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Annual Report 2021 Bielefeld University of Applied Sciences

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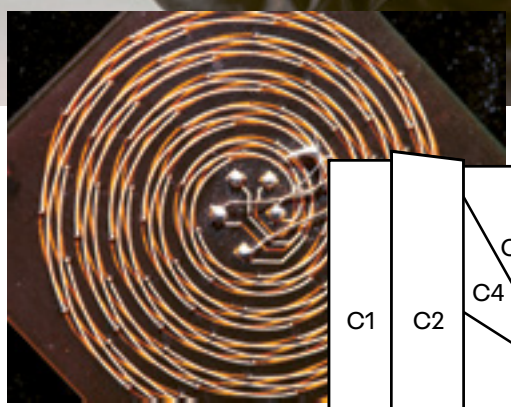

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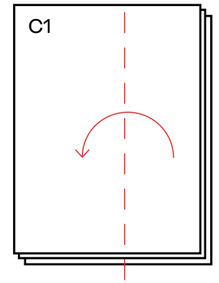

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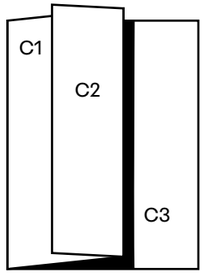

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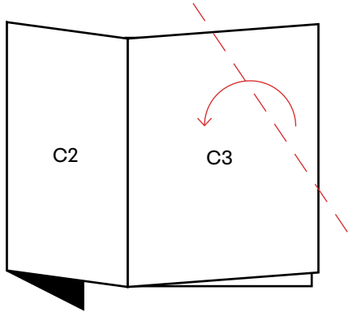

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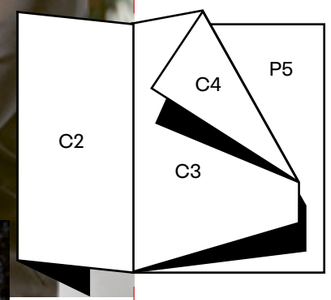

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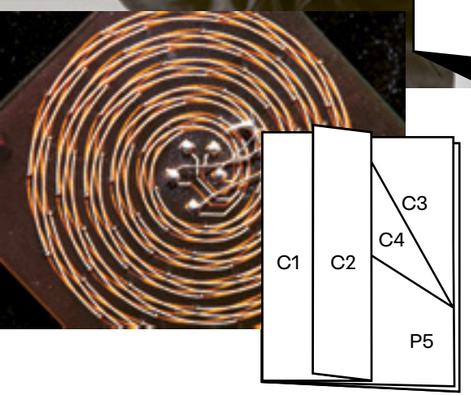

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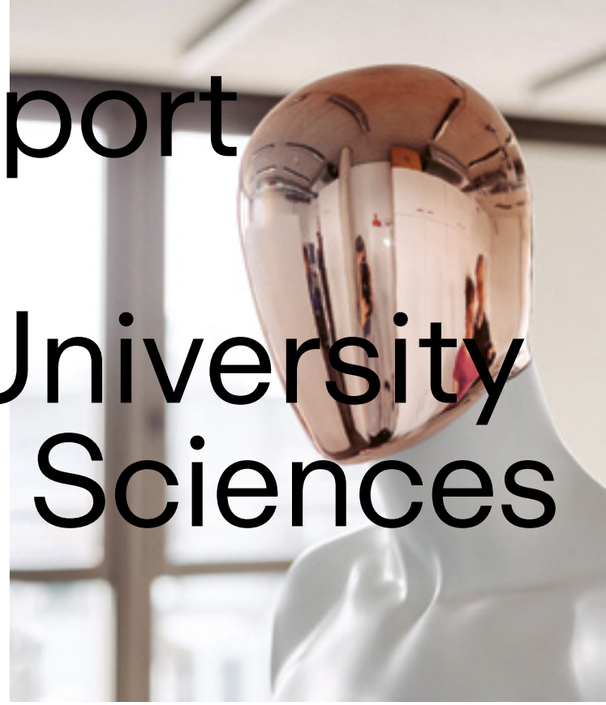
Annual Report 2021 Bielefeld University of Applied Sciences



FH Bielefeld
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Bielefeld University of Applied Sciences 2021

Dear Reader,

The annual report of Bielefeld University of Applied Sciences 2021 is based on the idea of "Constant Change." We have collected contributions from teaching and research from all faculties, which specifically deal with the subject of constant change from different technical perspectives. Constant change is something that we are all subject to and which challenges us to help shape the future. We were interested to know whether we could detect an increased speed of change, where disruptive changes or breaks have occurred (or are pending), and what function the ongoing digitalisation has taken over in all this. The experiences made during the Covid-19 pandemic, which within a short time made profound changes in university life necessary, was certainly a decisive reason for choosing the title "Constant Change" for our summary of 2021 – and this is precisely what this annual report is, although it also looks forward.

So much for the content. As far as form is concerned, as in previous years, we intended to develop a layout concept that interprets the report's leitmotif in a creative way. In order to understand the whole concept, it is important to browse through the work. After all, consuming a print product is always a haptic, manually active process: The pages glide through our fingers, we can feel the paper, our eyes will stay in one place for a short or a longer while, which is something that will do us good in these digital times.

The central design element of this year's report is the possibility to fold pages along the proposed lines. This too only works in print. It was an idea of our designers Johannes Nathow and Florian Geppert, alumni of the Faculty of Design from the Bielefeld-based agency nathow & geppert. New content relationships arise as a result of the folding. Especially in the Facts & Figures section, but in other places too, new arrangements of images develop and make "Constant Change" an experience. Just try it out!

Fold for change – "Constant Change"

"Coupled with outdated functional elements, such as the reference to the infamous 'dog ear,' an innovative space, far from conventional linearity, is created that enables the reader, among other things on the basis of various foldable elements, to interact with the annual report in a physical way." This is what nathow & geppert write in their concept. And so this annual report deals with the organisation and reorganisation of things, with chaos, breaks and overlaps, with innovations and concepts of the future, or simply with questioning.

This time I also like our timeline in particular: Unlike in previous editions, it is not located at the end, but right in the middle of the report. In addition, through its preparation, it highlights the coexistence of the faculties in university life. A system consisting of a chronological sequence (X axis) and the respective faculties (Y axis) results in a varied structure which, despite the constant design approach, always produces different results – also a wonderful symbol of "Constant Change."

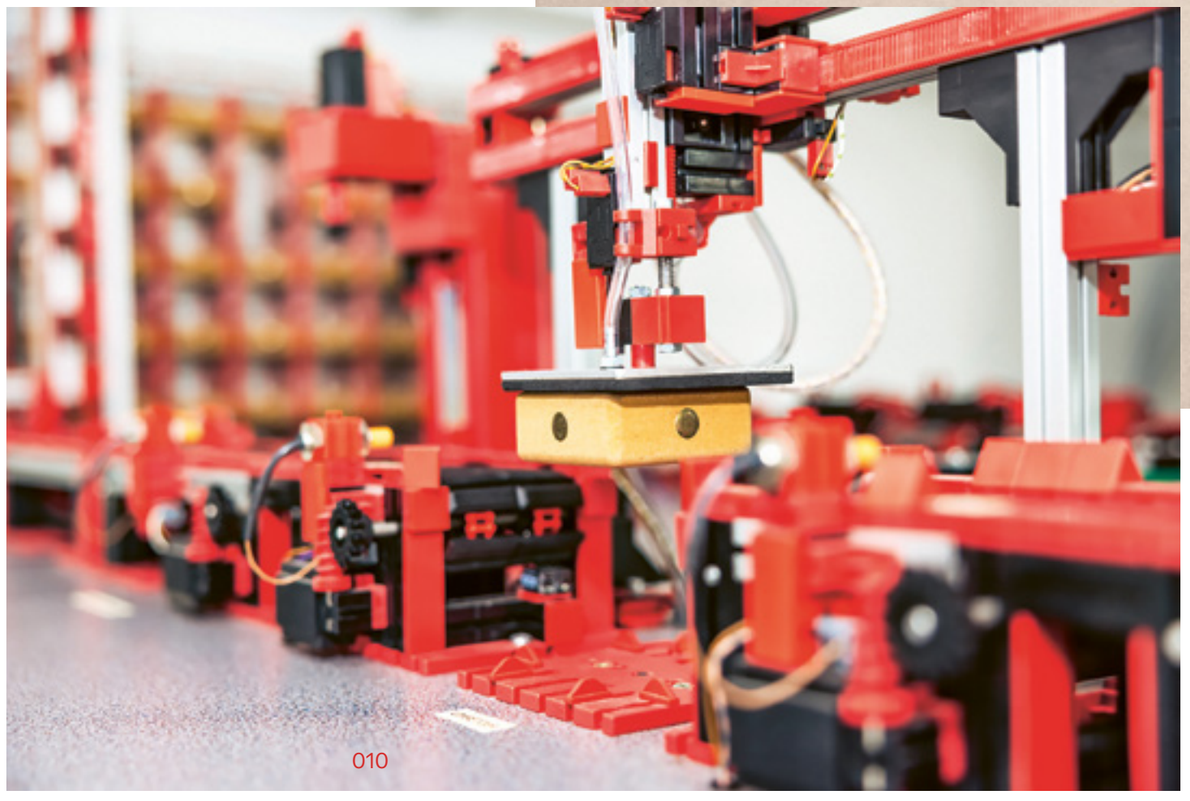
I wish you many inspiring moments and epiphanies when reading!

Yours sincerely,

Prof. Dr. Ingeborg Schramm-Wölk
(President of Bielefeld University of Applied Sciences)

Left: Fashion graduates turned Bielefeld into a runway and presented their final collections in the city's historic centre.
Right: Nora Wistof-Jebbara, a bachelor graduate in the field of photography and visual media, devoted her thesis to homeless people: imprints in the stone and asphalt of the photographs symbolise the displacement of human existences and move them into the centre of the field of vision.

Bielefeld University of Applied
Sciences 2021



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Left: In the laboratory for automation and control technology of the Faculty of Engineering and Mathematics. Top: Photos from photography student Patrick Pollmeier are exhibited at the InterCity Hotel in Hildesheim. Right: Exhibition “The perpetrator must go” by photography students in the Kunstraum Elsa Artspace in Bielefeld.

Content

Constant Change

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In 2021, we celebrated our anniversary under the motto “Fifty Years of Future.” Bielefeld University of Applied Sciences and its partner network have seized the opportunities that arise from the currently increased intensity of change, writes President Prof. Dr. Ingeborg Schramm-Wölk and assures: The willingness to take an active approach to change will continue to be decisive in the years to come.

The anniversary year’s motto combines the history of the origins and the founding years of Bielefeld University of Applied Sciences with the future perspective: “50 Jahre Zukunft – Fifty Years of Future.” This is about the future, which also determined our views and thinking in the past, in order to create the best possible framework conditions for studies and teaching as well as for research and transfer. 50 years, marked by creative, committed and courageous people, by people with creative power.

50 years of Bielefeld University of Applied Sciences, anchored in the region with locations in Bielefeld, Minden and Gütersloh and globally networked with 156 partners, is a story of growth and success. Today we have approximately 11,000 students and around 840 employees. Our university also stands for 50 years of securing skilled employees, 50 years of permanent partnership and joint projects with small and medium-sized enterprises, industry, actors from civil society, associations in the social, educational and health sectors and cultural institutions. For 50 years, the university has contributed to social development, innovation capacity and the competitiveness of the East Westphalia-Lippe (Ostwestfalen-Lippe, OWL for short) region through teaching, research and transfer.

• OWL – a cooperative region

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OWL, my next keyword – this is today a region with strong partners and an impressive education and research backbone, to which we constantly make our contribution adapted to the requirements of the times. OWL GmbH, of which we are a co-shareholder, stands for 28 years of regional development competence – and most recently for the successful “Regionale 2022, ‘The New Urban Land.’” Since 2012, the “it’s OWL” (Intelligent Technical Systems) cluster of excellence, an important network for the region in which we are also involved, has been developing solutions for the digital transformation of small and medium-sized businesses with around 200 companies, research

institutions and organizations. The Studienfonds OWL Foundation, a blueprint for the Deutschlandstipendium in which we are involved, has been supporting early stage researchers and specialists and managers of tomorrow for 17 years. And Campus OWL e. V., the association of the five state universities in the region, Bielefeld University of Applied Sciences, Detmold University of Music, OWL University of Applied Sciences and Arts, Bielefeld University and Paderborn University, concentrates the competencies of the universities in joint projects – from talent scouting to various research projects to a jointly operated office at the German Center for Research and Innovation in New York with partners in San Francisco and Canada.

Bottom line: The networks in OWL impress through close cooperation and agility, through the bundling of competence, through a good information and knowledge management as well as through the trust that has grown over the years. All this was successful because all network partners, in their diversity, with their different, sometimes competing interests and goals, showed willingness to look at the big picture in order to achieve more together than would have been possible on their own.

• Bielefeld University of Applied Sciences – agile, robust and powerful

The network concept is also decisive for Bielefeld University of Applied Sciences itself: With a wide range of subjects and interdisciplinary orientation, the faculties offer a USP with great potential. We do not spend much time with what we have achieved, as we are characterised by our down-to-earthness, commitment to work, our goal-oriented approach and reliability. Instead, we focus on the next objective. The intergenerational work in which the threads are taken up and the work of those who have gone ahead is spun on is particularly remarkable. This way of thinking and working requires a far-sighted attitude from all those involved, which values the common whole highly, is not deterred by difficulties and can also put the individual interest last. A network structure with strong partners – that is the university's successful concept, supported by people who never stop questioning, even when it gets uncomfortable, and who promote: demanding and inspiring and enabling.

The robustness, flexibility and efficiency of the structures of Bielefeld UAS have proven themselves once again in the Covid year 2021. The switch to online operations of the university worked out well. The members of the university could trust in the university's functioning with its committees and decision-making processes. Thanks to the excellent teamwork and the commitment of the professors, the academic and scientific staff and the technical and administrative staff, we have always been able to adapt to new

situations and act prudently in the interests of all. The situation centre and the expanded situation centre supported university governance, as did the constituted student body, the Senate, the Staff Council and the University Council. Although high demands were placed on each individual, the switch to online teaching was successful under the difficult circumstances of the pandemic. Despite the major limitations associated with digital formats, the majority of students and teachers were satisfied.

Thanks are due not only to all the active members for their support during the Covid-19 crisis, but also for the decisive steps taken in the implementation of our objectives as described in the university development plan. Strategic and concrete goals were achieved in all performance dimensions and the course was set for the future – in studies and teaching, as well as in research and transfer, all with regard to our resources and our cross-cutting themes of digitalisation, diversity, family-friendliness, equality, internationalisation and sustainability.

Speaking of research: our university's researchers collected more than 13.4 million euros of third-party funding in 2021. We reached key decisions, such as the adoption of the International Strategy in the Senate, the further development of CareTech OWL with the successfully developed TransCareTech project, and the personnel offensive of the Career@BI – Center for Cooperation and Career Management project in the federal and state programme "FH Personal."

The tenth anniversaries of Mieletec and the ExperiMINT pupils' laboratory can be seen as exemplary for numerous successes in the field of transfer. We would also like to mention the expansion of the start-up support of the Center for Entrepreneurship (CFE). And for the fourth time in a row, Bielefeld UAS has been awarded the certificate for the "family-friendly university" audit, in which numerous measures are being implemented to improve the compatibility of studies, work and family life.

• Teaching and learning from Covid

The fact that teaching could be switched to online so successfully was also due to the library and the data processing centre in the MIND (Medien- und Informationsdienste) service network pushing forward the user-centred expansion of services for studies, teaching, research, continuing education and administration for more than ten years. In concerted action, all forces were pooled in a "Keep Teaching" team and support was provided for all members of the university. The pandemic has been a catalyst for the further development and rollout of digital teaching and examination formats. Despite enormous efforts, serenity and joy in trying out also led to ease in dealing with the possibilities offered by digital teaching.

• Where do you think the university stood at the end of 2021?

Gehsa Schnier, Vice President for Finance and Personnel Management

The university is now economically solid. Special federal university programmes with pro-rata funding by the federal state have enabled the growth in the number of students at Bielefeld UAS to approximately 11,000. What's more, Bielefeld UAS was among the winners of the performance-oriented allocation of funds, among other things due to the increase in the number of graduates and in the acquisition of third-party funds.

Prof. Dr. Michaela Hoke, Vice President for Study and Teaching

Bielefeld UAS has managed to continue teaching even under the difficult conditions of the pandemic. All study models (also work-integrated and part-time) were successfully continued, new study programmes were launched and continuing education offers were introduced. The system of quality assurance has been extended and the system accreditation process has largely been completed. The university has adapted to changing conditions with great flexibility. It has thus proven to be an agile organisation that is in constant exchange at various levels and is finding good solutions together.

Prof. Dr. Anant Patel, Vice President for Research and Development

With its application-oriented approach to research and development, Bielefeld UAS successfully faces national and international competition and thus addresses major societal challenges.

Particular emphasis is placed on the fields of climate and energy, health, mobility, communication and digitalisation.

Research at Bielefeld UAS is closely linked to teaching – because research not only keeps teaching up-to-date, but also encourages students to keep questioning what is already in place.

Prof. Dr. Ulrich Schäfermeier, Vice President International Affairs and Digitalisation

Many teachers have used the pandemic not only to convert their teaching to digital media for a while, but also to revise its content and didactics. While that doesn't work everywhere, there has been a noticeable "jolt" in the university. Digital teaching and digital learning benefited from this, as did internationalisation: For example, digitally supported cooperative courses with partner universities were established where students worked together in international teams. In addition, we created micro-credentials offers that allow our students, but also guest students, to study abroad virtually.

Prof. Dr. Natalie Bartholomäus, Vice President Sustainability, People & Culture

Our university's development is characterized by important cross-cutting topics such as digitalisation, internationality, social diversity and sustainability.

The fact that we have anchored these topics in our structure shows: We think about them strategically and, thanks to our competent, committed and imaginative employees, our organisation works with concentrated forces.

As a responsible university, with valuable networks in science, business and society, we make a socially relevant contribution to development, especially in the regional environment.

What other certainties did we gain in 2021? In any case, the digitalisation of teaching is not only an efficient instrument with which we have been and are able to counter the crisis in order to minimise the risks of contagion and to pass on further knowledge, but it also opens up new opportunities for participation for us, students and teachers alike: This is manifested in the "Digital Mobil" project, at the E-Learning Conference and at the numerous events that our experts from the Communication Office designed like talk shows on TV and brought to many people during the lockdown.

The evaluation results show the advantages of location- and time-independent learning for our increasingly diverse student body. Especially in the area of internationalisation, joint courses with colleagues and students from partner universities offer great potential. Nevertheless, new inequalities may also arise, as not all students have optimal learning and working conditions in their private environments. The challenge is to conceptualise and develop content and formats in a context-sensitive, didactically appropriate manner. In order to make use of the possibilities and degrees of freedom of digital teaching in the future, it is important to design concepts in participatory processes taking into account the requirements and wishes of everyone involved.

Constant Change

During the course of the pandemic, it became evident that being on campus is a valuable and indispensable part of studying. The university is a place of personal encounter, intellectual exchange, joint study and research. Encounter is indispensable both for scientific discourse and for teaching, which is characterised by application and interaction. For many of our students, taking up studies is the beginning of a new phase of their lives, a period of development, discovery, trial and error, in which students learn with and from each other, study and celebrate together, and make contacts that may make a career start possible. Sometimes a friendship develops that lasts a whole life. All of this is personality development, and it is easier to achieve this if you meet in person on site – this is also something we learned during the pandemic.

• Continuity in times of profound change

Ever shorter innovation and social development cycles, changing value chains, coupled with the requirements of an internationally networked, pluralistic society, require universities to be fundamentally flexible, tolerant to ambiguity, competent for change, resilient and capable of managing risks. The pandemic had an accelerating effect, like a magnifying glass focusing on strengths and weaknesses, liberating in terms of perfection and encouraging in terms of pragmatic solution orientation. Digitalisation in teaching, research and administration became a matter of course.

- ## What challenges did you have to overcome in your role in 2021?

Gehsa Schnier, Vice President for Finance and Personnel Management

I would just like to mention two of the many challenges that stand for our university administration's readiness and ability to cope with and shape the constant change: First, preparations are under way to enable an extension to the Bielefeld campus. The planning and construction activities on the thriving Minden Campus were successfully advanced. And for the Gütersloh Campus with its two locations, a discussion about structural perspectives has begun. Second, accelerated by the Covid crisis, many areas of administration have become digitally manageable from home with flexible working hours. Although the legislative requirements are not yet in place, a return to the traditional culture of presenteeism is neither conceivable nor desirable.

Prof. Dr. Michaela Hoke, Vice President for Study and Teaching

While at the beginning of the winter semester of 2021/22 it was still possible to have the impression that we are moving towards normality with the resumption of classroom teaching, the end of the semester was again strongly influenced by the effects of the Covid-19 pandemic. Uncertainties in planning and the associated need to quickly switch between classroom and digital formats was associated with a great deal of effort on the part of all parties involved. Teaching staff were often worried that digital formats would not meet their own demands for the quality of their teaching and would not reach all students. For students, many things that are so characteristic of studies did not happen anymore: direct contact and exchange with fellow students and lecturers, meetings on and off campus. It was a great challenge to maintain the motivation for studying under these circumstances.

Prof. Dr. Anant Patel, Vice President for Research and Development

My predecessor, the F.I.TT. team and I have successfully developed a new institute directive that creates and finances sustainable long-term structures – while at the same time promoting constant change.

The team has also mastered the necessary expansion of the consulting and service portfolio for research data management as well as the DFG-compliant update of the principles of good scientific practice.

Furthermore, we are involved in the "it's OWL" excellence cluster as well as the expansion of the transfer division in cooperation with Bielefeld University with seven new employees in the ThinkTank OWL, which aims to bring together small and medium-sized enterprises and research.

Prof. Dr. Ulrich Schäfermeier, Vice President International Affairs and Digitalisation

In addition to teaching-related digitalisation activities, I would highlight the development of the International Strategy in a university-wide process and the start of its implementation. In addition, we were able to initiate important digitalisation projects, such as the introduction of HISinOne or a research information system.

