored by TU Dortmund University as an outstanding young scientist with the 2020 Rudolf Chaudoire Prize. Kaiser researches multiscale simulation methods at the Institute of Mechanics. He will use the prize to fund a stay at TU Eindhoven.

10 November | Rudolf Chaudoire Prize
 **Engineer Dr. Alexander Engelmann honored**



Dr. Alexander Engelmann from the Department of Electrical Engineering and Information Technology receives the 2021 Rudolf Chaudoire Prize from TU Dortmund University. The prize will go towards funding an international project. Engelmann wants to advance his research on optimization methods for cyber-physical systems over the course of a stay in the USA.

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December | Teachers-to-be

Awards for the best master's degrees



The graduation ceremony for graduates of the teacher training degree programs takes place on a smaller scale. The awards are presented by Prof. Wiebke Möhring (fourth from left), Vice President Academic Affairs, Prof. Stephan Hussmann (second from right), Director of the DoKoLL, and Guido Baranowski (fourth from right), Chairman of the Association of Friends of TU Dortmund University, for the best master's

degrees from the past two academic years. These awards go to: Laurien Kunert (elementary school), Kathrin Fahn (secondary schools and comprehensive schools), Stefan Zientek (grammar schools), Lina Gerards (special needs education) as well as Laura Stührmann and Lena Lohkamper (vocational colleges). The prize money of 500 euros each comes from the Bernd Jochheim Foundation.

December | NRW State Media Authority

eldorado* wins 2021 Campus Radio Prize

The Campus Radio Prize of the State Media Authority of North Rhine-Westphalia is an important award for university radio. The Dortmund campus radio station eldorado* received three prizes this year: Journalism student Jan Dahmann wins in the podcast category. Journalism student Lena Zaubzer comes out on top in the university category. Together with campus radio stations from Bonn, Düsseldorf, Siegen and Essen, eldorado* receives the jury's special prize – for a program about the third semester of the pandemic.

September | Outstanding theses

Year's best students receive the Hans Uhde Award

Four graduates of TU Dortmund University are honored with the Hans Uhde Award for their outstanding theses in engineering. Prof. Manfred Bayer, President of TU Dortmund University, congratulates the award winners: Franka Bause from the Department of Computer Science, Gian-Luca Geuken from the Department of Mechanical Engineering, Patrick Albert Lenzen from the Department of Electrical Engineering and Information Technology, and Astrid Ina Seifert from the Department of Biochemical and Chemical Engineering.

December | Academic Anniversary Celebration

Extraordinary commitment to teaching



In 2021, TU Dortmund University once again honors its award winners with a comprehensive special website for the Academic Anniversary Celebration, which still cannot take place in person due to the pandemic. The teaching prize is awarded for extraordinary commitment to teaching: In the category for "courses with more than 60 attendees", the award goes to Prof. Andreas Steffen and Prof. Sebastian Henke from the

Department of Chemistry and Chemical Biology. The prize for "courses with up to 60 attendees" goes to Dr. Douglas Yacek from the Department of Educational Sciences and Psychology. The student representative body for biochemical and chemical engineering is honored for its "student commitment to teaching".

December | Academic Anniversary Celebration

Awards given to the year's best students

With a warm welcoming speech, Guido Baranowski, Chairman of the Association of Friends of TU Dortmund University, honors 2021's best students from the 17 university departments: Jasmin Assadsolimani, Michael-David Fischer, Tim Gebauer, Lina Gerards, Julian Hohmann, Julia Jeurink, Michael Kirchhof, Laurien Kunert, Patricia Mäder, Lars Möllerherm, Lisa Olivia Schneider, Alexander Schönert, Jonas Schürmann, Daniel Skoczowsky, Luka Timm, Ann-Cathrin Welling and Tobias Winkelsett.

December | Academic Anniversary Celebration

Award for outstanding dissertations

TU Dortmund University's 2021 Dissertation Prize goes to Dr. phil. Cana Bayrak, Dr. rer. nat. Andrea Martina Bommert, Dr. rer. nat. Felix Hommelsheim, Dr. rer. nat. Clara Hormigos Feliu, Dr. phil. Judith Milena Kaschowitz, Dr. phil. Kai Niclas Klasmeier, Dr. phil. Sonja Knobbe, Dr. rer. pol. Gerrit Köchling, Dr. phil. Christopher Kreutchen, Dr. rer. nat. Jie Liu, Dr.-Ing. Stefan Noll and Dr.-Ing. Lukas Schulz. Prof. Nele McElvany, Vice President Research, congratulates the award winners in her welcoming address.