These are all university-wide projects that can only be achieved through the cooperation of many areas such as the respective administrative departments, the university-wide projects of Department I, the MIND team, the International Office, the faculties and the project groups. At this point, I would like to thank everyone who contributed.

Prof. Dr. Natalie Bartholomäus, Vice President Sustainability, People & Culture

In 2021, the first step was to systematically record all existing sustainability activities at Bielefeld UAS and to translate them into a basic structural concept. With well over 200 measures recorded, it became clear that the university is already implementing numerous activities thanks to colleagues who have an affinity for sustainability. We have assigned these measures to our five strategic areas of action.

A further challenge was to implement the topic of sustainability in terms of organisation and to enable participation. That is why we formed our Sustainability Advisory Board. With our strategic structure and participation, we have laid important foundations for the further strategy development process.

In the area of strategic HRM, the key challenge in 2021 was to introduce competence orientation in order to link our strategies with personnel development programmes. The first success story is the "Intercultural Competence Development in Administration" programme.

However, changes in working methods also require different competence profiles, and thus the sustainable adaptation of the working and living environment of the university is necessary: Promoting agile management, focusing on HR management and continued robust planning such as the development of comprehensive compliance management, including risk management, are steps that are currently being discussed in the change process at Bielefeld UAS.

The pandemic showed us the enormity of the challenges facing our society. The Intergovernmental Panel on Climate Change's progress report clearly points out that the risks posed by the climate crisis for humans and ecosystems are increasing rapidly and the consequences are more serious than previously assumed. Moreover, Russia's attack on Ukraine in violation of international law is turning the reality as we knew it in Europe upside down. There will be no status quo ante: with the war in Ukraine, all the rules that we have followed in recent decades have ceased to be effective. We must recognise that conflicts over resources will determine economic and political development. The resulting changes in Europe and the world are hardly foreseeable today. These "invasions of reality" make us humble – and still remind us to remain positive and to deal actively with the situation. We will continue to try to identify and exploit our room for manoeuvre and our need for action. Our range of courses, study models, research profile and strategic orientation are geared towards these social challenges and aim to prepare optimally for a successful professional development. In times of profound change, we will all be required in the coming years to use our capabilities to help meet these challenges.

- ## 021 New Executive Board, Constant Change further objectives

This is due in part to the fact that Bielefeld UAS has always seen itself as a learning organisation. The professors and employees set high standards for themselves and for the quality of their work. The principle of subsidiarity is also crucial. Against this background, it is important to shape the strategic orientation together, taking into account existing and current activities. The first steps were to change the planning process from one-year to five-year planning phases, to agree on the strategic cross-cutting topics of digitalisation, internationalisation and sustainability, each accompanied by university-wide strategy processes and the introduction of an Academic Scorecard (ASC) as a bracket for all planning processes. The ASC forms the frame of reference in mapping the goals and supports in sorting, focusing and prioritising the measures. Projects to establish a university-wide process management, a university-wide quality management as well as project portfolio management extend the systematic operational framework.

Agreement was also reached on the planned transfer audit and the establishment of a strategic HR management. This development was possible because there was openness, willingness and courage to embrace new things. In addition, the new buildings of Bielefeld UAS acted as a catalyst for a new spirit of development and, in bringing together several faculties, have been a source of identity. In everyday life, the "enabling culture" and the hint

• What is at the top of your agenda for the coming years?

Gehsa Schnier, Vice President for Finance and Personnel Management

We are working intensely on the implementation of the requirements of the Federal Online Access Act (Onlinezugangsgesetz), which requires ongoing adjustments, especially in student "life cycle" management. At the same time, we must comply with the requirements of the E-Government Act of NRW: Administrative procedures must be carried out electronically by the beginning of 2023, and records must be kept digitally by the end of 2025. The particular challenge and opportunity here is that it is not just a question of transferring to digital, but also of redesigning processes in order to increase the quality and future viability of administration.

Prof. Dr. Michaela Hoke, Vice President for Study and Teaching

There are many projects in this area. I would like to briefly mention the following ones:

— Development of a concept for an introductory phase: How can we make it possible for students to get an even better start in their studies?

— Further development of study programmes: For example, it is a requirement that students also acquire competencies in cross-cutting topics such as sustainability and gain international experience. This also includes making progress in the interdisciplinary orientation of teaching.

— Drive innovation in teaching and learning, benefiting from experience with digital formats.

— To remain successful in the competition for the best brains even before they start their studies: Cooperation with schools, pupils' laboratory, open day, talent scouting.

Prof. Dr. Anant Patel, Vice President for Research and Development

The establishment of a graduate centre at Bielefeld UAS in order to improve the framework conditions for scientific qualification in the long term and to increase the visibility of Bielefeld UAS as a research institution is a top priority for me.

In addition, we will be committed to the introduction of a bonus system for publications and for the revision of the research professorships directive.

We expect significant insights for the further development of the transfer strategy in this area from the transfer audit at Bielefeld UAS, which is already in full swing.

Prof. Dr. Ulrich Schäfermeier, Vice President International Affairs and Digitalisation

In the area of internationalisation, we are faced with the challenge of maintaining the services and achievements of the "Digital Mobil" flagship project, which will be discontinued at the end of the year. In addition, the focus topics for 2022 are the expansion of our partner networks, the establishment of the Language Centre, the implementation of welcome services for visiting researchers, the better presentation of Bielefeld UAS abroad and the continuous expansion of English-taught study offers.

In addition, we are in a strategy process with the German Forum for Higher Education in the Digital Age in order to focus the complex support offers in digital teaching. Something similar also applies to the digitalisation of the administration.

Prof. Dr. Natalie Bartholomäus, Vice President Sustainability, People & Culture

I have two visions for the year 2022: "No student leaves the university without knowing about the global sustainability challenges!" (area of sustainability) and "No strategy without competence development" (area of strategic HRM).

For example, we are planning an interdisciplinary sustainability module for students and competence development programmes for employees on the university's cross-cutting topics.

The bottom line is that we want to take sustainability into account in everything we do and thereby increase the university's attractiveness for (potential) employees and students.

that the whole is more than the sum of its parts became our motto. Transparency, open communication and reflection loops were and are important building blocks of success. The details of cooperation and the exchange on the strategic direction – both of these also promote trustful interactions.

The new Executive Board, which has been in office since September 2021, will take on the task of anchoring the cross-cutting topics of sustainability and HR management, digitalisation and internationalisation, which will determine the university's orientation in teaching, research, transfer and administration. Prof. Dr. Michaela Hoke, who has been successful as Gender and Diversity Officer and experienced in promoting diversity and gender justice, is the new Vice President for Study and Teaching and thus Prof. Dr. Ulrich Schäfermeier's successor. With Prof. Dr. Anant Patel, Bielefeld UAS has gained a Vice President for Research and Development who has demonstrated for years how successful research with practical relevance and integration into teaching works.

Two new areas of responsibility, "Sustainability, People & Culture" and "International Affairs and Digitalisation" were created. Bielefeld UAS will continue to enhance its profile in these fields in particular. Prof. Dr. Ulrich Schäfermeier, who has already promoted the topics of international affairs and digitalisation as Vice President for Study and Teaching, took over the newly created area of responsibility of the same name as a successful and experienced university manager in order to make an even more intensive effort in future to ensure that the university keeps up its opportunities in these areas. Prof. Dr. Natalie Bartholomäus, formerly Vice Dean at the Faculty of Business, is Vice President Sustainability, People & Culture. Gehsa Schnier, full-time Vice President for Finance and Personnel Management, will remain in office. The major challenge will be to strengthen the strategic competence of Bielefeld UAS and to bring together the developed and planned strategies.

• Hochschule Bielefeld – University of Applied Sciences and Arts

On 24 June, 2021, the Senate approved the Executive Board's plans to change the university's name with a large majority: "Fachhochschule Bielefeld – University of Applied Sciences" will become "Hochschule Bielefeld – University of Applied Sciences and Arts." After an intensive discussion about various suggestions, the supporters of the name change summed up: The 'Fach' must go, the 'arts' are added – a very good solution that leaves us every room for enhancing our profile and building up our brand. For the real charm of our university's new name is not the plain combination of simplicity and completion, but the sign of change that it will communicate externally: The "FH," as it will continue to be called until the summer semester 2023, sees itself as a university of applied sciences, in which practice-related teaching will continue to play a central role in addition to research and transfer.

• Start the next 50 years!

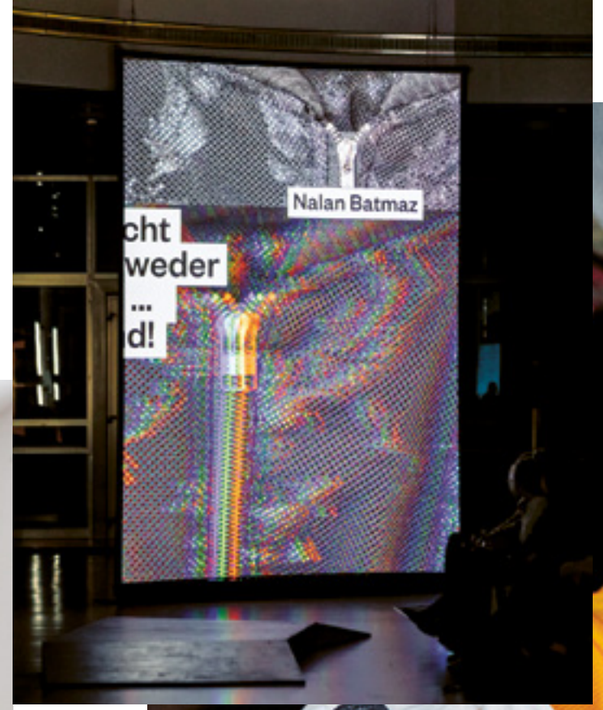
The anniversary year began with an illumination of the main building on Bielefeld Campus, which could be admired every evening after dark in January and conveyed the university's message to all its stakeholders. On the façade, we could read terms that put into words the identity of our university, which had developed in half a century – including verbs such as "lehren" (teach), "forschen" (research) and "hinterfragen" (question), adjectives such as "divers" (diverse), "interdisziplinär" (interdisciplinary) and "praxisnah" (practical) as well as nouns such as "Chancengleichheit" (equal opportunities), "Digitalisierung" (digitalisation) and "Transfer."

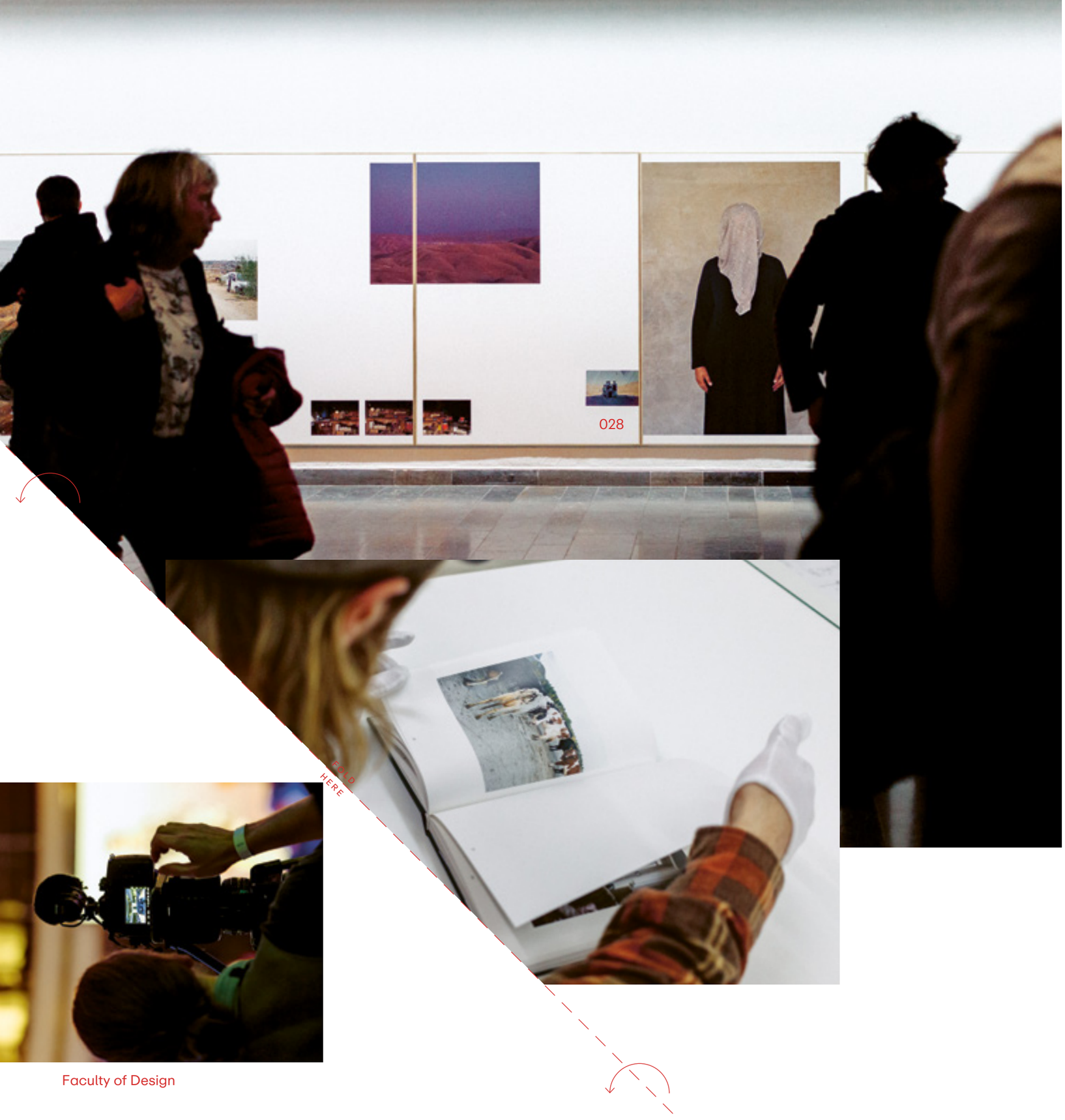
Transfer is also a good keyword for the conclusion of this "Report from the Executive Board:" With the contentful illumination, the university has set a signal that was widely observed at the height of the first wave of the pandemic: It is part of society, it takes impulses from the outside, it helps shape and makes its contribution through application-related teaching and research – in and for Bielefeld, Minden and Gütersloh, for NRW and the whole of Germany and, finally, internationally.

Constant Change

from left: Gehsa Schnier, Vice President for Finance and Personnel Management, Prof. Dr. Natalie Bartholomäus, Vice President Sustainability, People & Culture, Prof. Dr. Ulrich Schäfermeier, Vice President International Affairs and Digitalisation, Prof. Dr. Ingeborg Schramm-Wölk, President of Bielefeld UAS, Prof. Dr. Michaela Hoke, Vice President for Study and Teaching and Prof. Dr. Anant Patel, Vice President for Research and Development.

Faculty of Design





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With four courses on bachelor and master level, the Faculty of Design offers a wide range of design disciplines to its approx. 600 students. The four courses are “Digital Media and Experiment,” “Photography and Visual Media,” “Communication Design” and “Fashion.” In this inspiring context, projects arise that take up topics from society, art and culture and translate them into contemporary design with their own idea, far-sighted conception and sound knowledge of implementation.

The Faculty of Design's deans ...

- ... on the speed of change

The high speed of change is related to the digitalisation of all areas of life. In addition, there are major global problems that urgently need to be solved, such as climate change, increasing power struggles between East and West, disputes over global resources, migration, integration of minorities, overcoming racism, equal opportunities, etc. Great challenges require many and rapid changes.

- ... on the faculty's response to "Constant Change"

In addition to promoting an interdisciplinary overall orientation, the Faculty of Design is expanding the digital range of courses in all fields of study. Students in the bachelor's programme are encouraged as early as from the 2nd level to "think outside the box" and take advantage of the overall range of courses offered. They are encouraged at an early stage to leave the university with a modern, hybrid and multidisciplinary designer's profile, because it will position them much better for a future professional world that is subject to rapid and continuous change.

- ... on the Covid-19 pandemic as an accelerator for digitalisation

The Covid-19 pandemic has increased the interest of students from all fields of study in new digital study offers: The new course "Digital Media and Experiment" deals, for example, with time-based, interactive and immersive media, i.e. virtual environments that are perceived as real. Or real environments that are virtually augmented. Our impression is that our students – increasingly as a result of the pandemic – always go beyond the limits of their specialist disciplines and embrace the possibilities offered by new technologies. We consider this to be an important step in ensuring our own digital sustainability.

- ... on the influence of constant change and disruption

For the Faculty of Design, the influence of constant change is usually certainly more formative than disruptive change. With new impulses from the outside and the inside, we are constantly pushing forward the creative discourse and trying to enrich it through innovative processes and contributions. At the same time, the social, political, economic, technological, environmental, health, communication, etc. challenges can only be met by expanding research activities in order to be able to trigger urgently needed disruptive change. For universities of applied sciences, this would require a redistribution of the teaching load: In the future, around one third of teaching would have to be invested in research if we were to accelerate change.

- ... on their most important strategic goal

In the next few years, the new deans want to enhance the Faculty of Design's profile in its entirety. Instead of the previous profile (through the individual courses), the new deans are focusing more strongly on the development of an overall profile. We intend to deliberately address a heterogeneous target group of prospective students, who will find a freedom of study and experimentation at the faculty, which is to enable and promote the definition of one's own point of view and the development of an independent designer's profile.

- ... on the 50-year history of Bielefeld UAS as an expression of "Constant Change"

At the Faculty of Design, "Constant Change" was motivated and pushed forward by the technological innovations of the last decades. For example, teaching in the field of photography and visual media, as well as communication design, became increasingly digital. New forms and media of interactive communication have also led to the creation of new courses. In the meantime, all teaching areas have been digitalised, most recently gaps in the areas of interaction design, motion design and interactive environment have been closed. This is not the end of the transition, as the computer-generated creation of moving and still images and media is taking off enormously and the faculty will respond to this with new courses.