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May | City of Science

Masterplan Science Dortmund is updated



Experts in science, business, urban society, culture, politics and administration have been working together in Dortmund for more than ten years on establishing Dortmund as a City of Science. In May, the city council unanimously decides to continue this cooperation. The new Masterplan Officer Prof. Herbert Waldmann, Professor at the Department of Chemistry

and Chemical Biology and Director of the Max Planck Institute for Molecular Physiology, presents the “Masterplan Science 2.0”: 200 participants are involved in four subject groups; the first 30 projects of the second phase are gradually being implemented. A new project website showcases the successes: www.masterplan-wissenschaft.de.

November | iCapital Award

Dortmund is the European Capital of Innovation

Dortmund is the first German city to win the European Commission’s “iCapital Award 2021 – European Capital of Innovation”, with an endowment of one million euros. Dortmund has applied under the title “Innovation Next Door – Future from the Neighborhood”. The mix of technology, social issues and sustainability wins over the jury: Dortmund comes out on top against Dublin, Malaga and Vilnius in the final. TU Dortmund University is involved in the innovation model through Masterplan Science 2.0, the Excellence Start-up Center NRW and other projects.



Winter semester and summer semester | Between Breakfast and Borussia

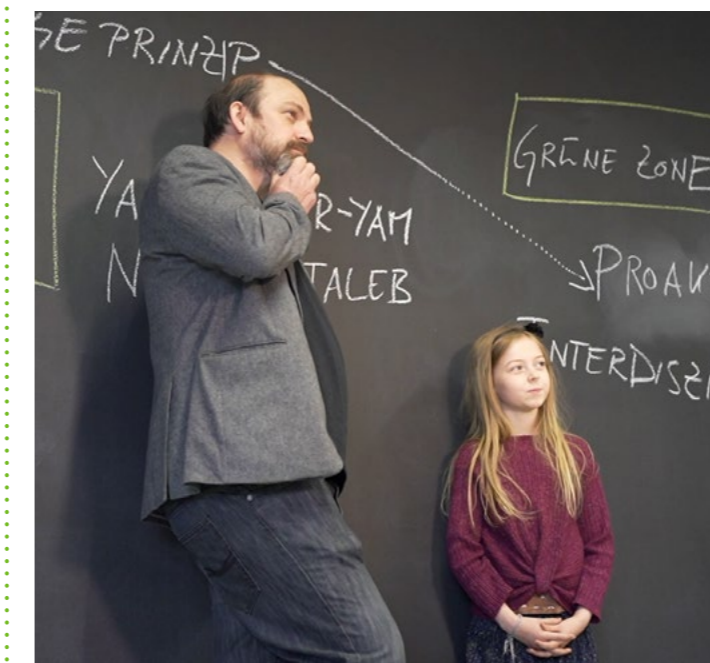
State-of-the-art physics for everyone

In 2021, the entertaining lecture series “Saturdays Between Breakfast and Borussia” also answers unusual physics questions for adults, children and young people: The year starts with digital lectures about the coronavirus and the physics behind the pandemic. Then the summer semester is all about “Physics & Fun”: TU members can even follow the big final Physikanten show in July on site. The winter semester is dedicated to the topic of precision and offers hybrid events.



Summer semester | Lectures for children

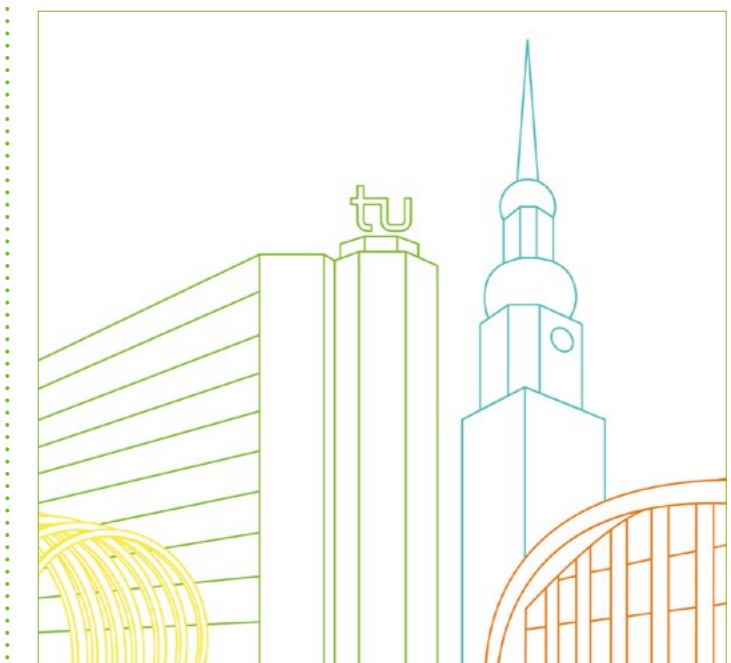
Children’s University answers questions about the coronavirus



Using content specially designed for children aged eight to twelve, TU professors present exciting scientific concepts. The varied digital lectures at Children’s University can be accessed at any time. Prof. Matthias Schneider, for example, explains what a pandemic is and how places can become safe zones.

January | New Initiative Center

TU professors committed to civic education



Sixteen professors from five departments found the Initiative Center for Civic Education and Local Democracy. The aim is to interconnect the university, the city and urban society, strengthen democracy and to anchor civic education more firmly in research and teaching. In autumn, a symposium will be dedicated to the principle of controversy.

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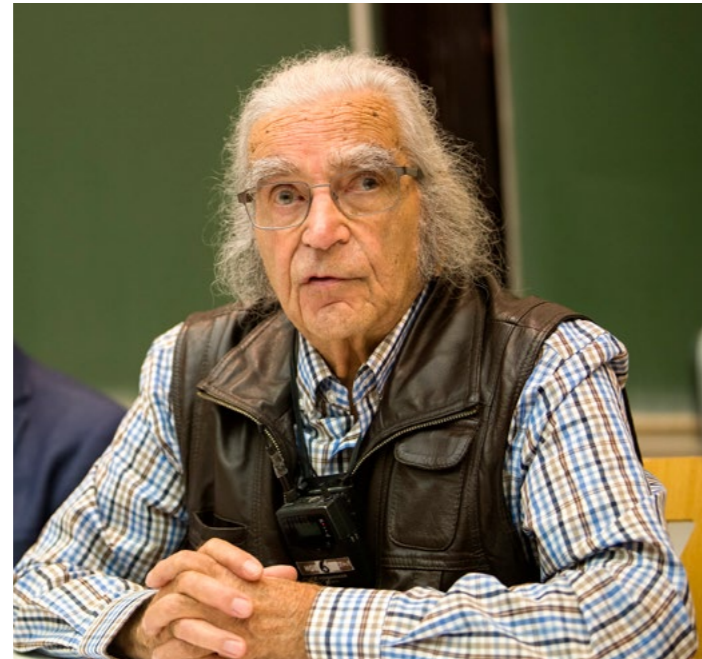
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June | Public lecture

Contemporary witness Horst Selbiger talks about his life



“Ask us – we are the last ones” is the title of the digital public lecture in which Horst Selbiger, a survivor of the Holocaust, talks about his experiences in Nazi Germany. For the second time, the 93-year-old has accepted the invitation of Prof. Egbert Ballhorn from the Department of Catholic Theology at TU Dortmund University.