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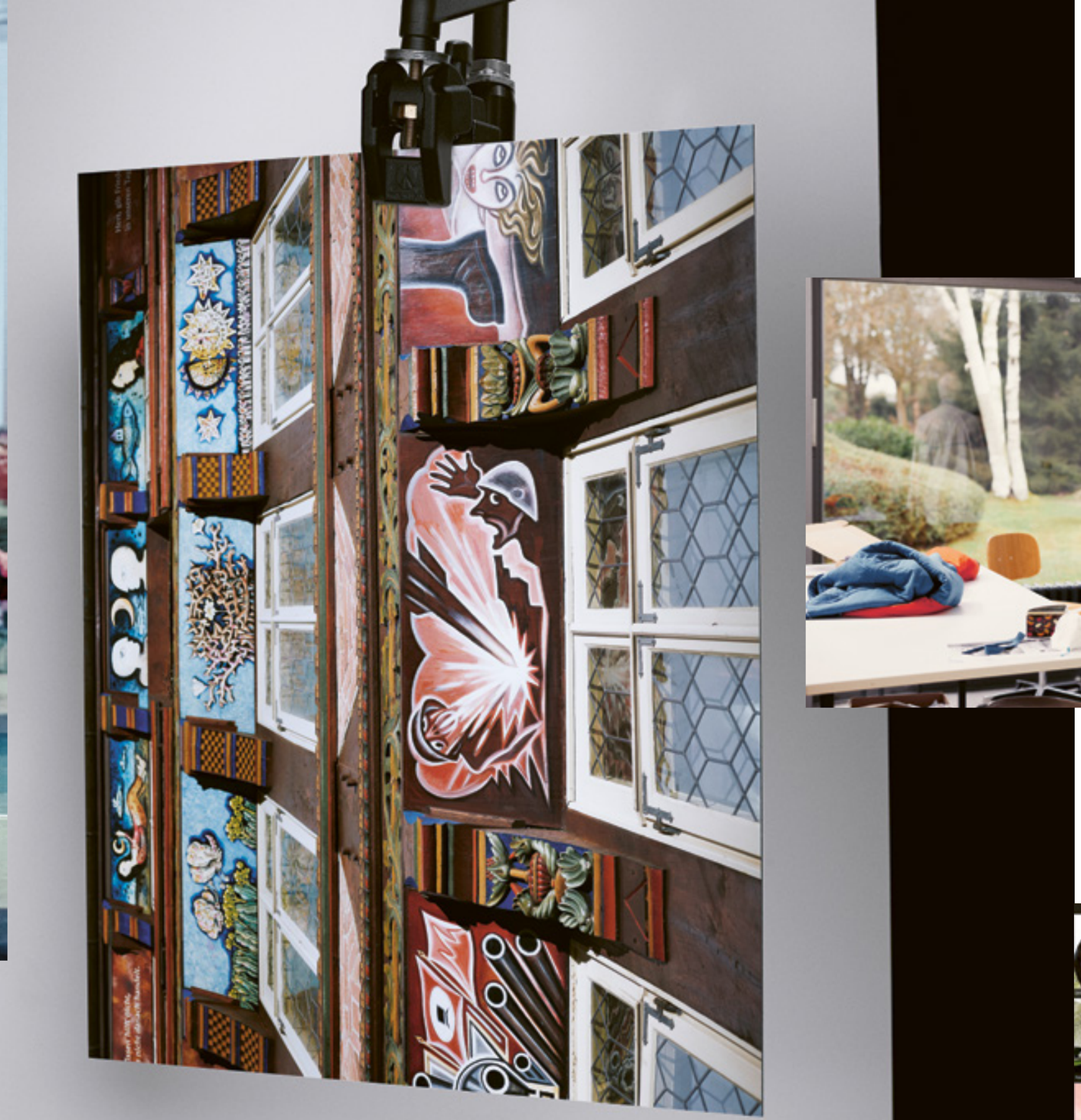
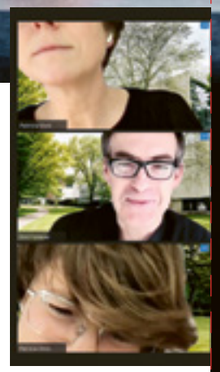
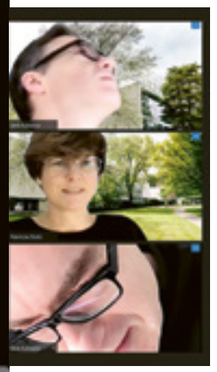
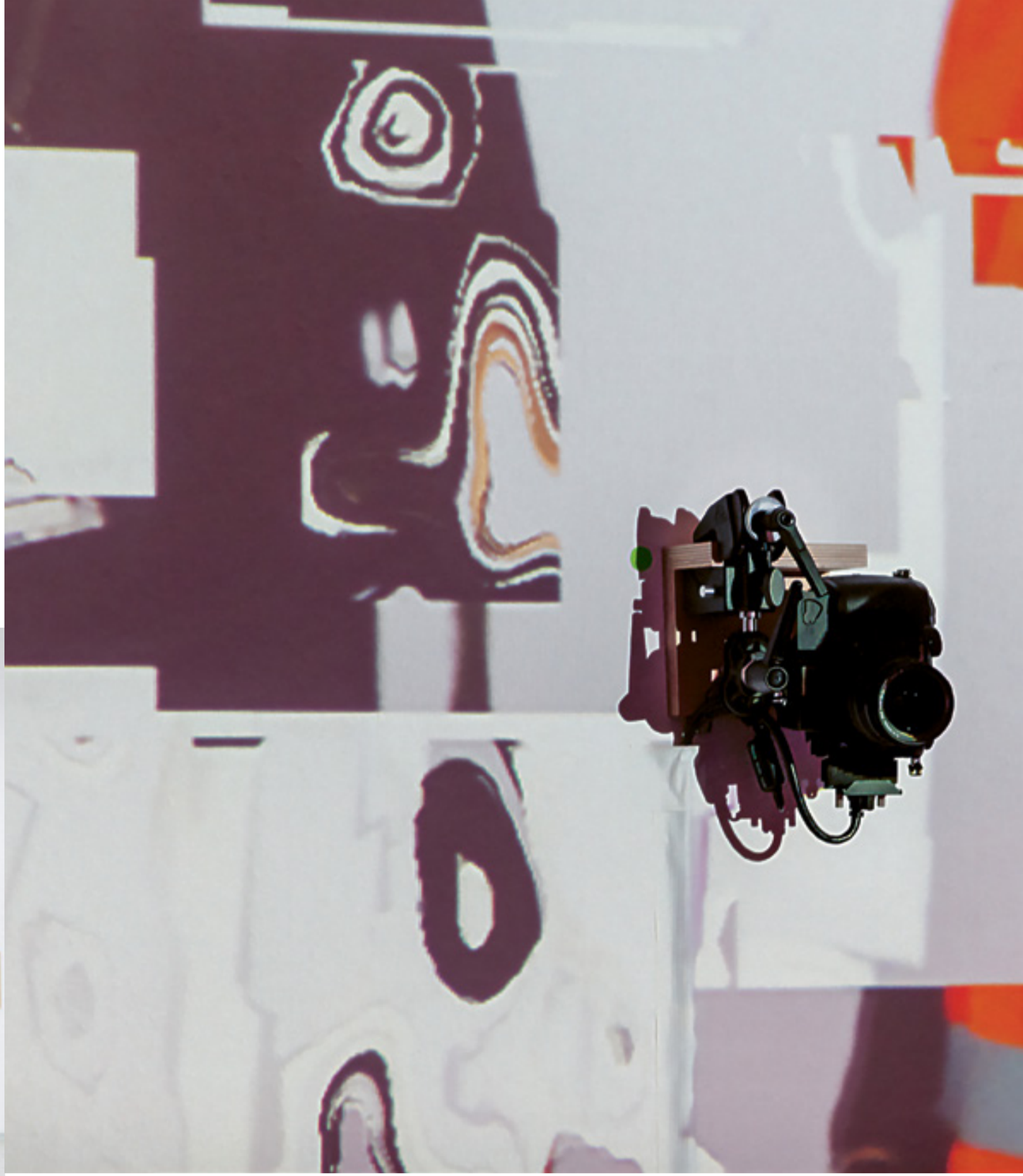






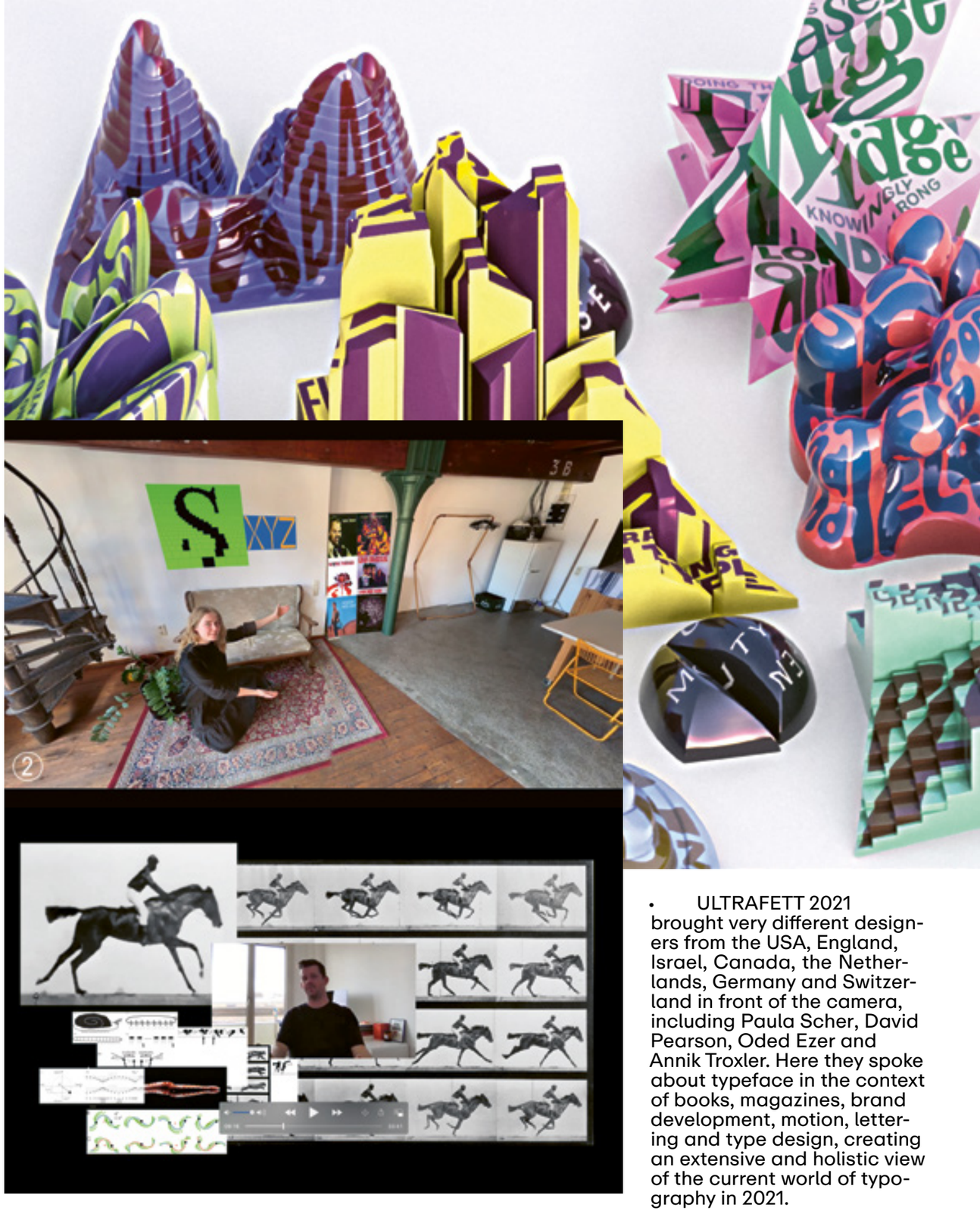
Zoom the green: Prof. Dirk Fütterer, Dean of the Faculty of Design, with Vice Dean Prof. Patricia Stolz.


Die Ausstellung umfasst das
Buch »No Regrets«, ein Video
der Entstehung des Buchcovers,
Bilder der Interviews, sowie das
Interieur eines Tattoostudios.

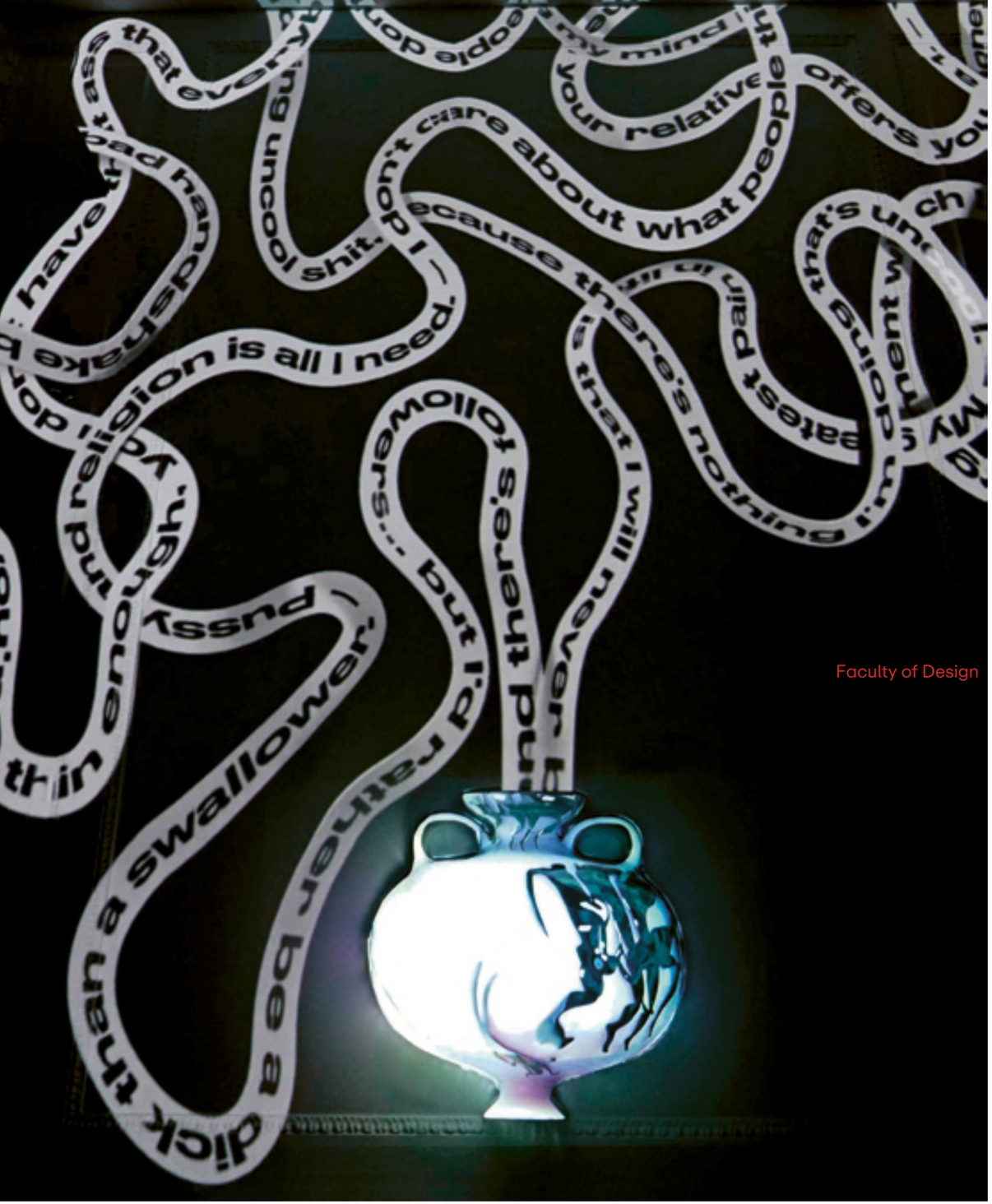


The ULTRAFETT Festival of Bielefeld UAS celebrates the power of expressive typography

Faculty of Design



- ULTRAFETT 2021 brought very different designers from the USA, England, Israel, Canada, the Netherlands, Germany and Switzerland in front of the camera, including Paula Scher, David Pearson, Oded Ezer and Annik Troxler. Here they spoke about typeface in the context of books, magazines, brand development, motion, lettering and type design, creating an extensive and holistic view of the current world of typography in 2021.



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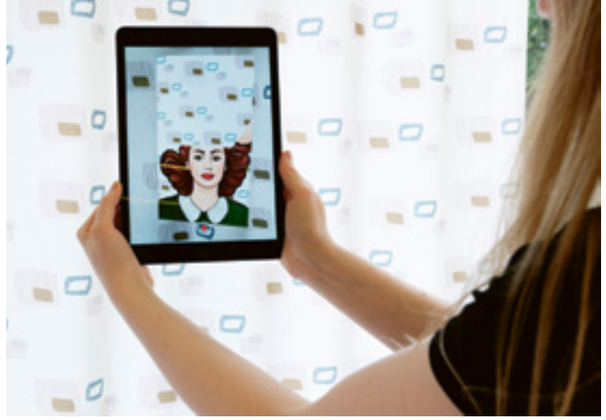
In four months, German and French students developed an exhibition with illustrations, 3-D rooms and video installations at the Goethe-Institut in Nancy



- The “Digital Media and Experiment” (DMX) course teaches the necessary specific skills such as image design, storytelling, 3-D modelling, animation for 2-D and 3-D, experience design and interaction design for interactive environments. The implementation of a project chosen by the students themselves that they work on in the course of their studies in artistic, creative and theoretical terms is at the centre of the specialised master’s degree study.

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Expansive clothes, recycled streetwear and textile tributes to female role models – all in the open air: due to the pandemic, fashion students presented their final collections in the late summer of last year in Bielefeld's city centre

Works by Anna Füllgraf, Ronja Hempel and Jana Meyer (left) as well as Jan König and Greta Berghof (right).

- All twelve bachelor and four master collections are presented on the Faculty of Design's exhibition website at werkschau.gestaltung-bielefeld.de. You can also look at the graduation projects of the courses "Photography and Visual Media," "Communication Design" and "Digital Media and Experiment" there. The website is continuously updated.

Students from the field of Photography and Visual Media participated in the exhibition “Nein zu Gewalt gegen Frauen” (No to violence against women) in the Kunstraum

Elsa Artspace

- The exhibition’s title, “Der Täter geht” (The perpetrator must go), referred to the German Federal Government’s Protection Against Violence Act, which aims to improve the civil remedies for victims of violence. The principle “The perpetrator must go, the victim stays,” intends to give special protection to women and children who are often victims of domestic violence. According to this principle, the perpetrators have to leave the common household.

Versatile Design

The examples of four projects in the four courses show that studying at the Faculty of Design offers students a wide range of opportunities to develop their own designer's profile in these times of intense change.

In the beginning was the script …

ULTRAFETT 2021 was all about current trends and various contemporary approaches to font design. Due to the pandemic, the conference was streamed live on YouTube last summer. New trends in typography are developing in different locations and networks around the world at the same time. "Pioneering design can come from world metropolises such as New York, London or Berlin, as well as from regional cities such as Bielefeld," said Prof. Fütterer. "Typography is gaining in importance because nowadays everyone is an amateur typesetter and forms an opinion on type and text design."

But what trends are prevailing in the typography scene and beyond that in society at the moment? Prof. Dirk Fütterer, initiator of the renowned ULTRAFETT typography festival at Bielefeld UAS, dean of the Faculty of Design and professor for typography: "It's hard to see a real megatrend. Everything seems to be going by the motto 'anything goes.' Many styles exist in parallel. However, it can be observed that writing is increasingly animated and more and more often appears variable, flexible and fluid. What's more, three-dimensional, spatial fonts are kind of in fashion. Metallic surfaces are also often used, as their play with light reflections has a special effect.

Faculty of Design

A team of 34 students and alumni from Communication Design and Digital Media and Experiment played a major role in the event's success. The students placed particular emphasis on the representation of successful women: "With a share of about 50 percent female speakers, we want to show the female students in particular how to work in the field of typography on the receiving devices," says Sarah Fyrguth, who was responsible for organising the festival and producing the contributions together with Anke Warlies. Both are master students at the Faculty of Design.

The Inner Life of …

The goal of the Franco-German study project "The Inner Life of …" was to jointly present the interaction between real and virtual space in an innovative and aesthetic way. In four-month working phases, students of the "Digital Media and Experiment" (DMX) course at Bielefeld UAS and the "Gamelab" of the École nationale supérieure d'art et de design de Nancy (ENSAD) developed various formats such as experimental illustrations, 3-D rooms, video and sound installations.

The project was supported by the Franco-German Youth Office as part of the project call "Digital ganz nah" (Digital proximity). The resulting exhibition at the Goethe-Institut in Nancy was opened in autumn 2021 with a live performance of the duo Ameli Paul from Germany. Seven students from the Faculty of Design took part in the project: Julia Dolipski, Katharina Ephan, Janice Jensen, Maximilian Lahr, Christine Papst, Katrin Ribbe – and Laura Hiebert: In her part of the exhibition, visitors are invited to take a seat in the cosy, homely world of the 1950s in the US, and then to explore every object in the room with the help of augmented reality (AR). Here, a new perspective becomes visible through harmless patterns. Hiebert: "In AR, seemingly harmless flowers, for example, may begin to observe those present, causing a feeling of paranoia."

The exhibition's creators were interested in encouraging visitors to question the world that surrounds us. Some of these questions are: What is the relationship between the private and the public world? How do we filter the amount of knowledge available to us on the Internet and who has an influence on this filter? Do we really have control over our thinking or is it determined by systematic faulty cognitive distortions?

The Altstadt runway

The faculty's fashion show has been an integral part of Bielefeld's cultural scene for years. While it had to be cancelled in 2020 due to the pandemic, the faculty moved it into the open a year later. Philipp Rupp, professor for collection design and fashion design: "Despite the difficult conditions, we have seen strong, creative degree collections in the Fashion course. With this alternative to a conventional fashion show, we have made the collections tangible in an everyday environment.

The start and end point of the "Tour de la Mode" was the inner courtyard of Kunstverein Bielefeld. Here, the students dressed their models and made final touches to the garments. Interested visitors used the inner courtyard to get in touch with the graduates and to learn more about the collections first hand.

The "Tour de la Mode" was carried out in cooperation with Kunstverein Bielefeld as part of the CABRIO 2021 series. "CABRIO 2021 is devoted to various approaches to the city, public space and urban coexistence," says curator Leonore Spemann from the Kunstverein. "With events like the 'Tour de la Mode' we invite people to put their own perceptions of public space to the test, to experience the city in which we want to live anew and to think together."

"The perpetrator must go"

Every year, Bielefeld says "No to violence against women" with an action day on 25 November. In 2021, the Faculty of Design of Bielefeld UAS and the Kunstraum Elsa Artspace, a project gallery founded by Bielefeld UAS's professor Katharina Bosse in 2019 took part by organising an exhibition.

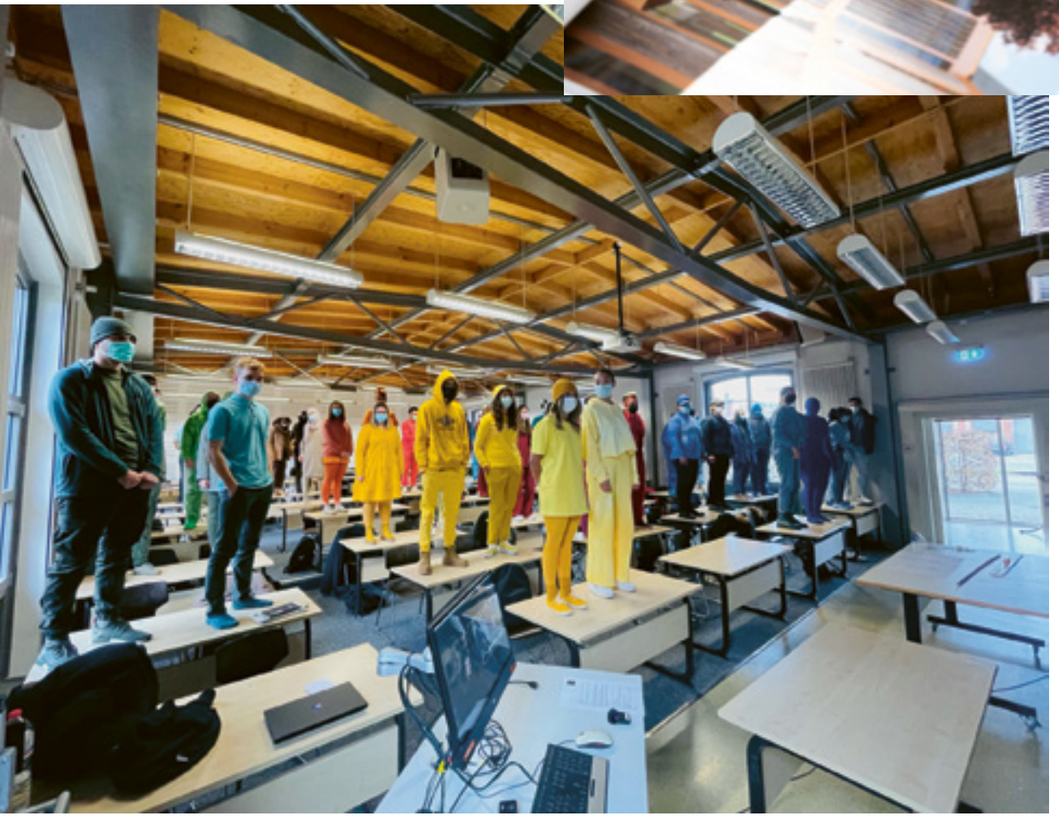
In one of the gallery's rooms, Sofia Nikoleizig, Dana Hütz, Johannes Hüffmeier and Leon Schäfer, students of photography at the Faculty of Design, created a video installation on the stylisation of women being killed in television series. "The representation of women being killed is often schematic and serves to entertain the audience," says Sofia Nikoleizig. "Often the victims are conspicuously beautiful and young, they are reduced to their appearance." This creates the impression that women do not attain this degree of perfection until the moment of their death. "The frequency of this alarming depiction is not sufficiently questioned in the media," her fellow student Johannes Hüffmeier criticises.