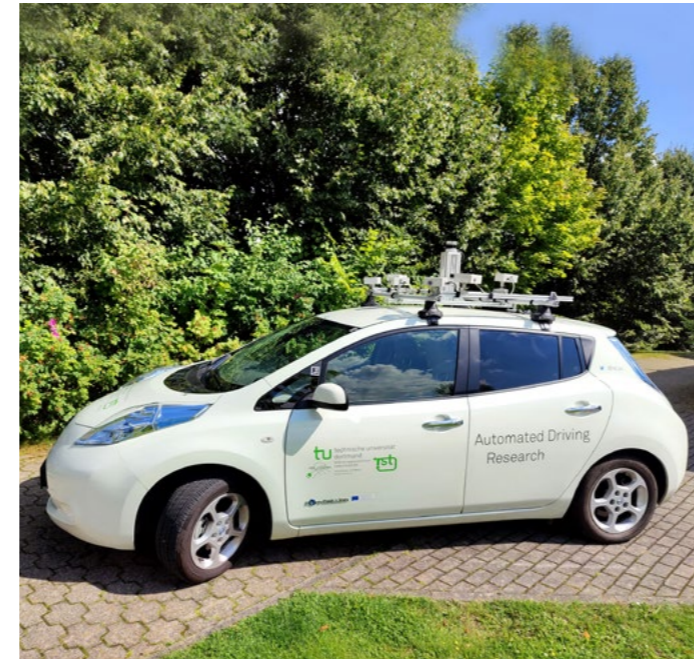
12 November | Dortmund Science Day

A day dedicated to digitality and artificial intelligence

On the 17th Dortmund Science Day, everything revolves around artificial intelligence (AI): Scientists discuss how it is used in medicine, business and logistics, with TU Dortmund University contributing numerous lectures. Prof. Emmanuel Müller from the Department of Computer Science and JProf. Eva Schmidt from the Department of Human Sciences and Theology discuss AI and responsibility. Prof. Markus Pauly from the Department of Statistics gives a lecture titled “Logistics meets Statistics”. The day is part of Digital Week Dortmund.

2 September | DortmunderAutoTag

University and IHK discuss the future of mobility



The Institute of Control Theory and Systems Engineering of TU Dortmund University organizes the 16th DortmunderAutoTag (Dortmund Car Day) as a virtual conference. Lectures by experts from industry and research – including TU scientists – showcase current developments in the fields of electromobility and automated driving.

2021/22 winter semester | Image and sound

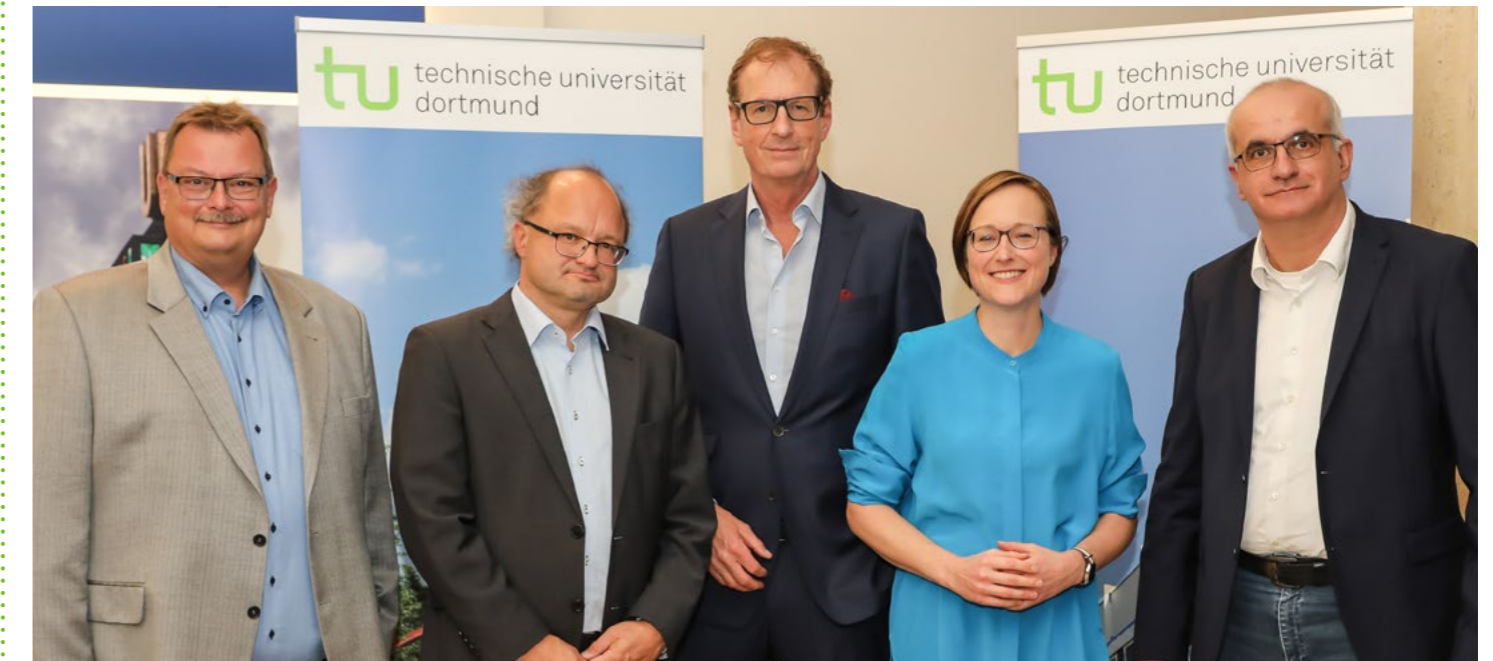
Lecture series dedicated to image and sound spaces