In addition, the term "femicide" is explained in a brochure accompanying the exhibition: a woman being killed as a male perpetrator's extreme attempt to control her. "The victims often trusted their killers," explains Dana Hütz. "These hate crimes are downright glorified in our culture by media and music. The so-called 'femicide' has therefore reached the highest form of objectification."

Faculty of Minden Campus

Faculty of Minden Campus

The photo shows a colour theory exercise from the module “Fundamentals of Design,” which is organised by the lecturers Niels Vauth and Jan Engels this winter semester.



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Around 1,680 students are enrolled in twelve study programmes in the fields of architecture, construction, computer science and engineering at Bielefeld UAS's Minden campus. In addition to the traditional full-time studies in computer science, architecture, civil engineering, project management construction, infrastructure engineering, other study models are also offered. In the work-integrated studies in mechanical engineering, electrical engineering and industrial engineering and management, work terms in the company alternate with academic terms at the university. For all bachelor graduates, there are further master's degree studies, such as Integral Construction, the Computer Science master's degree and Integrated Technology and System Development, which is also offered part-time.

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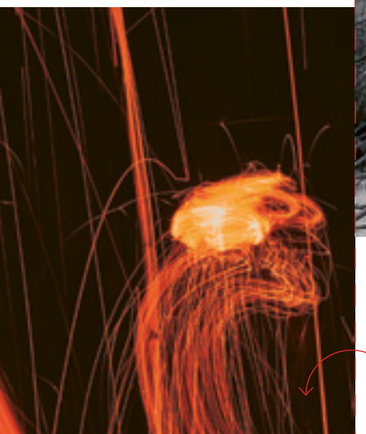
Faculty of Minden Campus

Minden mindset:
Prof. Dr. Oliver Nister, Dean of the Faculty of Minden Campus, and Vice Dean Prof. Dr. Christoph Thiel.



In the student work of Kevin Kelkenberg and Jannis Kresse in the “Fundamentals of Design” module under the direction of Prof. Bettina Georg, the aim is to draw attention to and raise awareness of the fact that one of the largest carbon storage facilities is depleted by harvesting the peat bogs.

The Faculty of Minden Campus’s deans …

- … on the speed of change

With the advent of the Internet, digitalisation, remote working and the enormous increase in information, there is no longer any spatial ‘provinciality.’ All information is available almost anywhere. We are limited only by the limitations in our thinking.

- … on the faculty’s response to “Constant Change”

The current zeitgeist uses the term ‘change’ with positive content. Among other things, “Constant Change” suggests modernity, dynamism and internationality. However, change as an end in itself is never meaningful and sustainable. “Constant Change” is reflected in the needs-based development of study programmes and research activities – especially during the pandemic. In our faculty, too, it was only through enormous efforts that teaching, learning and examinations were made available digitally.

- … on the influence of constant change and disruption

Apart from the Covid-19 pandemic, the faculty is not directly affected by disruptive change. While we must respond to these changes in technology and society, our core business is still the training of young people and will continue to be so in the future. The constant change in framework conditions with an increasingly heterogeneous student body, economic restrictions in the faculty, increasing demands in projects beyond the core business of research and teaching constantly increase the demands placed on the faculty and its employees.

- … on the Covid-19 pandemic as an accelerator for digitalisation

Already existing approaches to the digitalisation of teaching and examinations have been accelerated. Digital teaching, digital learning and examinations as well as remote work place high demands on the self-organisation and motivation of everyone involved. Results-oriented work is increasingly coming to the fore. 051

- … on the 50-year history of Bielefeld UAS as an expression of “Constant Change”

Numbers of students on the rise, an increased desire for society to be academised, Bologna Process, heterogeneous student body (working-class background, immigrant background, part-time students for financial or professional reasons), research at universities of applied sciences, foundation of the technical department, accreditation of consecutive master’s degree and work-integrated studies, merger of the Minden departments, interdisciplinary research as well as cooperation with industry and the creation of an endowment professorship speak the language of continuous change.

- … on their most important strategic goal

In view of the massive demographic change and the increasing shortage of skilled workers, all the potential of society must be activated. This could be achieved by:

— Individually supporting students and developing ‘adaptive learning concepts’ that highlight existing knowledge deficits
— Promoting the educational skills of lecturers
— Accepting the challenge of competing with digital ‘ed-techs,’ the innovative providers of learning programmes whose content will in future become increasingly similar to that of universities
— Strengthening practical on-site training in laboratories, work terms and interactive seminars

In the “Fundamentals of Design” module, digital presentation techniques were practised just like the development of spatial concepts in models, as this smoke-like work visually proves.

Live from the lab

On Minden Campus, the students in work-integrated study programmes were able to gain practical experience in the machine laboratory for plastics processing despite the Covid-19 pandemic thanks to the concept of Prof. Dr.-Ing. Daniel Paßmann and his team

Faculty of Minden Campus

The machines are humming, a surprisingly pleasant smell of plastic is in the air. Prof. Dr.-Ing. Daniel Paßmann is sitting in front of his computer. A webcam towers over its screen, for perfect illumination it is attached to a tripod including ring light. Paßmann is in the plastics processing machine laboratory on Minden Campus. He is connected to the students of his plastics processing course via a video conference tool. For them, he is streaming live from the machine shop.

Live from the lab

Like all lecturers at Bielefeld UAS, Paßmann had to devise teaching formats that also work online due to the Covid-19 pandemic. “In the plastics processing practical course we work with special machines. For example, with an injection moulding machine with a moulding tool that produces stack boxes. It is essential that the students understand the operation and functioning of such a machine, as it ultimately contributes to a general understanding of plastics processing,” says Paßmann.

Greater learning effect through interactivity

“We could just as well have produced lecture-accompanying videos to cover the practical part,” says the professor for plastics technology. “But in my view that would have been only the second best alternative, because it would have meant a lack in interaction, resulting in smaller learning effects.”

For the live-streamed practical course from the machine lab, the professor was not just sitting in front of the computer, of course. It was also part of the process that he gave the students a detailed tour of the machine using a tablet camera and headset. He was supported by two research associates, Florian Ernst and Hubertus Lübbesmeier. “The two of them operated the machines. Meanwhile, the students asked me questions that we discussed immediately or answered using the camera,” says Paßmann.

“Extended arm” for the students

Just like in a real practical on site, the students had to make their own specifications for carrying out the online practical. The two research associates were the “extended arm” for the small groups of students. Which machine parameters should be set next? What is the current temperature? What is the quality of the plastic parts produced?

“It was not a question of making a perfect test run immediately,” says Paßmann. “We also wanted the students to learn to identify defect patterns in the produced parts in order to understand which parameters they would have to adjust next time.”

Digital practical course in plastics processing: Interactive live video stream from the machine shop on Minden Campus. Prof. Dr. Daniel Paßmann managed to offer a practical course during the pandemic. Digital delivery can also enrich future face-to-face courses.

Insights into the workings of the machine

For even better insight into the inner workings of the machine, the lecturers also employed a small action camera. “We usually put a stepladder on the machine so that students can look inside in places that are not so easily accessible. But only one person can stand on a ladder at a time,” says Paßmann. “Therefore, we might continue to work with the cameras in the practical course on site in the future.”

This aspect, in particular, impressed student Gunnar Schröder: “It felt like I was permanently standing in the front row.” Schröder is a 6th-semester student in the work-integrated bachelor’s degree study in Business Administration and Engineering on Minden Campus. “Being 199 cm tall, I usually stand in the back row during practicals, so as not to obstruct the others’ views. Thanks to the cameras, I was able to see everything perfectly at all times during the online practical.”

Faculty of Minden Campus

Praise for the good organisation

Apart from that, the 22-year-old student was also enthusiastic about all other aspects of the online practical’s implementation. Does he have any suggestions for improvement? “The only thing I noticed was that the stream wasn’t HD-quality, but that’s basically due to the Internet connection.”

Nevertheless, like many students, Schröder misses the personal contact with his fellow students. Waiting together in front of the laboratory, talking – this does not happen in digital courses. And yet he can still see further advantages in the online practical: “I think it’s good that you don’t have to sit in the car first and that saves me time.”

A total of 25 students from the work-integrated study programmes Mechanical Engineering, Electrical Engineering and Business Administration and Engineering attended the plastics processing practical course, which Paßmann offers in conjunction with the lecture of the same name. It usually takes place on site as a compact course, with a group of four to five students being present at each date. “An experiment lasts about four hours, and this also applies to the online practical,” the professor explains. For him and his staff, the practical course is time-consuming, even a bit more online than on site.

Sensory input for better learning

Despite the smooth operation and praise of the students, it is clear to the professor that in the online format, some aspects go missing: “On site in the lab, the machines are humming, it’s warm, the students can smell the plastic and touch the components. That’s important sensory input that supports learning.” He has also observed that the students participate more in the face-to-face practical.

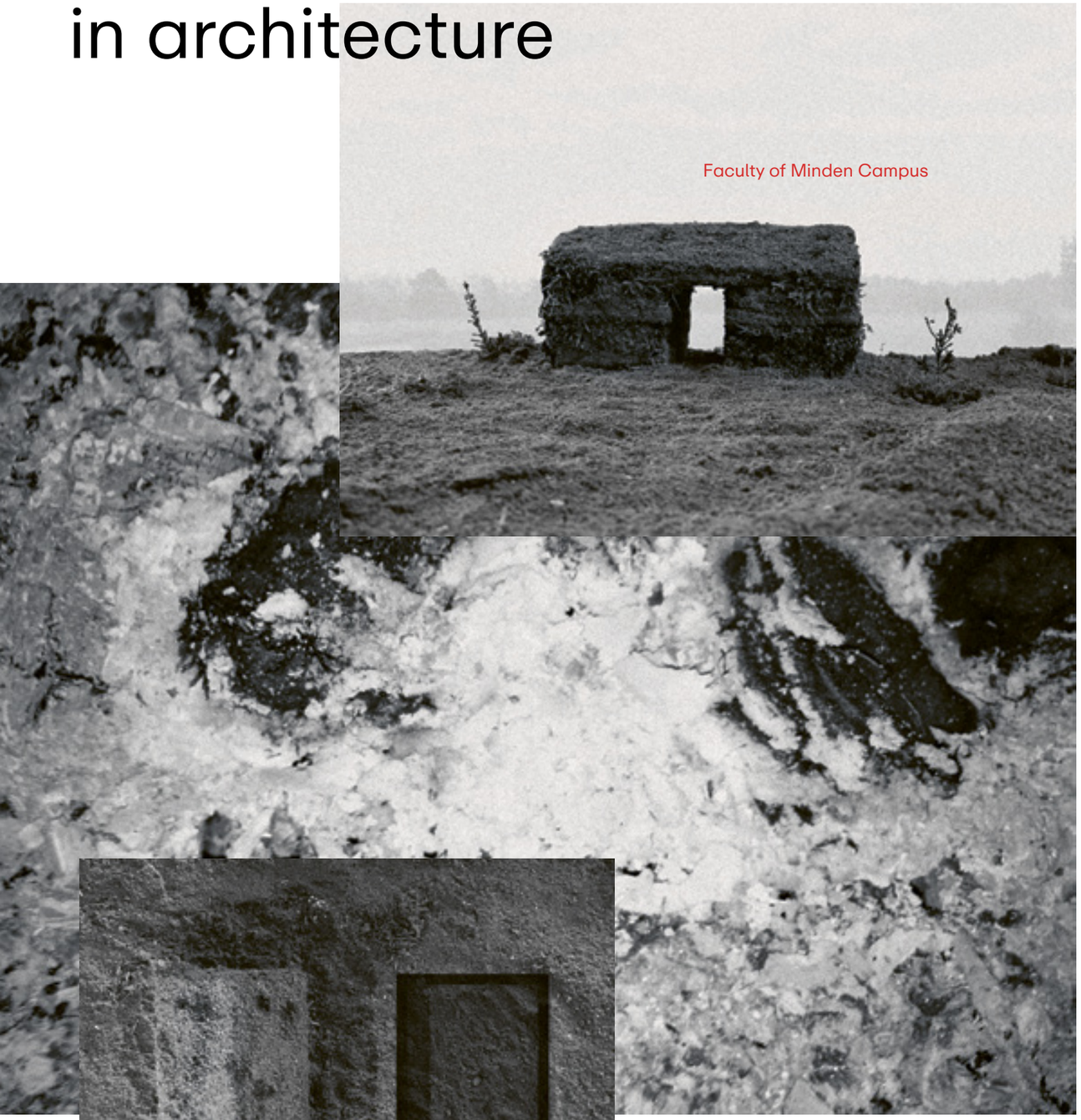
However, the fact that students are not directly in front of the machine, but are only connected online via camera, is not an unrealistic scenario either: “Digitally supported maintenance is already established in the industrial environment,” stresses Paßmann. “The experiences that students now gain in the online semester help them in their professional future.”

- Work-integrated studies

In work-integrated studies, students are enrolled at Bielefeld UAS and also employed in a company. Work placements and lecture periods at the university alternate in blocks of approximately three months. On-the-job work can be done as part of vocational training or in a study-related internship. It is also possible to study while you work.

Automated production of a stack box: Thanks to a tablet camera supported by mobile wireless LAN, the students look into the injection moulding machine and give instructions on the system control.

The rise and the rush in architecture



Peat bogs are excellent in storing carbon:
student work by Kevin Kelkenberg and Jannis Kresse.

“Constant Change” also characterises architectural studies on Minden Campus: In 2021, some, partly planned and partly unforeseeable, major challenges were successfully mastered – a review of a turbulent year and the legacy of the past.

The increasing popularity of the study programme Architecture in Minden, the age-related change of staff of some professorships, the pandemic-related very spontaneous switch to online teaching in a study programme that is intensive in terms of design and supervision, as well as limitations due to the necessary renovation work on Minden Campus ... all these were (and remain) challenging tasks for those responsible at Minden Campus – tasks that could and can only be mastered with a lot of commitment.

The year 2020 started well prepared and planned: The change after the departure of Prof. Rouli Lecatsa could be carried out seamlessly with the new appointment of Prof. Bettina Georg for the winter semester 2019/20. After studying architecture and mathematics, Bettina Georg worked at the German Archaeological Institute and at David Chipperfield architects. In 2000, she and her colleagues founded the office Georg, Scheel, Wetzel Architekten in Berlin. Their competitions and public buildings received numerous awards, most recently with the Bavarian Architecture Prize and State Prize. She is a member of numerous judging panels. As a (visiting) professor, Bettina Georg taught design at TU Dresden, design and construction at HS OWL and was then appointed professor for the fundamentals of design, architecture theory and free design at Bielefeld UAS in 2019.

As soon as she took up the professorship, she was confronted with the increasing number of students taking up architectural studies in the last few years. Instead of the regular capacity of around 60 first-year students, more than 80 new entrants in the module “Fundamentals of Design” had to be supervised. Since the summer semester 2020, there was the added challenge of switching to a purely digitally taught design theory due to the pandemic. In the following year, the number of first-year students even tripled.

Prof. Georg’s teaching focuses on conceptual and contextual design from urban planning to small details. In the project work, the students learn to develop an appropriate and expressive architecture from the specific parameters of the location and the task. Bettina Georg: “I want to teach students to think architecturally and independently, I want to motivate them to question and be curious.”

Conceptual design on the depletion of peat bogs

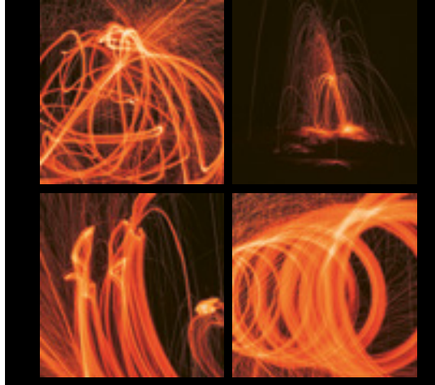
In the works of the students Kevin Kelkenberg and Jannis Kresse from Prof. Georg’s course, which are shown in the black and white photos, the aim is to draw attention to and raise awareness of the fact that one of the largest carbon storage facilities is depleted by harvesting the peat bogs.

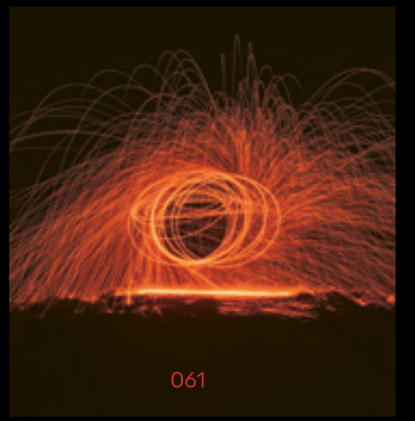
While Prof. Bettina Georg was still able to teach her “first” semester on site on Minden Campus and thus initially received a personal impression from the students, the start of another new colleague, Prof. Georg Schönborn, fell right into the pandemic-related switch of teaching to online, and the new colleague had to be introduced under these difficult conditions, in addition to the persistently high number of students. In the summer semester of 2020, Prof. Schönborn took over teaching architecture and design from his predecessor Prof. Dr. Andreas Uffelmann.

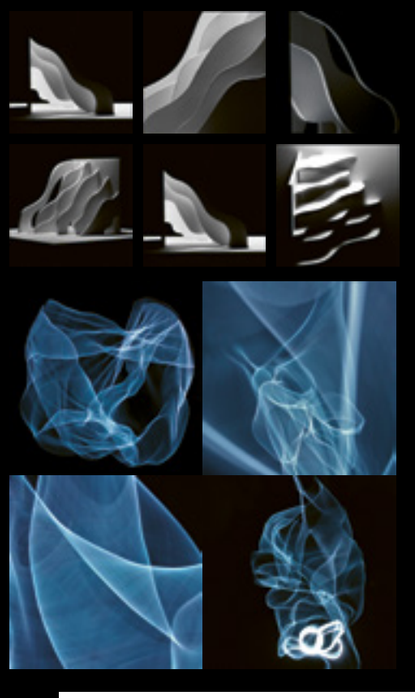
Georg Schönborn studied architecture at TU Dortmund and at Escuela Técnica Superior de Arquitectura de Madrid. In 2000, he graduated with distinction from his studies with Christoph Mäckler. From 2001 to 2017, he worked at Max Dudler’s architectural office, where he was responsible for all projects in Northern Germany. In 2017, he founded his own office in Berlin, with which he won several competitions in addition to various buildings and urban planning projects. At the same time, he held teaching assignments at TU Dortmund since 2008. In 2020, he was appointed professor at Bielefeld University of Applied Sciences.

Architecture and design: works of Prof. Georg Schönborn's students.

Work results on topics such as transformation, shapes of light and interspace from the "Fundamentals of Design" 1st-semester course taught by Prof. Gesche Grabenhorst.







The rise and the rush in architecture

Student designs on “Space and Light”

In his teaching, he and his students use models to experiment with the effects of space and light: “These themes accompany our design work and illustrate our architectural choices.” What proportions do rooms have and how do they relate to each other? Where are there openings to the outside? How can connections between rooms and levels be filled with natural light? Where does a characteristic rhythm of light and shadow appear? The illustrations of the models and details of these student works provide answers to these questions.

Architecture at Minden Campus is one of the most popular study programmes at Bielefeld University of Applied Sciences. While until the winter semester of 2011/12, there were still only around twice as many applications as the capacity requirements for the study programme, which was designed for 45 students, and the actual numbers of registrations fluctuated only slightly around the capacity requirements, there has been an increased interest in the subject of architecture since 2012. Since then, an average of 250 to 300 people have applied each year, and there has been a steady increase in the number of first-year students.

Compared to architecture studies at other universities, where the focus is more on design itself, the curriculum of architectural studies in Minden is balanced between design-related teaching in building construction and urban planning, structural engineering and technical subjects, theoretical modules and subjects in planning and construction process management. In addition to talent and creativity, a basic technical understanding plays an important role for the aspiring architects. It is important for those responsible to be oriented towards current requirements from professional practice.

The project work in design and construction, which is highly qualified and – as is typical of architecture degree studies – requires intensive support, could always only be made possible by supplementary teaching assignments. As long as during the course of studies the number of students is reduced to the number that can be derived from the existing personnel capacity, quality assurance can be guaranteed.

Despite the Covid-related changes (the pre-study internship was temporarily suspended as a prerequisite for admission, so that school graduates started their studies directly without a gap year or internships), no one expected the flood of almost 500 applications for architecture for the winter semester 2020/21. Perhaps architecture has become a particularly popular study programme in the region during this period. “Since there was no admission restriction for architecture in 2020, 168 students were admitted, which is almost three times as many as in a ‘normal’ year, and in contrast to previous, high-number years, the drop-out rate is very low,” explains Prof. Bettina Mons, academic programme director for this study programme. Three times as many students means three times as many exams, term papers and later theses. To manage such a large cohort completely online was an additional challenge.

Faculty of Minden Campus

The year that began studying architecture at Bielefeld UAS in the winter semester 2019/20 is also very consistent, with fewer drop-outs or participants who change their subject, so that a large number of practice groups and project works are currently to be supervised. As a result, more groups have to be offered for architecture and also for the seminar and project-related teaching in small groups of students typical for Bielefeld UAS. In many other study programmes at Bielefeld UAS, too, there were significantly more applications in 2020 than in previous years, but the programmes already had restricted admission, so that only architecture saw such a significant unplanned increase. The support of the currently exceptionally large number of students throughout the entire course of the study is only possible with additional staff. The faculty reacted quickly: In autumn 2020, supplementary teaching assignments for the first year of study were found, and an additional colleague, Prof. Andreas Kopp, was appointed within the framework of a fixed-term professorship. He has been providing significant support for teaching construction and design since October 2021.