The public lecture series “Image and Sound” offered by TU Dortmund University in cooperation with the Dortmund City Archive and the City Church of St. Reinoldi, has now become a tradition and will be held again in the Reinoldi Church. In the 2021/22 winter semester, the interdisciplinary discussion between cultural studies, history and musicology is dedicated to the topic of “image space and sound space”. The focus is on churches as pictorial spaces, landscape spaces, light spaces, the sky as a space over Dortmund and spatial art. The series brings TU Dortmund University to the city, turning the church into a lecture hall.



28 October | Gambrinus Forum

Lectures bring science to the city



The Gambrinus Forum brings science to the city for the 25th time: TU Dortmund University invites the general public, including non-university members, to the Westphalian Industry Club, where energy researcher Prof. Peter Wasserscheid (second from left) from Friedrich-Alexander-Universität Erlangen-Nürnberg speaks about innovative hydrogen technology for the

climate-neutral industrial company of the future. Prof. Christina Elmer (second from right), who took over the new professorship for data journalism at TU Dortmund University on 1 September, gives a lecture on data journalism during the pandemic. The Gambrinus program is sponsored by Sparkasse Dortmund, and the breweries traditionally donate the beer for the forum.



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Exhibitions for the University Floor at Dortmunder U

Four in the Red Circle

March: Paintings by Prof. Tillmann Damrau, photography by Felix Dobbert, prints and drawings by Prof. Bettina van Haaren, and sculptures, film and action photography by Prof. Martin Kaltwasser.



Fashion.Land. A textile manufacturer's photography

March: Students in the Cultural Analysis and Cultural Intermediation master's program conceptualize an exhibition with photos by Carl Bauer from the years 1900 to 1925

Striking poster collection

June: Collection of international artist posters from Emeritus Prof. Wolfgang Leininger



Fotofestival f2

June: Art students in the fields of photography and multimedia showcase works on the subject of identity

Art tour

July: Outstanding works by art students, art prizes awarded to Lukas Höhler (photography), Nana Seeber (graphic art), Leo Schneider (painting), Nadine Kosmann (plastic) and Johanna Hartl (edition prize)

revolution beuys

August: Views of the work of the artist Joseph Beuys. The exhibition in the Ostwall Museum is curated by Dr. Sarah Pretty and Elvira Neuendank from the Institute of General Educational Sciences and Vocational Pedagogy. Works by TU students are also on display.



Ongoing Observations

October: Works by artistic collaborators: Jette Flügge, head of the printing workshop at TU Dortmund University, and Patrick Borchers, Timo Klos, Ulvis Müller and Maik Ronz from the Institute for Art and Art History



500 Years of the Golden Wonder

December: Art student Julius Reinders' artistic examination of a special Dortmund altarpiece



Choir on digital stage



Digital concert

March: The university choir, conducted by Heinke Kirzinger, produces two concert videos for the Theodor-Fließner-Heim care facility and is accompanied by the WDR broadcasting company.



Virtual Christmas carols

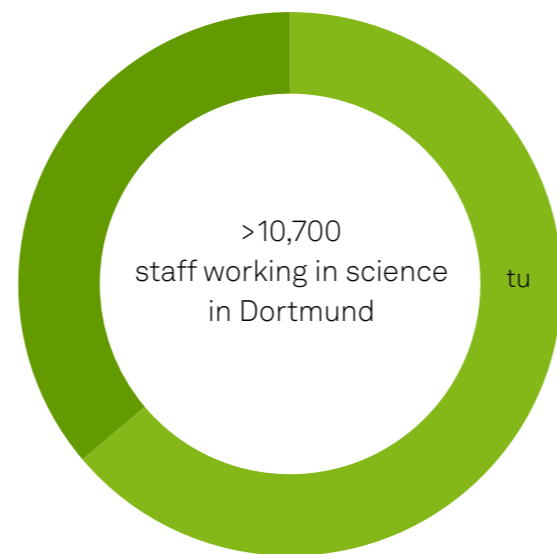
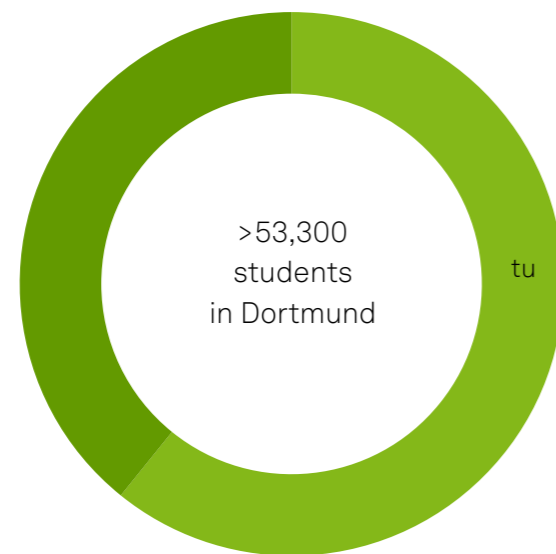
December: The university choir sings Christmas carols via live stream so that everyone can sing along at home.