The rise and the rush in architecture

Andreas Kopp previously worked as a substitute or visiting professor for design and building construction at the universities of applied sciences in Erfurt and Bochum. He runs Kersten Kopp Architekten in Berlin, realising public buildings in the education sector. In doing so, he researches innovative layout typologies and constructive solutions for timber and hybrid timber buildings as well as model buildings in timber construction.

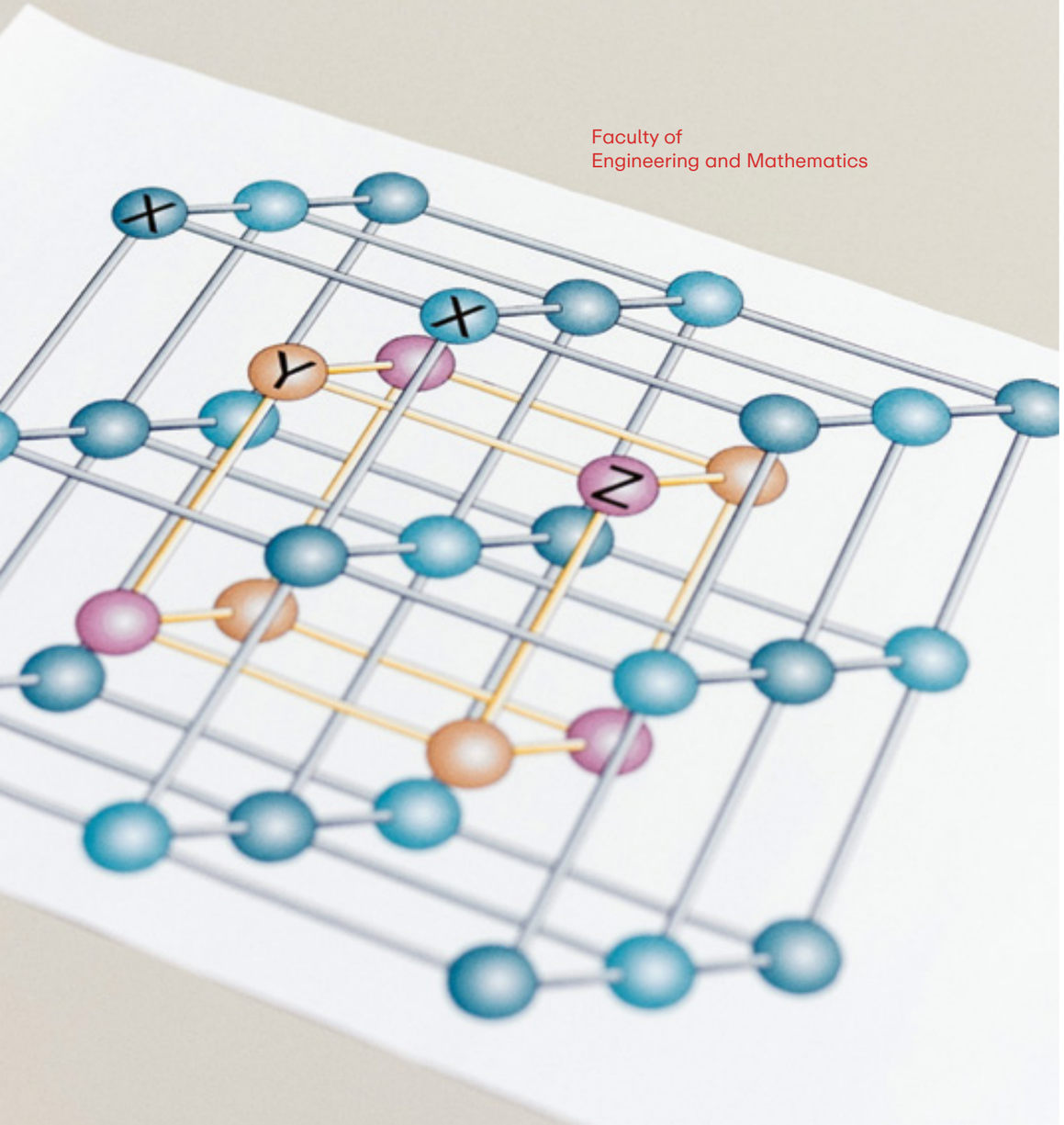
Apart from teaching knowledge in the field of the above-mentioned topics, his work at Bielefeld UAS focuses on its application by the architecture students in their own design process. Kopp: “In spite of the high number of students, it is great fun to work out the dependencies of design and construction with the students in the design and construction exercises, and at the same time to awaken an understanding of the great future task of the architect’s profession in the development of sustainable architecture against the background of the climate crisis.”

However, the supervision of so many students in one year with the regular staff for architectural teaching is not possible in the long run. An artistic and creative entrance examination was introduced for the start of studies for the first time in the winter semester 2021/2022: On 1 June 2021, all applicants were able to download a task. A series of five images should be used to illustrate why they are interested in architecture and what topics are important to them. 150 prospective students took the entrance examination and submitted their work with texts, images and sketches online. It was not the initial technical knowledge of the subject that was assessed, but rather the motivation and seriousness of the applicants’ interest in architectural studies. The assessment of the submitted works was a great effort, but it was worth it, the architecture colleagues are sure. The entrance examination was followed by the application for studies with the NC procedure (local NC). Finally, 58 applicants were admitted. The return to classroom teaching formats, which was possible again in the winter semester 2021/22, although not quite continuously so, motivates everyone very much.

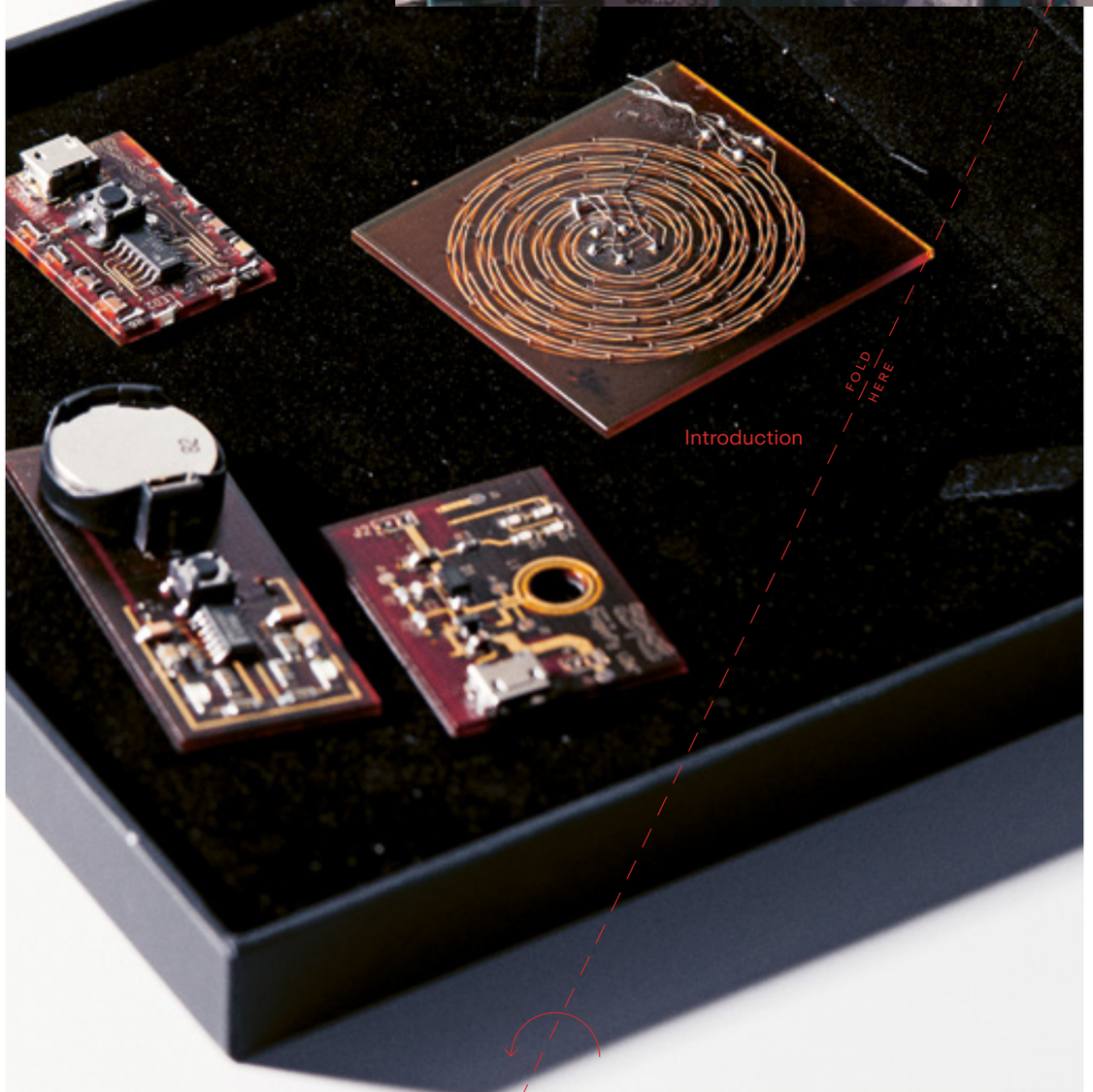
The artistic and creative entrance examination for architectural studies will be permanently maintained. In the future, a new task for interested students will be developed in May each year. To regulate the number of students, the retention of the local NC for the winter semester 2022/23 has been requested again.

In 2022, the renovations in the south wing of the main building will also be completed. This area houses the seminar rooms, CAD laboratories and offices of the architects. Urban planning models, designs and construction plans can finally be presented with sufficient space. Prof. Bernd Niebuhr and Prof. Peter Sassenroth are pleased about this. And the teaching can then hopefully resume fully on site again as well.

Faculty of Engineering and Mathematics



Faculty of
Engineering and Mathematics



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Cross-university cooperation is common practice at the faculty. The CITEC researcher Dr. Basil Ell from Bielefeld University works in a joint research project in close cooperation with colleagues from the Faculty of Engineering and Mathematics of Bielefeld UAS, see article “DiProMag” below.

The Faculty of Engineering and Mathematics comprises approximately 3,100 students and 23 bachelor’s and master’s degree studies. The courses offered in the field of STEM (science, technology, engineering and mathematics) combines a wide range of subjects such as electrical engineering, information technology, mechanical engineering, mechatronics, industrial engineering, applied mathematics or apparative biotechnology. As an alternative to traditional on-site study programmes, there are also part-time, collaborative and work-integrated study models.

In addition to the main building on Bielefeld Campus, Gütersloh Campus also belongs to the Faculty of Engineering and Mathematics.

Faculty of
Engineering and Mathematics

Prof. Dr. Rolf Naumann, Dean of the Faculty of Engineering and Mathematics (left), with Vice Deans Prof. Dr. Andrea Kaimann (front), Prof. Dr. Axel Schneider and Prof. Dr. Joachim Waßmuth.

The Faculty of Engineering and Mathematics' deans ...

- ... on the speed of change

The global society, whose functioning was previously largely ensured and defined by continuous growth, has come up against resource limits in various places in recent years. Much of the efficiency gains needed to sustain growth – for example, in value-added work – could be achieved through the use of technology, for example through automation. At the same time, global competition is leading to further technological developments, for example in robotics, machine learning, individual communication and many other areas that we generally attribute to the topic of digitalisation. New technologies in turn lead to new requirements and consequently to further technological developments. This cycle is gone through more and more rapidly, which leads to a steadily increasing consumption of resources, for example in energy and new materials, with the accompanying climate effect, which is becoming blatantly obvious everywhere.

- ... on the faculty's response to "Constant Change"

In order to meet the challenges of a complex interacting global society, it is necessary to have excellently trained young people who, in addition to the complexity of the technical systems they develop, can also understand their embedding and effects in a wider context: Every computing operation on a mobile phone emits carbon, every mobile device, every electronic component uses materials that come from a finite supply and are thus worth recycling. Therefore, for example, new knowledge and technological approaches in this area always require a corresponding continuous adaptation of training. The faculty takes this into account by means of modern study programmes which, in addition to solid foundations, always cover current topics. The faculty also considers the cross-disciplinary requirements of different types of studies that enable lifelong learning by offering a range of courses from undergraduate to part-time studies. In addition, an impressive increase in research activities provides the necessary input of current findings for teaching. With its research, the faculty is also committed to an effective transfer of expertise for the domestic economy and is thus also "exporting" the guiding idea of "constant change" to its environment.

- ... on the influence of constant change and disruption

Constant change has always accompanied the development of technical systems. Innovations are often further developments and improvements of existing systems. In this respect, the aspect of "Constant Change" is certainly the decisive factor for new developments. The increasing speed is due, among other things, to the global availability of information and communication possibilities. Truly disruptive changes are more singular events that have always existed. These, in turn, often lead to massive changes in the working and production processes as well as to completely new products that did not exist before.

- … on the Covid-19 pandemic as an accelerator for digitalisation

The pandemic has become a catalyst in many places, as within a few weeks we had to go through changes that would not necessarily have happened had there not been a pandemic. The switch to other forms of communication, especially video conferencing, has been rapid, but it will become an integral part of future collaboration. The testing and change to new synchronous and asynchronous teaching formats will have a lasting impact on our teaching, as will the use of new examination formats. The lack of a need to be present will continue to enable a much wider range of activities in teaching and research.

- … on the 50-year history of Bielefeld UAS as an expression of “Constant Change”

The Faculty of Engineering and Mathematics has experienced constant change in its development. Initially, separate technical departments with the classical engineering disciplines were built up from the subjects of the engineering schools. As one of the few universities of applied sciences, Bielefeld UAS also set up the Applied Mathematics programme at an early stage. An important point in the development was to merge the different departments, which seemed logical as the different disciplines became more and more intertwined. The integration of many different disciplines that we completed at that time also opens up good opportunities for the future to further develop the Faculty of Engineering and Mathematics in accordance with the requirements of business, science, politics and society. Through the constant exchange with companies and the scientific community, it is a tradition at the faculty to take up current developments. For example, new study programmes have been developed, such as Product Development and Mechatronics, Engineering Computer Sciences and Apparative Biotechnology. While research did not play a role at the beginning of the faculty’s history, it is of particular importance today and is also having an increasing influence on teaching.

- … on their most important strategic goal

Each generation of professors should strive to give the next generation a university and a faculty with improved conditions. But every subsequent generation also has the obligation to seize the opportunities for change that are given to it in its time on the basis of these improved conditions. Not to seize them means to close our eyes to the pressing questions of society. To seize them means to prepare (or deny) the right path in teaching and application to the innovations with open eyes. Bielefeld UAS has come a long way from a place of pure engineering training to a place of teaching and applied research. The integration of these different aspects against the background of a new mission statement is our present task. On the one hand, the focus of our strategic work is characterised by the concentration of technological topics in the institutes and centres of the university. Here the spectrum ranges from material sciences to topics of health technologies. On the other hand, further modernisation of teaching is being sought through a study reform that is just beginning, the second one within the last ten years – “Constant Change.”

Faculty of
Engineering and Mathematics

Fly, DragonFly!

A novel combination of different materials, microscopic structures, fast production from one mould – a rare hybrid 3-D printer is in use at Bielefeld UAS. The DragonFly LDM opens up numerous possibilities for researchers and students to hunt for innovations.

Faculty of Engineering and Mathematics

The box is as tall as a person and looks like a combination of aquarium and photocopier. Tinted discs make it difficult to see what is happening inside the box. At least: you hear a subtle humming, see minimal movements of an apparatus, then suddenly a light shines and goes out again. All this is surprisingly unspectacular, if you have learned before the visit that this machine is a marvel of modern technology: a so-called hybrid 3-D printer, model DragonFly LDM, developed and built by the Israeli specialist Nano Dimension.

“Unique on the market”

“This hybrid 3-D printer is unique on the market with a very special performance that is currently only available from this manufacturer,” says electrical engineer Michael Feige. Feige is a research associate at the Center for Interdisciplinary Materials Research and Technology Development (CiMT) under the direction of Prof. Dr. Sonja Schöning from the Faculty of Engineering and Mathematics at Bielefeld University of Applied Sciences.

- Info

The working group of the new hybrid 3-D printer at Bielefeld University of Applied Sciences is part of the Center for Interdisciplinary Materials Research and Technology Development (CiMT) and is headed by Prof. Dr. Sonja Schöning. In addition to Michael Feige, Lennart Schwan and Mikhail Tolstykh are also part of the team.

CiMT is a joint initiative of Bielefeld University of Applied Sciences and Bielefeld University. Here, the “Bielefeld Institute for Applied Materials Research” (BIfAM, Bielefeld UAS) and the “Bielefeld Institute for Nanoscience” (BINAS, Bielefeld University) jointly work on research projects. The aim is to develop a comprehensive research and development platform for materials research. CiMT is funded by the EFRE.NRW programme of the state of North Rhine-Westphalia and the EU.

Unlike a conventional 3-D printer, a hybrid 3-D printer combines two or even several different printing processes. “With the hybrid 3-D printer, we create objects with the finest structures, which are made of plastic and silver, for example, and are produced by the machine in one go,” explains Feige. Ultraviolet light hardens the plastic, and heating brings a special silver ink into a shape previously defined on the PC – all in miniature, of course. Experts call this “sintering.” In the process, the material is formed as desired by heat without melting it to the point of liquefaction.

Conductive high-precision structures

What is really special about the hybrid 3-D printer is not the sintering, but the combined production of an object from two or more very different materials. There are various application areas for this: “The hybrid 3-D printer can produce high-precision electrically conductive structures, for example for printed circuit boards that are installed in electronic devices,” says Feige.

At CiMT, he and his colleagues use the DragonFly LDM to manufacture innovative sensor components. “We need these sensors in order to understand the ageing processes of surfaces even more precisely,” says the young researcher. “The results are incorporated into the development of long-lasting materials, because this is the goal we have set for ourselves in the ongoing project.”

Spraying like an inkjet printer

The researchers are experimenting with an electrically conductive silver-based ink and an electrically insulating ink that is cured to a plastic during the manufacturing process. Another special feature of the hybrid 3-D printer becomes evident here: “With a conventional 3-D printer, the raw material, which is available as granules or strands, is ejected from a heated nozzle and the resulting paste mass is then distributed in layers,” says Feige. “Our hybrid 3-D printer, in contrast, works like an inkjet printer: The raw materials are sprayed in tiny droplets layer by layer and hardened after each layer.”

Microscopical drops

When the hybrid 3-D printer has distributed its droplets, a fine microstructure is created. The printer produces extremely small droplets with a volume of only ten picolitres. To make this clearer: it would take 100 billion droplets to fill a litre. Feige: “It is fascinating to be able to print structures designed on a PC with dimensions between several centimetres and microscopic structures of 40 micrometres in one object – 40 micrometres, that is smaller than a Paramecium! In the past, if at all, this was only possible with photolithographic methods.”

The printer can thus produce complex electronic components, including coils, capacitors and resistors, “in one mould.” In the long run, CiMT will use the hybrid 3-D printing process to produce complete electronic circuits in an additive procedure, i.e. step by step and layer by layer.

Faculty of
Engineering and Mathematics

This will open up completely new possibilities for industrial production, explains Feige: “The outer shape of a component can be designed to fit the application exactly. A three-dimensional space in which the component has to be enclosed – for example, a pipe – can be used much more efficiently. In the past, designers had to cope with the fact that a printed circuit board was flat and rigid and needed a certain amount of space.”

Ideal for prototype manufacturing

In addition to the combination of various raw materials and the realization of the finest structures, the hybrid 3-D printer has a third outstanding characteristic: “The device is designed to perform a print job from A to Z without any user intervention and without supervision,” says Feige. “When several parts have to be produced, the dimensions always remain within the given specifications. In addition, the printer can work 24 hours a day. This makes it the ideal tool for industrial companies or research groups that need to produce prototypes quickly and cost-effectively.”

Projects by researchers and students

At Bielefeld UAS, however, not only researchers like Feige benefit from the performance of DragonFly LDM: The students of the Faculty of Engineering and Mathematics, too, will be allowed to use the hybrid 3-D printer to produce circuits, sensors or sensor components that they have designed themselves and then test them.

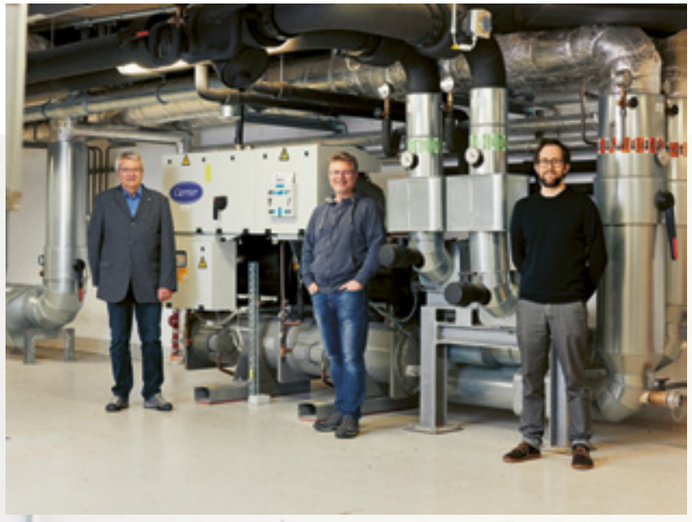
While Michael Feige reports all this, the machine has long since finished a print job and produced a small farewell gift for the visitors. The scientist opens the window and removes an object from the printer made of solidified silver ink and plastic: the three-dimensional model of the staircase-like university logo. It will be interesting to see the next combination.

Prof. Dr. Sonja Schöning is in charge of the work with the hybrid 3-D printer, her research associate Michael Feige develops the print structures and allows them to be created in the DragonFly.

Fly, DragonFly!

MC effect to reduce carbon emissions

Less toxic, less harmful to the climate and much more efficient than conventional compressor technology: In the “DiProMag” project, Bielefeld UAS and Bielefeld University jointly research alloys that are to form the basis for future-oriented cooling systems.



Faculty of
Engineering and Mathematics

The magnetocaloric effect occurs with certain magnetisable materials that heat up when they hit a magnetic field. The resulting heat is released to the environment until the initial temperature has been reached again. When the field is removed, the material cools down promptly. The result: a controllable cooling process without polluting coolants.

Prof. Dr. Andreas Hütten (Bielefeld University), Prof. Dr. Christian Schröder (Bielefeld UAS) and Dr. Basil Ell (CITEC/Bielefeld University) work together with their research groups in the interdisciplinary project “DiProMag” (from left to right). The group of experts met for the photo shoot at the air conditioning machinery park in the building of Bielefeld UAS.

According to a recent UN study, there are about 3.6 billion cooling devices worldwide, with up to 10 more being added per second. Their negative impact is significant: In 2018, cooling cost 3.4 percent of the global energy budget, and by 2050 this figure could triple. Cooling is one of the drivers of the increasing carbon emissions on this planet.

Not surprisingly so, as more and more goods have to be cooled because people transport them over long distances and they would otherwise spoil. The ongoing digitalisation requires a considerable amount of air conditioning technology, because computing centres and servers only function at the right temperature. And more and more people around the world want to work in a cool office even at high temperatures, do their shopping in an air-conditioned supermarket or turn on the air conditioning at home when it gets too hot.

DiProMag relies on the MC effect

Air-conditioned warehouses and refrigerated containers, air-conditioning systems and freezers – all of them are still being reduced to the right temperature with the old compressor technology. Their efficiency is largely exhausted, it requires a relatively high amount of energy and is also dependent on environmentally harmful coolants. New cooling concepts that are as sustainable as possible are therefore urgently required. The “DiProMag” research project is searching for answers. DiProMag stands for “digitalisation of a process chain for the production, characterisation and prototypical application of magnetocaloric alloys.” Within the project, Bielefeld UAS and Bielefeld University work together to find an alternative cooling approach. The research teams focus on the so-called magnetocaloric effect (MC effect).

This physical effect occurs with certain magnetisable materials that heat up when they hit a magnetic field. The resulting heat is released to the environment until the initial temperature has been reached again. When the field is removed, the material cools down promptly. The result: a controllable cooling process without polluting coolants. Magnetocaloric cooling systems are up to 30 percent more efficient than compressors, in short: they save energy and reduce carbon emissions.

UAS and university do research together

The DiProMag project manager and joint coordinator at Bielefeld UAS is Prof. Dr. Christian Schröder, head of the Bielefeld Institute for Applied Materials Research (BIfAM). Prof. Dr. Andreas Hütten, Professor of Experimental Physics at the Faculty of Physics, is responsible for DiProMag at Bielefeld University. Dr. Basil Ell, a post-doctoral researcher in the Semantic Computing group of Prof. Dr. Philip Cimiano at Bielefeld University’s CITEC, contributes the required expertise in computer science.

Further teams are involved too: Prof. Dr. Sonja Schöning will pursue concepts for adaptive material production together with an industrial sponsor. Prof. Dr. Luana Caron will investigate magnetocaloric bulk systems. Prof. Dr. Günter Reiss reinforces DiProMag with his expertise in thin-film technology. Over the next three years, the experts of the Bielefeld universities will be looking for innovative alloys that can be used to optimise the MC effect within the DiProMag project.

Prof. Dr. Christian Schröder remembers that, when working on magnetic molecules during his studies in physics, the MC effect was seen as a technology that was allegedly not worth pursuing. He sees the strength of DiProMag in the interdisciplinary approach of material science, physics and computer science: “We need to understand the materials and their properties from scratch. On this path, we need to perform experiments, but also theoretical and computer-based calculations.” To this end, Prof. Schröder’s UAS team conducts computer simulations in order to better understand how the interaction of atoms in a material affects its properties.

Modular alloys

For several reasons, the MC effect is not yet widely applied in practice. On the one hand, extremely large magnetic fields are necessary for the effect to be strong enough to be able to cool. On the other hand, critical raw materials such as rare earth metals currently have to be used, the extraction of which is not only laborious and costly but also often harmful to the environment.

Novel, previously unknown compounds could be the solution, according to the DiProMag experts’ theory. Their plan is to explore the possibilities of so-called Heusler compounds in detail. The name of these special alloys goes back to the German chemist Friedrich Heusler, who in 1903 developed the first magnetic alloy made up of the non-magnetic metals copper, manganese and aluminium. In the world of Heusler compounds, the combination of 52 metals can theoretically produce countless alloys. These then have various functions – for example magnetic, semi-conductive or even magnetocaloric.

“A huge, extremely time-consuming field research would be required to describe millions of possible compounds,” says Prof. Dr. Hütte, outlining the challenge. “The secret of DiProMag’s success will therefore be to identify and investigate the most promising compounds early in the process.” Various research teams are examining various forms of Heusler alloys – from the ultra-thin layer to the bulk material. In the end, they want to optimise the most promising approach together.

- Info

The DiProMag research project is funded with over two million euros by the Federal Ministry of Education and Research (BMBF) in the “Funding of projects within the framework of the initiative for the digitalisation of materials research in Germany (MaterialDigital)” until January 2024. Bielefeld UAS will receive 750,000 euros, Bielefeld University 1.46 million euros.

DiProMag was one of a total of 13 projects in a highly competitive process in the BMBF’s first call of MaterialDigital. All funded projects are presented on the online platform www.material-digital.de.

More information is also available here: www.fh-bielefeld.de/ium/bifam/neu and www.materialdigital.de/project/2

Faculty of
Engineering and Mathematics

Predicting material properties with AI

Nevertheless, at the beginning, the challenge remains that there are too many combinations with 52 Heusler compounds to try out with regard to the MC effect. Thanks to artificial intelligence (AI), however, you don’t have to. This is where Dr. Basil Ell comes into play: The computer scientist “translates” the previously unstructured data on Heusler compounds for the computer. The aim is to develop a so-called ontology. This is a database for knowledge management the contents of which are intelligently linked.

“The properties of the materials and alloys are pure numerical values at the beginning,” explains Dr. Ell. “Our findings from theoretical and practical experiments, however, are incorporated into the ontology, systematised here and can thus be more easily found and applied. At the same time, the ontology, which consists of structured data, is linked with unstructured data and embedded in a vector space in order to derive new knowledge about analogies, to find new answers to the questions of research or to generate new hypotheses.”

Saving time thanks to ontology

Ontology and the vector space constructed from it could therefore ensure that the numerous material compositions and their properties can be predicted even more precisely. It also shows the researchers which combinations are most promising. These can then be tested experimentally in concrete terms with regard to their performance. “This could save material research enormous amounts of time and money,” says Dr. Ell.

Prototypes from the hybrid 3-D printer

Although DiProMag does basic research, the team is oriented towards the actual later users and thus works in close cooperation with a manufacturer of household appliances. As soon as a promising alloy has been found, a hybrid 3-D printer from Bielefeld UAS will create a component for a cooling unit in a second step. DiProMag’s joint coordinator Prof. Dr. Schröder: “Together with our industrial sponsor, the entire process chain from the experimental production and characterisation of the magnetocaloric materials, through their theoretical description to the construction of a prototype is to be realised and digitalised.”

DiProMag

Evolution instead of revolution

How does the research team assess the chances of success of DiProMag? “It is not enough for a technical revolution,” says Prof. Dr. Schröder. “The magnetic fields necessary for a noticeable MC effect are still much too large. But this is exactly why we need projects like DiProMag.” Prof. Dr. Hütten is certain: “Our research is greatly accelerating the development of new materials, and this is a valuable contribution to sustainable cooling systems.”

What’s more, the findings gained in DiProMag should also be applicable to other areas. Dr. Ell: “If we develop an ontology that describes exactly with which objectives an experiment was carried out and which results were obtained, it will be possible to better understand the number of experiments that can be carried out in principle and to identify promising experiments that have not yet been implemented, even outside the material sciences.”

Faculty of
Engineering and Mathematics

IoT at Gütersloh Campus

Researching and learning at a fully automated miniature production plant

Electric logistics vehicles that drive to exactly the right place as if by magic. Production lines on which goods get their final touches from robot arms. This sounds like the production site of a large industrial company – from the automotive industry, for example. However, such a production line can also be found on Gütersloh Campus, albeit in miniature format. This is because here at the Center for Applied Data Science (CfADS) of the Faculty of Engineering and Mathematics, researchers and students can do research and learn at a modular, fully automated production plant.

Gaining data for automation

The result is a so-called Internet-of-Things Factory (IoT factory). This is an intelligent factory in which all the components involved in the production process – i.e. machines, individual parts and aggregates – are networked in real time and communicate with each other continuously. “Our goal is to gain our own production data and to research these,” explains Prof. Dr. Pascal Reusch from CfADS. Together with his colleagues Prof. Dr. Wolfram Schenck and Prof. Dr. Martin Kohlhase, Reusch established the IoT factory on Gütersloh Campus. There, they conduct research on topics relating to digital logistics and automation processes in production.

As early as 2018, CfADS received funding for the application-oriented IoT factory amounting to three million euros. The realisation of the complex plant took a long time, it has been in use since the beginning of 2021. Half of the funds were made available by the state of North Rhine-Westphalia and half by the European Regional Development Fund (ERDF).

“In the meantime, we are using the plant for various projects and are conducting research into predictive maintenance, among other things,” says Reusch. In the process, the researchers examine the extent to which future faults can be predicted from the analysis of the various generated data in order to be able to react to technical problems at an early stage and to avoid production downtimes.

IoT at Gütersloh Campus

- Info

Campus Gütersloh offers five work-integrated study programmes. This concept ensures a close link between business practice and university studies. In addition, there are four part-time study programmes on Gütersloh Campus, in which the contents are taught with self-study materials prepared in a didactic manner, as well as with exercises and practical courses at the university. Finally, there is also a full-time study programme in Gütersloh with the Data Science master of applied research.

Research that's close to practice

On the basis of the data, CfADS also conducts research on plant optimisation: "For example, we look at how long an order takes to pass through the entire plant," says Reusch. "From the data collected from this, we can determine at which station or in which production step time is lost." The aim is to gain insights into how clever planning can reduce production time or, for example, energy consumption.

Some of the research projects will also be implemented in collaborative projects with companies, including Miele and Bio-Circle Surface Technology GmbH: "We give feedback on the results of the processed and evaluated production data to the collaborating companies," reports Reusch. In future, the CfADS team also plans to feed algorithms into the plant. These algorithms are the end result of the various problems treated in the research projects. Reusch: "By means of the algorithms, the results of our projects can be tested at another plant and thus be generalised – thus we do not create individual solutions, but enable companies with similar questions to also derive added value from our research."

Additional benefits for students

Apart from research and the collaborating companies, students of the work-integrated study programmes also benefit from the IoT factory: "If the pandemic hadn't happened, a lot more students would have gained practical insights into the production of an automated plant," says Henrik Viebrock, research associate at CfADS. However, as students are not often able to be on site due to the pandemic, direct interaction with the facility is rarely possible. "That's why we developed a data interface so that students who are not physically present can still use the various data sources of the IoT factory," says Viebrock.

Despite the pandemic, it is already possible to write a term paper or thesis on the IoT factory. Moreover, students are currently creating a so-called digital twin of the plant, a 100% copy of the IoT factory in the world of data. "As soon as the digital twin is finished, the students can follow the steps of the system live from home on their PCs. Of course, teaching especially benefits from that," says Viebrock.

But there is also a major advantage for researchers, says the research associate: "For example, if I want to see how damage to a robot affects the process, I can simulate the fault with the digital twin and don't have to cause any real damage to the system. This will be expensive in the long term."

Faculty of
Engineering and Mathematics

Where are the humans in all this?

In the future, the participants also want to integrate a human-centred smart service lab into the IoT factory. For this purpose, two manual workstations are installed in the plant. "This way we can investigate how an automated plant from industrial production interacts with people," explains Reusch. In particular, this involves the development of data-driven services that support the work of employees at the plant and, for example, recognise whether a person needs help. "Humans continue to be part of the production process in large industrial companies and particularly work in individualised processes that are difficult to automate," says Reusch. If the human-centred smart service lab is integrated into the IoT factory, a holistic Industrial Internet of Things (IIoT) platform is created. Reusch: "This will be exciting, as it will open up further research fields that we will be working on here on Gütersloh Campus."

IoT at Gütersloh Campus

Prof. Dr. Pascal Reusch and his colleagues established the plant together.

Faculty of
Engineering and Mathematics

IoT at Gütersloh Campus

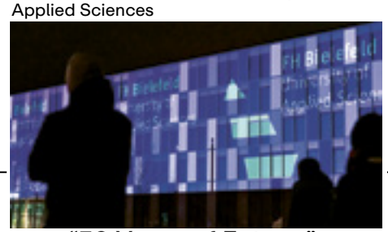
January

January 2021 – Faculty of Minden Campus

Practical despite the pandemic

Measurement technology in practice: prospective engineers from the Minden Campus of Bielefeld UAS turn their home into a laboratory.

January 2021 – Bielefeld University of Applied Sciences



"50 Years of Future:" Bielefeld University of Applied Sciences starts to celebrate anniversary year – and looks to the future

Bielefeld University of Applied Sciences was founded in 1971. Half a century later, nearly 11,000 people study at the Bielefeld, Minden and Gütersloh campuses. An elaborate illumination on the façade of the main building marks the beginning of the anniversary year in January.

21 January 2021 – Faculty of Engineering and Mathematics

Digital Visiting Professorship

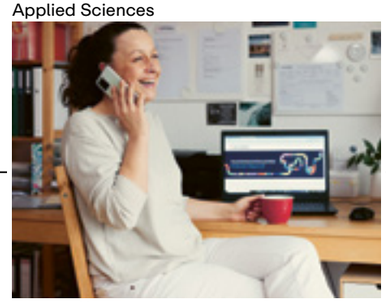
Successful project conclusion of Prof. Dr. Franz Feyerabend with Chinese students.

January 2021 – Faculty of Social Sciences

Loneliness is harmful to health

The university's project "(Gem-)einsam durch Corona" (Facing Covid Together and Alone) launches website with collection of ideas against feelings of loneliness.

February 2021 – Bielefeld University of Applied Sciences



Googled luck – and found it

Social educator Silke Hiltenkamp founds "Praveller" portal for personality development. She received support from the Campus OWL project "Innovationslabor OWL," whose work is now being continued by the Center for Entrepreneurship (CFE) of Bielefeld UAS.

8 February 2021 – Faculty of Engineering and Mathematics

Record for BIfAM of Bielefeld UAS

The Bielefeld Institute for Applied Materials Research (BIfAM) is more than doubling its funding to 2.7 million euros in 2020.

22 February 2021 – Faculty of Design

Different together

The digital exhibition "Gemeinsam verschieden" (Different together) gives an insight into semester and graduation projects from the Faculty of Design that explore diversity in an artistic way: www.gemeinsamverschieden.de

24 February 2021 – Bielefeld University of Applied Sciences

Enabling refugee engineers to pursue a career in Germany

Bielefeld UAS and TH OWL improve engineers' career opportunities with the project Qualify-ING. In a one-year programme, participants acquire a certificate testifying that their degree is comparable to the German engineering degree.

March

March 2021 – Faculty of Design

New deans at the Faculty of Design of Bielefeld UAS

Dean Prof. Dirk Fütterer and Vice Dean Prof. Patricia Stolz want to enhance the faculty's profile and focus more on interdisciplinary and digital content.

Faculty 2

Bielefeld University of Applied Sciences

10 March 2021 – Faculty of Engineering and Mathematics

AI as a colleague? Federal Minister Heil awards prize to research concept that aims to improve cooperation between humans and AI

The increased use of artificial intelligence in the working world brings with it new challenges. At Bielefeld UAS, Prof. Dr. Thomas Süße investigates how chronic or acute stress in human-AI interaction can be avoided in the long term. His project idea was awarded a prize by the Federal Ministry of Labour and Social Affairs.

March 2021 – Bielefeld University of Applied Sciences

Milestone reached: Gütersloh Campus now enshrined in law

Enshrined in law: The parliament of NRW has resolved on sustainably developing Bielefeld UAS's Gütersloh Campus.

From left: Raphael Tigges, Member of the Parliament of NRW for Kreis Gütersloh, deputy chair of the Scientific Committee in the parliament of NRW, Sven-Georg Adenauer, head of the district authority of Gütersloh, André Kuper, Member of the Parliament of NRW for Kreis Gütersloh and president of the parliament of NRW, Prof. Dr. Ingeborg Schramm-Wölk, President of Bielefeld UAS, Hans Beckhoff, Owner of Beckhoff Automation GmbH & Co. KG, Henning Matthes, alderman of the City of Gütersloh for Families, Youth, School, Social Affairs and Sports.

March 2021 – Faculty of Social Sciences

"More and more families with children are no longer able to cope with the burden of lockdown:" Prof. Dr. Helen Knauf calls for tests and vaccinations so that schools and daycare centres can open safely

The family researcher from Bielefeld UAS recommends systematic testing of teachers, carers and pupils so that going to school and daycare centres as well as leisure and sports events can take place again for children and young people despite the pandemic.

17 March 2021 – Faculty of Engineering and Mathematics

Together against climate change: Bielefeld Education Day with international climate conference for pupils

The 'KlimaWoche Bielefeld' association and Bielefeld UAS organized the Education Day online. The participants, including actor and environmental activist Hannes Jaenicke and "Fridays for Future" activist Pauline Brünger, demand rapid action for climate protection at all levels of society.

March 2021 – Faculty of Health

New duo heads the Faculty of Health of Bielefeld UAS

Dean Prof. Dr. Michaela Brause and Vice Dean Prof. Dr. Änne-Dörte Latteck aim to expand their study programmes and the faculty's digitalisation and internationalisation.

April

March 2021 – Faculty of Minden Campus

Interdisciplinary student seminar rethinks school architecture

Master students at Bielefeld UAS develop innovative designs for a future-proof school building using the example of Primus-Schule Minden.

March 2021 – Faculty of Social Sciences

Renegotiating gender norms through clichéfree children's books

Prof. Dr. Erika Schulze from the Faculty of Social Sciences investigates the topic of gender (constructions) on the basis of children's books. On 24 March she holds the online lecture "Nicht nur Lena, Max und Bastian!? Ein diversitätsbewusster und rassismuskritischer Blick auf aktuelle Bilderbücher" (Not only Lena, Max and Bastian!? A diversity-conscious and racism-critical look at current picture books) in the context of Bielefeld's action weeks against racism.

14 April 2021 – Faculty of Engineering and Mathematics

Universities, companies and politics get Rail-Campus OWL on track

Memorandum of Understanding signed at digital parliamentary evening: The creation of a railway technology innovation network for training and research on Minden Campus was given green light.

April 2021 – Bielefeld University of Applied Sciences

BRIC initiative: Think tank for OWL as a catalyst for research cooperation

Bielefeld University and Bielefeld UAS receive funding for the establishment of a think tank on Bielefeld Campus.

The think tank is intended to provide companies and spin-outs with low-level access to top-level research on Bielefeld Campus and to innovative collaborations with Bielefeld researchers.

April 2021 – Faculty of Engineering and Mathematics

Cooling with magnets to reduce carbon emissions: How can the so-called MC effect be used for energy-saving and environmentally friendly cooling technology?

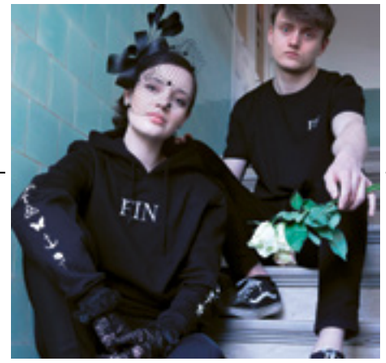
Less toxic, less harmful to the climate and much more efficient than conventional compressor technology: Bielefeld UAS and Bielefeld University jointly research alloys that are to form the basis for future-oriented cooling systems. For this purpose, materials sciences, physics and computer science work hand in hand in the "DiProMag" project. The research focuses on Heusler compounds and the magnetocaloric effect (MC effect).

27 April 2021 – Bielefeld University of Applied Sciences

The world as a virtual guest: Bielefeld UAS hosts the third International Week

More than 60 guests from 30 countries enrich teaching and intercultural exchange in more than 80 lectures, workshops, courses and events in Bielefeld, Minden and Gütersloh.

20 May 2021 – Faculty of Design



A provocatively critical commentary on the present – the university's online exhibition 2021

Graduates of the Faculty of Design of Bielefeld UAS present their works on a digital platform in an experimental and interdisciplinary way.

25–29 May 2021 – Bielefeld University of Applied Sciences

Virtual open day: Information week at Bielefeld UAS

Bielefeld University of Applied Sciences informs interested students about its wide range of courses online. More than 120 digital information events, trial lectures, lab tours and podcasts give an insight into the study programmes, inform about the financing of studies or invite interested parties to talk to students.

May 2021 – Bielefeld University of Applied Sciences

HR initiative at Bielefeld UAS: nine million euros for "Career@BI – Center for Cooperation and Career Management"

Bielefeld UAS successfully competed in the federal government-state programme "FH Personal:" up to 48 new university lecturers will be employed by 2027 to qualify them for professorship at a university of applied sciences.

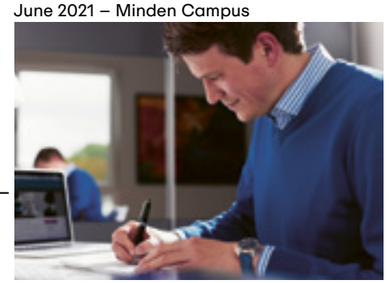
22 June 2021 – Bielefeld University of Applied Sciences

Bielefeld UAS certified family-friendly university once more

For the fourth time in a row, Bielefeld UAS has been awarded the certificate of the "audit familiengerechte hochschule." The award goes hand in hand with numerous measures to improve the compatibility of studies, work and family life.

June

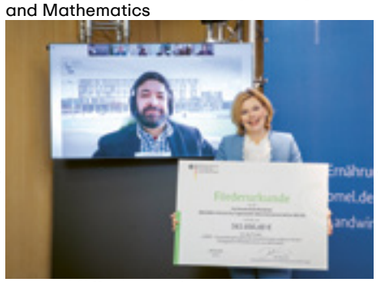
June 2021 – Minden Campus



Dr. Philip Wette assumes endowed professorship on Minden Campus

Through its endowment, Minden's economy enables creation of the "Integrated Technology and System Development" master's degree study.