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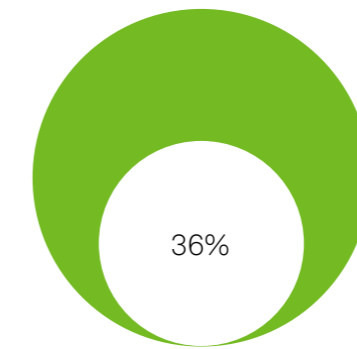
Dortmund as Science City

Dortmund is a science city with seven universities and around 20 non-university research institutions. In 2013, science, business and urban society joined forces in the Masterplan Science and have since pursued the goal together of positioning Dortmund even more strongly as a place for science and research.

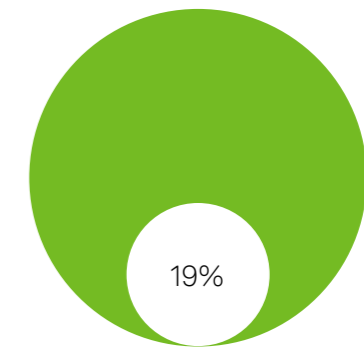


TU Dortmund University – The City’s Largest Scientific Institution

Over 53,300 students are enrolled at the seven universities in Dortmund. That is more than in Heidelberg. Almost two thirds of them study at TU Dortmund University. The universities and scientific institutions in the city employ some 10,700 people, around 60 percent work at the university.



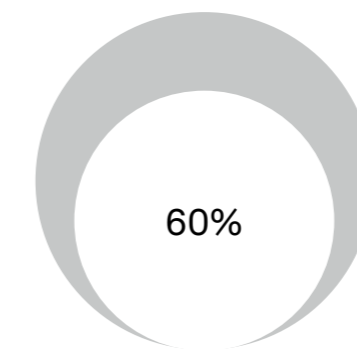
High school graduates from Dortmund who start a degree program at TU Dortmund University



Students at TU Dortmund University who attended high school in Dortmund

Popular Among High School Graduates from Dortmund

Over a third of all high school graduates from Dortmund choose to study at TU Dortmund University. A total of 19 percent of all TU students graduated from high school in Dortmund.



Graduates who stay in the region and work there



Dortmund and the region in the heart of North Rhine-Westphalia

Many Graduates Stay in the Region

Around 4,000 students graduate from TU Dortmund University each year. Around 60 percent then stay in the region and work there, as a graduate study by TU Dortmund University shows.

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Further information and sources

Further extensive statistical information can be found in the two publications “Data & Facts” and “Student Statistics”, which are published by the Statistics division of the Department of University Development and Organization at TU Dortmund University.

Links to further information:

www.tu-dortmund.de/universitaet/infomaterial-und-downloads/

www.service.tu-dortmund.de/group/intra/studierendenstatistiken

Order print copy: statistik.dezernat2@tu-dortmund.de



Most of the data published here is collected by TU Dortmund University itself. Please note: The graduate figures are provisional, as of: May 2022 (page 30, right).

Other sources are:

Page 39: University Alliance Ruhr, coordination

Page 51, bottom left: 26th Social Survey 2016, TU Dortmund University marginal distribution

Page 65, bottom left: City of Dortmund, Office for Affairs of the Mayor and the Council

Page 65, top right: among others, City of Dortmund, Dortmund Statistics Office, average of the last five Abitur years

Page 65, bottom right: Graduate surveys of TU Dortmund University in the Collaborative Graduate Studies Project (KOAB), carried out by the International Center for Higher Education Research (INCHER-Kassel), examination years 2010 to 2020

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