20 April 2021 – Faculty of Engineering and Mathematics



Klöckner funds biological crop protection

Federal Minister of Agriculture Julia Klöckner presents Prof. Dr. Anant Patel with the grant decision amounting to 843,000 euros. In the joint "Hope" project under the direction of Bielefeld UAS, formulations for the biological crop protection of blueberries are being developed.

April 2021 – Faculty of Engineering and Mathematics

10 years of Mieletec: Bielefeld UAS and household appliance manufacturer celebrate anniversary

Applied science "par excellence:" For a decade now, Bielefeld UAS has been conducting experiments and simulations on behalf of Miele in the Mieletec laboratory – research and teaching benefit from its practical orientation, and Miele underpins its technological leadership. At an online event, the partners recognise the good cooperation.

May

3 May 2021 – Faculty of Business

Volunteer work and top performance in studies: student Mihaela Kalcheva receives the DAAD Prize

The Bulgarian student has been enrolled in Business Psychology at Bielefeld UAS since 2018. The prize recognises the achievements of international students at German universities.

May 2021 – Faculty of Business

Digital module of Bielefeld UAS and TDU Istanbul now part of regular studies

In the master's degree study "International Business Management," professors from Germany and Turkey use a varied online format to train the next generation of management staff – a milestone for the internationalisation and digitalisation of the university.

May 2021 – Faculty of Engineering and Mathematics

Noise: insect inspires ISyM researchers from Bielefeld UAS

The "MOSES" project uses insights from the animal world and develops algorithms from them, which form the basis for new methods to reduce acoustic pollution.

July

Faculty 3

Bielefeld University of Applied Sciences

Faculty 4

Faculty 5

Faculty 6

July 2021 – Bielefeld University of Applied Sciences

Prof. Dr. Bernd Kriegesmann new chair of the State Rectors' Conference, Prof. Dr. Ingeborg Schramm-Wölk new deputy

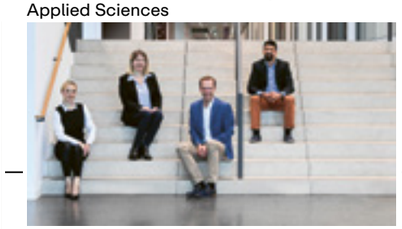
The State Rectors' Conference elected the president of the Westphalian University of Applied Sciences, Prof. Dr. Bernd Kriegesmann, as its new chair. Prof. Dr. Ingeborg Schramm-Wölk, President of Bielefeld University of Applied Sciences, becomes his deputy.

July 2021 – Bielefeld University of Applied Sciences

Bielefeld UAS mourns Prof. Dr. rer. nat. Dr. h. c. Heinrich Ostholt

The former rector looked back on a successful career as a researcher and university manager – the university has him to thank for, among other things, the expansion of the range of subjects and great successes in obtaining third-party funds.

July 2021 – Bielefeld University of Applied Sciences



Newly designed Executive Board at Bielefeld UAS

Following the confirmation by the university election assembly, the Executive Board of Bielefeld UAS headed by Prof. Dr. Ingeborg Schramm-Wölk has been reorganised – the newly founded areas of responsibility "International Affairs and Digitalisation" as well as "Sustainability, People & Culture" enhance the university's profile.

From left: Vice Presidents Prof. Dr. Natalie Bartholomäus, Prof. Dr. Michaela Hoke, Prof. Dr. Ulrich Schäfermeier and Prof. Dr. Anant Patel.

July 2021 – Bielefeld University of Applied Sciences

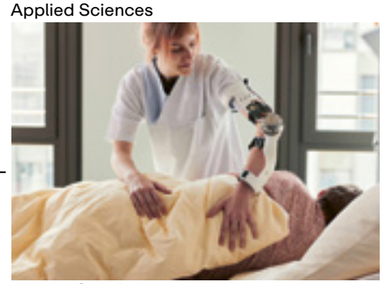
Universities of applied sciences in NRW celebrate their fiftieth anniversary with a digital ceremony

State Premier Armin Laschet and Science Minister Isabel Pfeiffer-Poensgen congratulate: universities for applied sciences are an enrichment for North Rhine-Westphalia as a research location.

Innovative, application-oriented, regionally anchored, dynamic – these associations are generally connected with universities of applied sciences (Hochschulen für Angewandte Wissenschaften, HAWs). For 50 years now, these practice-oriented universities have been enriching North Rhine-Westphalia as a research location. They were founded as "Fachhochschulen" in 1971, and today there are 16 state HAWs in the entire federal state, including Bielefeld University of Applied Sciences.

August

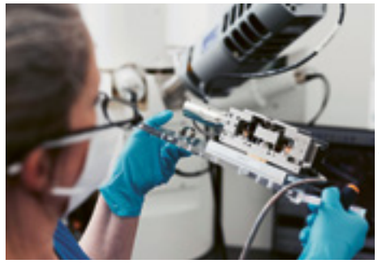
August 2021 – Bielefeld University of Applied Sciences



Assistance systems due to arrive in nursing practice

Over three years, Bielefeld UAS will receive around 2.8 million euros of funding for the research project "TransCareTech." Intelligent assistance systems for the provision of (health) care are to be tested in living labs.

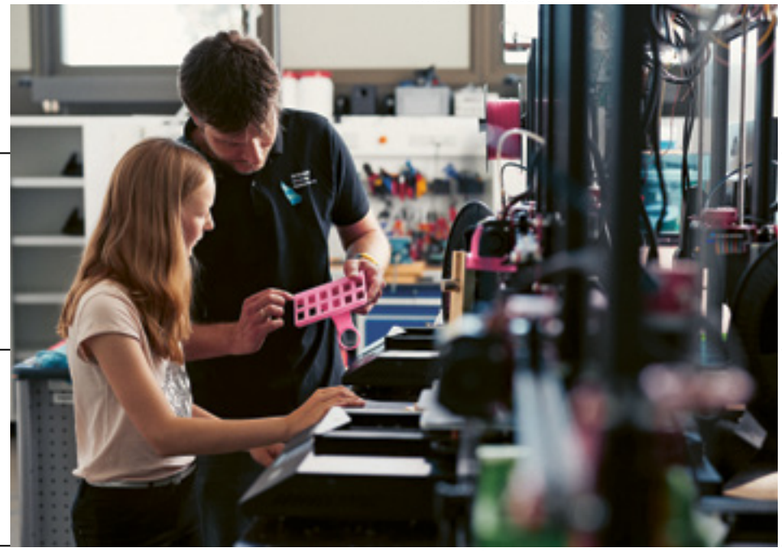
July 2021 – Faculty of Engineering and Mathematics



Precise microscope for high-resolution images and analyses

The novel scanning electron microscope is used in the material testing laboratory at Bielefeld UAS.

August 2021 – Faculty of Engineering and Mathematics



Play and fun go together with professional orientation: 10-year anniversary of the experiMINT pupils' laboratory of Bielefeld UAS

For a decade now, the laboratory has provided children and young people with practical insights into the world of engineering – even during the Covid-19 pandemic.

23 August 2021 – Faculty of Engineering and Mathematics

Successful waste collection campaign "FH Bielefeld räumt auf!"

Creating awareness for environmental protection and sustainability was the aim of the "FH Bielefeld räumt auf!" (Bielefeld UAS cleans up!) initiative. The Faculty of Engineering and Mathematics organised the event with the support of the city of Bielefeld's environmental services.

12 July 2021 – Faculty of Social Sciences

Teachers' health 4.0: Graduate of Bielefeld UAS receives award for her master thesis on digitalisation stress in schools

Dana Jarczyk investigated the health impact of media use in schools on teachers. Her master thesis contains highly topical hypotheses in times of the pandemic and received the first award of the Professional Association of German Sociologists.

3 September 2021 – Bielefeld University of Applied Sciences

Large investments in special buildings

Numerous architectural treasures are among the nearly 4,300 buildings supervised by the building and real-estate management of North Rhine-Westphalia (BLB.NRW). Two of these extraordinary buildings were visited by Lutz Lienenkämper (centre), Minister of Finance of North Rhine-Westphalia and responsible for BLB.NRW, and by BLB.NRW's CEO Gabriele Willems (right). They visited Bielefeld UAS and Detmold University of Music.

September 2021 – Faculty of Design

Neo.Fashion: Graduate of Bielefeld UAS receives award at Berlin Fashion Week

More than 80 graduates from 13 universities from all over Germany presented themselves for the fifth edition of Neo.Fashion. Aylin Tomta, a graduate of Bielefeld UAS, receives the Neo. Fashion Award in the category "Best Craftsmanship."

20 September 2021 – Bielefeld University of Applied Sciences

Back on campus in the winter semester

After three digital semesters, Bielefeld UAS starts a winter semester that resumes classroom teaching on 20 September. More than 1,900 first-year students begin their studies in one of 68 bachelor's and master's degree studies in Bielefeld, Minden and Gütersloh.

September 2021 – Minden Campus

Software solution for increasing the efficiency of photovoltaic systems

Faults in photovoltaic systems that are difficult to localise are the efficiency killer for this sustainable form of power generation and a barrier to energy conversion – a problem for which a research team led by project lead Prof. Grit Behrens at the Minden Campus of Bielefeld UAS wants to find a cross-manufacturer solution.

23 September 2021 – Bielefeld University of Applied Sciences

Bielefeld UAS celebrates anniversary reception: Retrospectives and perspective on "50 Years of Future"

The digital anniversary reception's focus lay on looking to the future. More than 600 national and international guests had registered for the diverse digital programme with discussion panels on the university's most important topics, the presentation of the retrofuturistic anniversary publication, a tour through a virtual exhibition and much more via livestream.

1 October 2021 – Bielefeld University of Applied Sciences

Art in a new location

NRW's Minister for Culture and Science inaugurates external sculptures by Morellet and Uhlmann at Bielefeld UAS. From left: Gabriele Willems (CEO of BLB.NRW), Isabel Pfeiffer-Poensgen (Minister for Culture and Science of the State of NRW), Prof. Dr. Ingeborg Schramm-Wölk (President of Bielefeld University of Applied Sciences) in front of the sculpture "Sphères Trames" by François Morellet.

October 2021 – Faculty of Engineering and Mathematics

Green and smart: intelligent charging stations for electric fleet successfully tested

In the "Power2Load" project, researchers at Bielefeld UAS are developing a cost-effective, sustainable and app-based e-charging management system for companies. Up to six electric vehicles can be charged at the same time with green power at one charging station.

October 2021 – Faculty of Business

How do I manage a hospital?

Business game at Bielefeld UAS: Students from the faculties of Business and Health budget a hospital together. And the teaching team is also interdisciplinary, including external consulting.

September 2021 – Faculty of Health

Skills lab for midwives is set up at the university

Baby dolls, models of pelvises and placentas, baby equipment – the innovative learning spaces for the new study programme Midwifery are filling up. And these are signs that scientific findings can be incorporated more directly into training in the future.

September 2021 – Faculty of Health

First year of the midwife studies starts

The first 46 aspiring midwives have begun their bachelor's degree studies at Bielefeld University of Applied Sciences.

Faculty 3

September

Faculty 4

Faculty 5

Bielefeld University of Applied Sciences

October

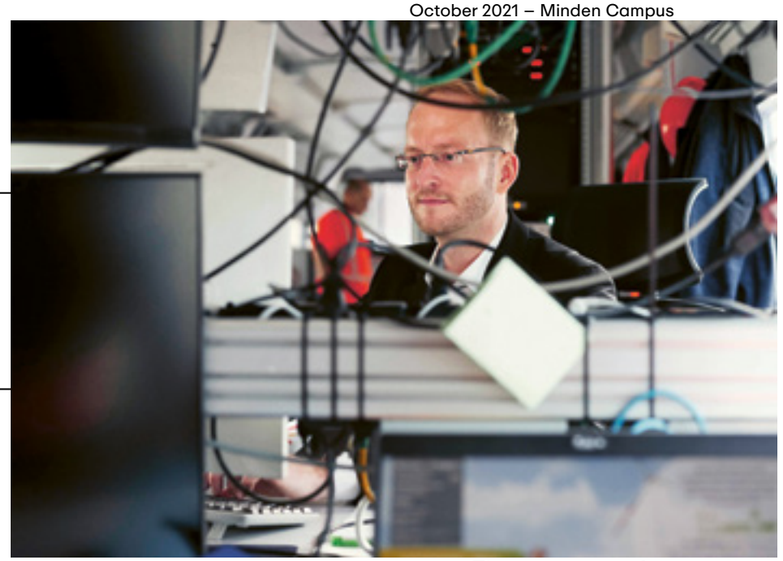
October 2021 – Bielefeld University of Applied Sciences

Commitment Award: Jury impressed by the wide range of personal efforts

Maren Elisabeth Winter and Jan Philipp Zimmermann received this year's Commitment Award from "Fördergesellschaft der FH Bielefeld" (Society for the Promotion of Bielefeld UAS). The award, endowed with 1,000 euros, was awarded to two students for the first time due to the university's 50-year anniversary.

096

October 2021 – Minden Campus



First course of the RailCampus OWL started

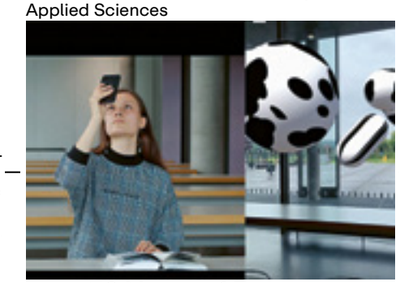
Lecturer Christian Albers, project manager at DB Systemtechnik, offers students of Bielefeld UAS, TH OWL and the Universities of Bielefeld and Paderborn a deep insight into the railway system in the current winter semester.

October 2021 – Faculty of Health

New collaborative study programmes in Nursing and Therapy at Bielefeld UAS are launched

Those who learn nursing, occupational therapy, speech therapy or physiotherapy can also study at the same time: The collaborative study model combines professional qualification with a bachelor's degree. To this end, Bielefeld UAS works together closely with practical partners in the region. The students achieve their professional registration and the academic degree in a shorter period of time.

October 2021 – Bielefeld University of Applied Sciences



50 Years of Future: digital exhibition with Augmented Reality elements for the university's anniversary year

Using their own smartphone, visitors can dive into the interactive exhibition on the past and future of the university, which was developed by students and teachers of the Faculty of Design, via a website or the anniversary publication.

October 2021 – Faculty of Business

New Vice Dean at the Faculty of Business

Prof. Dr. Peter Hartel is the new Vice Dean at the Faculty of Business. He succeeds Prof. Dr. Natalie Bartholomäus, who has been a member of the Executive Board as Vice President Sustainability, People & Culture since the beginning of the winter semester.

16 November 2021 – Bielefeld University of Applied Sciences

Prof. Barbara Schwarze has been awarded the Order of Merit of the Federal Republic of Germany for her quest for equal opportunities

The co-founder and Executive Director of the Competence Center Technology-Diversity-Equal Opportunities e. V., an affiliated institute of Bielefeld University of Applied Sciences, is co-initiator of the nationwide 'Girls' Day' and may now wear the Order of Merit with ribbon.

November 2021 – Faculty of Social Sciences

Collaboration of Bielefeld UAS and the Municipal Integration Centre has been started

The collaboration between the Faculty of Social Sciences of Bielefeld UAS and the Municipal Integration Centre creates the strategic framework to link science with practice.

From left: Brigitte Mundt from the Municipal Integration Centre, Ingo Nürnberger, head of Bielefeld's department of social services, Prof. Dr. Ingeborg Schramm-Wölk, President of Bielefeld UAS, and Prof. Dr. Michael Stricker, Dean of the Faculty of Social Sciences

November

19 November 2021 – Bielefeld University of Applied Sciences

Digitalisation Congress: many talk about it, few know its actual dimension – Bielefeld UAS opens up the “black box” digitalisation

In more than 70 lectures, workshops and a #FutureSlam at the congress “Digital Innovations for Sustainable Development,” various disciplines and research areas were asked: have we really understood digitalisation correctly? And how can we use it as a helpful tool in our living and working environments?

November 2021 – Faculty of Engineering and Mathematics

Electricity from textiles

A textile, non-toxic dye solar cell should make it possible: the fabric of awnings, parasols, backpacks or tents may soon be able to produce energy that can be used to charge or operate smaller electronic devices. Research is being carried out in the “SolarFlex” project at Bielefeld UAS.

November 2021 – Faculty of Social Sciences

Bielefeld UAS works on a research project against anti-Semitism on the Internet

With the ‘RESPOND!’ project, scientists want to empower all young people to respond to anti-Semitic hate speech in social media in a media-competent manner. In this project, Bielefeld University of Applied Sciences, Touro College Berlin and the University of Potsdam cooperate closely with the Jewish Community of Berlin.

December 2021 – Faculty of Design

What remained of socialism: Roman Bezjak photographs Soviet buildings in Tashkent

In Tashkent, Roman Bezjak, professor of photography at Bielefeld UAS and former dean of the Faculty of Design, found an architecture ensemble of the Soviet era that’s unique in the world – a manifestation of a utopia with oriental decoration, captured in his exhibition “Archeology of an Era.”

December 2021 – Faculty of Engineering and Mathematics

Students of Bielefeld UAS surprise with a video on the “DA VINCI 500” exhibition

The bachelor’s degree study in Industrial Engineering and Management is rarely concerned with screenplays, location scouting and post-production. Challenge accepted, said Christina Emthaus, Laurentz Rode, Nico Wittler and Alieren Yildirim, and produced the short film “Leonardo da Vinci yesterday and today.”

December 2021 – Bielefeld University of Applied Sciences

International digital teaching opens up new perspectives

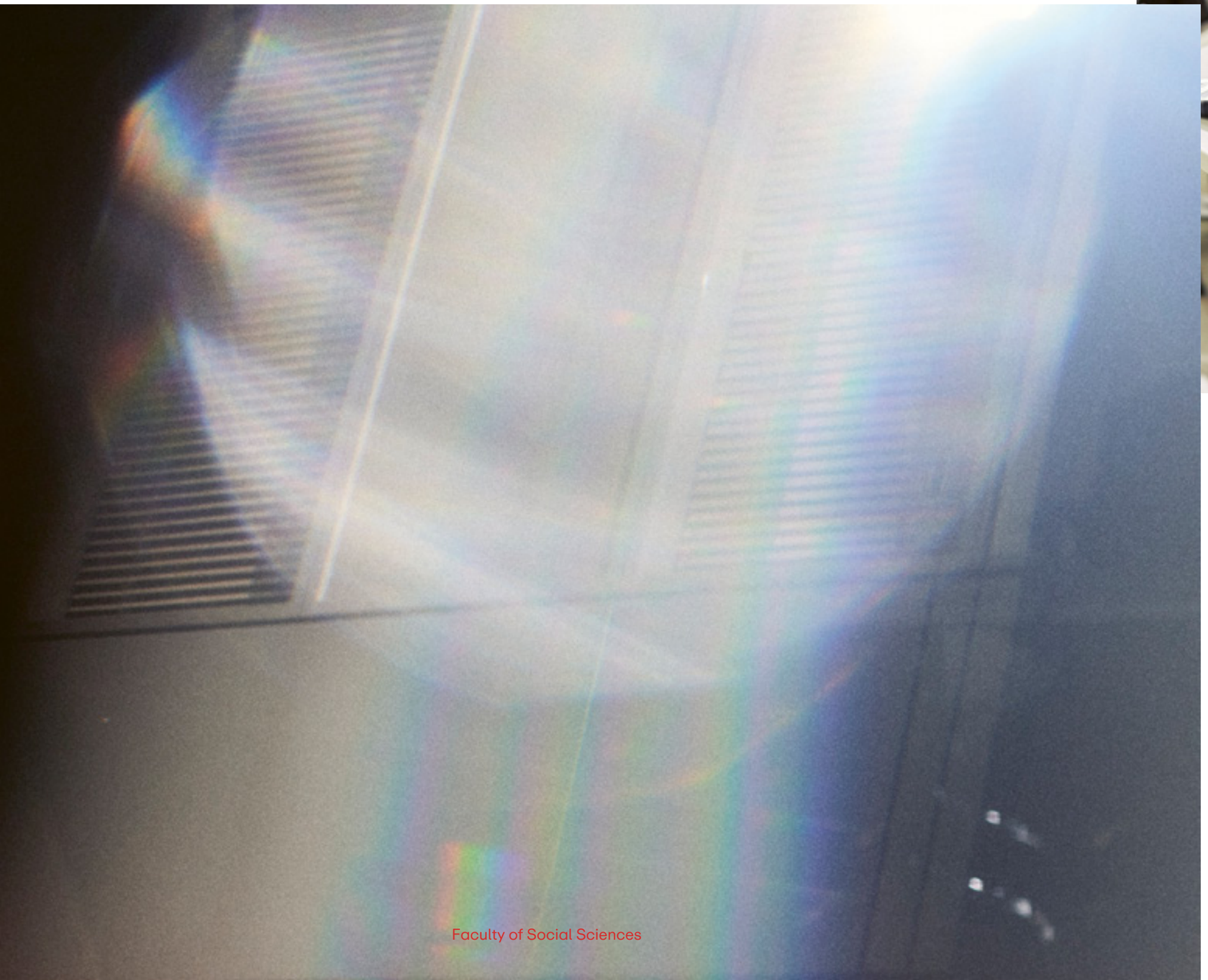
As part of the partnership between four universities in East Westphalia-Lippe and the Alberta region, collaborative online teaching and learning formats were successfully tested.

December 2021 – Faculty of Social Sciences

Jobcenter and Bielefeld UAS offer innovative support for people with addiction and mental illnesses

In the joint project “BEA” of four jobcenters in OWL and Bielefeld UAS, people with addiction and mental illnesses are supported by peers with similar experiences. The aim is to strengthen the participants in their current situation in order to be able to participate more in social life in the future.

Faculty of Social Sciences



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The Faculty of Social Sciences at Bielefeld University of Applied Sciences offers the bachelor's degree studies "Social Work" and "(Early) Childhood Education" as well as the master's degree study "Social Transformation Studies." In all study programmes, teaching is highly interdisciplinary and has a strong dialogue- and project-oriented structure, so that the faculty's approximately 1,600 students not only absorb, but also actively contribute.

FOLD HERE

Social responsibility: Prof. Dr. Michael Stricker, Dean of the Faculty of Social Sciences, and Vice Dean Prof. Dr. Erika Schulze.

The deans of the Faculty of Social Sciences

- … on the speed of change

Social work as well as (early) childhood education show the effects of social changes continuously and on a daily basis – for example, pluralisation, migration and globalisation processes, change and de-limitation of the work environment or the growing digitalisation. These changes and the way we handle them are dealt with in all our study programmes. We do not observe an increase in the frequency of changes, but in some places an increase in the speed – although not to a dramatic extent.

- … on the faculty's response to "Constant Change"

Taking up current debates and challenges is an integral part of teaching in all our study programmes and in the numerous research projects of our faculty. The master's degree study "Social Transformation Studies" explicitly takes up the interwoven social, ecological, economic, political, cultural and technological developments as well as the crises associated and challenges with them and looks for ways of tackling and shaping them in a sustainable, future-proof manner.

- … on the influence of constant change and disruption

We are seeing more constant change. An exception is the Covid-19 pandemic, which we experienced as a disruptive change with its immediate and drastic consequences. On site, this could be felt in teaching as well as in the practical fields of our study programmes and research projects.

- … on the Covid-19 pandemic as an accelerator for digitalisation

Above all, the pandemic led to a digitalisation boost in the faculty. While online formats had only been available in isolated cases up to that time, due to the pandemic, they had to be implemented quickly and comprehensively. Teaching staff and students alike quickly acquired the necessary skills – skills that will continue to be important in the future and will be part of everyday life.

- … on the 50-year history of Bielefeld UAS as an expression of "Constant Change"

The history of constant change at the faculty is reflected in its study programmes. In addition to the most recent study programme "Social Transformation Studies," the study programme "(Early) Childhood Education," which started in 2007, also addresses social transformation and challenges. It is a response to the increasing importance of early childhood education and institutions at the elementary level in the course of the PISA debate and the overdue completion of an academic education in this field.

- … on their most important strategic goal

We hope that society will be able to meet the existing and future challenges in a participatory and inclusive manner, i.e. in such a way that as many people as possible are "taken along." For our faculty, the study and research content in particular, this includes the desire to identify at which points discussions are initiated, at which points content has to be adapted and processes changed. To this end, we will seek places of exchange, actively engage in dialogue and try to reflect on decisions in a constructive and critical manner at all times.


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Innovative peer concept for addicts

Faculty of Social Sciences

In the joint project “BEA” of four jobcenters in OWL and the Faculty of Social Sciences, people with addiction and mental illnesses are supported by peers with similar experiences. The aim is to strengthen the participants in their current situation in order to be able to participate more in social life in the future.

Jobcenters and employment agencies in Germany offer a wide range of services that make it easier for job seekers to return to work: The spectrum is wide, ranging from advanced training to individual consultation. Although the professional offer is varied, it often misses the needs of a group: Job seekers and recipients of Hartz IV benefits with mental illnesses or addictions usually feel overwhelmed by what the professionals from the authorities can offer them. There is no low-threshold offer that is tailored to their individual situations.

Individual advice from peers

The “BEA” project aims to remedy this situation: Through the inclusion of so-called peer support, people with mental illnesses or addictions who receive Hartz IV benefits through the jobcenter are individually advised and supported. These peers, called “BEA companions” in the project, have experienced a mental illness or addiction themselves and are qualified to support the participants in the context of the project.

Through a detailed evaluation of the project, a concept is to be developed that allows jobcenters to access people with mental illnesses or addictions beyond the project, in order to support them in pursuing their own life goals and career prospects. The project idea was developed by the four jobcenters in Bielefeld, Herford, Höxter and Minden-Lübbecke in East Westphalia-Lippe (OWL), the Faculty of Social Sciences and relevant associations of affected people. The project is funded by the Federal Ministry of Labour and Social Affairs (BMAS) as part of the “rehapro – Innovative Wege zur Teilhabe am Arbeitsleben” (Innovative Ways to Participate in Working Life) funding line. The project started in December 2019, runs for a total of five years and has a funding volume of 11 million euros.

Key aspect: equal footing

“Only when individual needs are prioritised can individual living conditions be improved” says Prof. Dr. Gudrun Dobslaw of the Faculty of Social Sciences, explaining the necessity of the project. She leads the project of the four-person team that also includes Prof. Dr. Michael Stricker, Johannes Wegner and Klara Lammers. “The aim of the project is therefore to provide those affected with trustworthy dialogue partners and thereby improve their individual living conditions – because only then can further measures towards job placement and participation in social life be conceivable at all.”

Klara Lammers, research associate in the project, adds: “Implementing a peer approach is an innovation in the context of jobcenters. In other fields of action, for example in psychiatric contexts, such approaches have been practised successfully for a long time. The key aspects are the exchange on equal footing, the voluntary participation, a special relationship of trust between peers and participants and a kind of role model function of the peers by bringing in their own life story, which has developed into a positive one.”

In the “BEA” project, people with addiction and mental illnesses are supported by peers with similar experiences. These direct contact persons on equal footing are to help participants take part in social life again in the future.

Take away fears and give hope

One of the BEA companions in the project is Katja Kluge. She slipped into alcohol addiction as a young adult, but only in retrospect could she classify it as such. In 2001, her addiction worsened due to a stroke of fate. After more than ten years, she managed to overcome her addiction by detoxifying and a subsequent rehabilitation stay. “I want to take away fear from people and give them hope through my own experiences,” she says, explaining her motivation to participate in the BEA project. “My current participant and I often meet at her home to talk about how she is doing and how her past days have gone. After that, we go walking together because it is important for her to go out once a week and get some exercise. In doing so, I try to direct her attention to what’s beautiful in life. That works pretty well,” says the 49-year-old from East Westphalia. “In this amicable context, we can then also talk about what she used to enjoy, what tasks she was taken up in and what her dream job of the future would be.”

Faculty of Social Sciences

“Implementing a peer approach is an innovation in the context of jobcenters.” – Klara Lammers

Self-help group saved his life

BEA companion Klaus Schöne, too, has made experiences with addiction. He was addicted to alcohol, drugs and medications for over 30 years. He was lucky to find a suitable self-help group in which he felt understood and safe. “There was always someone there when I was doing bad. Today I can say: these people saved my life,” says the 62-year-old. That is why he now wants to be there for others. At present, he attends to four participants in the project – his personal maximum in order to be able to meet the wishes and needs of the individual participants.

During the time of his own acute addiction, Klaus Schöne would have liked to be accompanied by a BEA companion. Prior to his participation in the BEA project, he was already working as an advisor in self-help groups, but feels that being a BEA companion is much more intensive. The challenge he sees in BEA support is building trust between participants and the BEA companions. “It takes time, but it’s worth it. To have a direct, personal contact person on an equal footing outside the authorities can create a basis of trust that makes a huge difference. For example, I recently accompanied a participant to an appointment with the debt advice service – a date that he has been putting off for a long time. It gave him confidence that I was with him. It is only through such steps that those affected can in the long term really participate in social life again.”

In addition to the BEA companions and the research team of the Faculty of Social Sciences, employees of the jobcenters in OWL are also key players in the project. They act as so-called process managers. In this function, they are responsible for both acquisition and mediation between BEA companions and participants. Moreover, they are persons of trust for both sides – especially when cooperation may not work so well. They do not only meet with the participants on site in the jobcenter, but also travel to meeting points nearby. In this way, the process managers get an authentic impression of the participants’ immediate living environments and their current life situations.

Innovative peer concept for addicts

The acquisition of BEA companions often takes place via self-help groups, their networks, word-of-mouth or through BEA companions who are already active. The first contact between BEA companions and participants is usually established during a joint meeting with the process managers. Special rooms have been set up for this purpose, including in Bielefeld’s Feilenstraße, not far from Bielefeld’s main railway station and the jobcenter: comfortable armchairs, a few plants and warm light create a relaxed atmosphere away from the official context.

How exactly the cooperation looks is very individual. “Some people meet to walk and talk, others help with issues concerning authorities such as filling out applications for benefits,” explains process manager Heike Klösel from the Bielefeld jobcenter. “Some BEA companions also use their own network, for example if they have been involved in a self-help group for a long time. I remember that a participant who never dared to join a self-help group eventually went there with the support of his BEA companion.”

The focus is on the human being

The one-to-one assistance and the consultation process that the participants control themselves – these are precisely the reasons for which BEA companion Katja Kluge immediately applied for the project when she learned about it via the association freiwillige Suchthilfe Bielefeld e. V.: “When it comes to being a BEA companion, the people and their needs take priority. You can really take your time in dealing with the participants. Here, the focus is on the human being, not on job placements.”

“We strive to cooperate on an equal footing with all parties involved without covering up existing differences – and that’s certainly very special,” stresses Heike Klösel. Continuous reflection on whether and what is going well is essential for the success of the project. There are recurring group supervisions for this – both for the BEA companions and for the process managers. In addition, BEA companions and process managers hold regular cooperative case consultations in which they jointly look for solutions. The university’s project team then collects information through regular group discussions, individual interviews and questionnaires. The BEA companions and process managers are actively involved in the evaluation, so that interim results can be reflected back to those involved in the ongoing process.

The scientific evaluation is based on two levels here: first, possible effects on the participants’ opportunities for participation are determined. Then, another focus is on looking at the effects of the new consulting approach on organisational structures and processes in the jobcenters that take part. To this end, interviews are conducted with employees in the jobcenters’ regular case management in order to enable comparisons between the advisory settings.

Illness as a resource

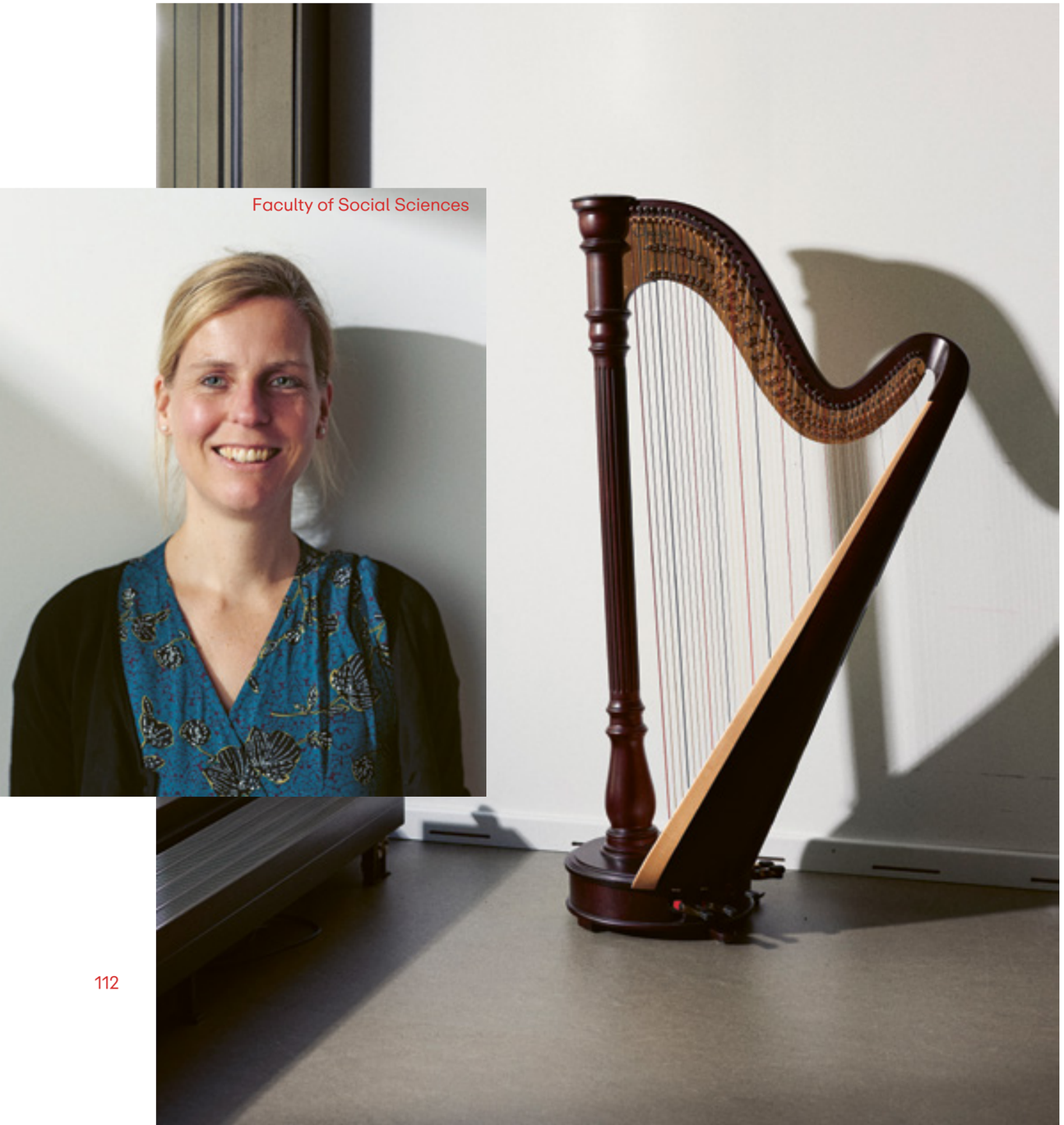
With regard to the social relevance of the project, Klara Lammers explains: “The experience of a mental illness or addiction is not included in the BEA project as a deficit, but as a resource in the support process. The project therefore also reflects social attitudes towards addiction and mental illnesses and associated stigmatising processes.” This is why the project not only offers support for those directly affected, but also sets a social tone.

“To have a direct, personal contact person on an equal footing outside the authorities can create a basis of trust that makes a huge difference.” – Klaus Schöne

“I want to take away fear and give hope to people through my own experiences.” – Katja Kluge.

New certificate of Bielefeld UAS: there's "music" in social sciences

Prof. Dr. Juliane Gerland has been teaching at Bielefeld UAS since 2018 and is head of the musical education qualification area.



Faculty of Social Sciences

Four beats on the Bongo briefly set the beat and the entire room sounds: congas, rattles, headless tambourines, cajons. They all play in the same rhythm – and all with very simple movements! The drum beats can be felt throughout the body, the sounds are booming in the ear, the foot is rocking in time.

Even with simple means and without much previous knowledge, it is possible to make music together. This does not even require speaking the same language or having the same physical conditions. Whether in youth work, in an institution for people with disabilities, at the daycare centre or working with refugees – music connects people, touches them and moves them. This is precisely why musical education is used in work with children, young people and adults.

During her voluntary social year, Rabea Beier has already integrated music offers at an elementary school into the daily school life of the children. She is one of the students at the Faculty of Social Sciences who have chosen the new "Musical Education" qualification area. She was the first graduate to be awarded her certificate by Prof. Dr. Juliane Gerland, head of the qualification area.

"I have been interested in music for a long time and had also thought about studying music," says the bachelor graduate in Social Work, who started to learn harp at the age of eight. "I very much enjoyed dealing with the subject of musical education intensively in the qualification area and was happy to receive a certificate for it in the end."

When people experience music

The students attend various music-related seminars in the qualification area. "The courses provide both knowledge and skills for musical and artistic practice. These include the methodical use of music or what it actually means when people experience music and interact with it," explains Professor Gerland.

In all this, the students learn something about themselves too: "This is a very important competence, as they are dependent on the ability to reflect themselves in their future professional life," says Gerland. She herself joined Bielefeld UAS in 2018 as a professor for music in childhood education and social fields of action. A year later, the new qualification area was launched under her direction.

New certificate of Bielefeld UAS

Group improvisation and drum circle

The lecturers of the Faculty of Social Sciences teach the students methods that they can use in practice: for example, game suggestions for a group improvisation or how a drum circle works. Gradually, students can compile a repertoire of musical pieces and methods for their own practice.

It is not necessary for students to be able to read music or to play an instrument like Rabea Beier. "The reasons why we make use of music in social work and childhood education cannot be read from sheet music anyway. By the way, reading music is not rocket science at all. If you want to learn it, you can achieve it in a short time," stresses Gerland.

Since the summer semester 2019, Prof. Dr. Juliane Gerland has been offering the "Musical Education" qualification area for bachelor students at the Faculty of Social Sciences. In this way, graduate Rabea Beier has learned how music can be used in social work.

Faculty of Social Sciences

New certificate of Bielefeld UAS

Trying different instruments

“However, students must be willing to try out different instruments and their voices during their studies,” says Gerland. “We have a lot of musical instruments at the university that offer low-threshold access. Those are the kinds of instruments that will later be used in professional practice.” Of course, the professor is also happy about all experienced musicians: “If someone is already very skilled with their instrument, it is of course musically very attractive and great for the seminar group.”

Unlike compulsory profiling at the end of the studies, the qualification areas for the bachelor’s degree studies in Social Work and (Early) Childhood Education are optional. Gerland: “A qualification area offers the opportunity to gain a professional profile on the one hand. On the other hand, students gain even more competences here than in regular studies. Of course, such a certificate also means more effort for the students, and everyone should be aware of this in advance.”

During her studies, student Rabea Beier also found that a certain degree of self-organisation is necessary to reconcile the “normal” studies with the qualification area. This is where it helps to exchange views with fellow students. “I have the impression that information on the new qualification area has slowly but surely got around. Communication among students is key in managing the organisational effort,” according to the 23-year-old’s assessment. In addition, Beier also worked as a tutor in courses in the qualification area, helping students in the lower semesters.

Although it is quite common that an artistic or musical focus can be placed in studies in social sciences, to receive a certificate upon graduation is something special nonetheless. Professor Gerland also places special importance on close links with research. She herself is currently doing research in the field of participation in musical education for young people and young adults with complex disabilities. “Here we are looking at how apps and other digital ways of making music can improve participation opportunities,” reports Gerland.

Research results on making music together

For Rabea Beier, the project of her bachelor thesis has given her the opportunity to publish in a scientific journal. She and the professor are now in contact for this beyond the degree.

Faculty of Social Sciences

“There are still some gaps in the field that Rabea Beier has explored. Her research results are therefore extremely valuable,” says Gerland. For her bachelor thesis, Beier investigated how a mother made music with her six-year-old son who lives with multiple disabilities. She came into contact with the family through an internship at a family support service in Bielefeld.

The social work graduate now enhances her knowledge precisely in this field. In the winter semester, she started a part-time master’s degree in music therapy in Friedensau, Saxony-Anhalt. At the same time, she works in a daycare centre where children with and without disabilities are looked after together. “And the daycare centre has an artistic-musical focus, which is a great fit,” says Beier.

“I very much enjoyed dealing with the subject of musical education intensively in the qualification area and was happy to receive a certificate for it in the end.” – Rabea Beier

New certificate of Bielefeld UAS

Faculty of Business

Faculty of Business

The Faculty of Business offers around 3,160 students an attractive range of 22 study programmes. The range of subjects is interdisciplinary and internationally oriented and includes business administration, international management, computer science, psychology, law.

The deans of the Faculty of Business

- … on the speed of change

Constant change and the permanent shift of legal regulations, social requirements, the needs of all stakeholders such as students, companies, etc. requires a high frequency of changes and speed in implementing them.

- … on the faculty's response to "Constant Change"

The Faculty of Business is in continuous development, especially in teaching and research. The adaptability and special agility of the Faculty of Business with its many lecturers, employees and students is very high and very important. Topics like internationality, digitalisation and sustainability have been and will be taken into account in all activities in the faculty.

- … on the influence of constant change and disruption

The Faculty of Business has been in existence for more than 50 years and always reacts very quickly and constantly to changes that occur within the faculty or are brought from outside. However, the changes initiated and planned from within the faculty, e.g. those that improve the study offer, are important to us too. Thus, it is not only important to react, but especially to act and be agile in an age that knows both: constant change and disruption.

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- … on the Covid-19 pandemic as an accelerator for digitalisation

The Covid-19 pandemic has led to changes in the faculty, especially in teaching and research, which were implemented very quickly in March 2020. This involved a great deal of effort and called for the flexibility of all parties involved, particularly in terms of digitalising our offer and teamwork within the faculty. We now see this as an opportunity to take on board, continue and expand the changes that have proved their worth.

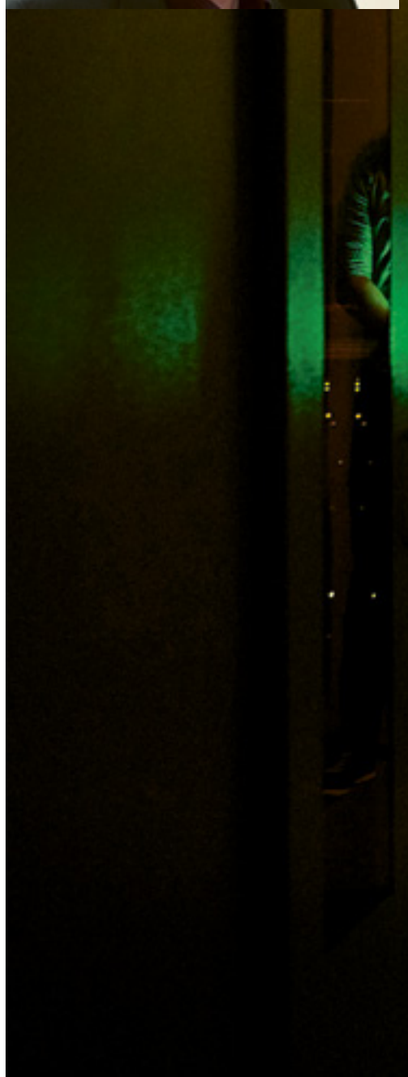
- … on the 50-year history of Bielefeld UAS as an expression of "Constant Change"

Over the past 50 years, the university has developed and repeatedly faced the external changes. The spirit of the university and especially of the Faculty of Business to meet the social requirements and challenges should continue to exist in the next 50 years and be lived by all.

- … on their most important strategic goal

Since the winter semester 2021/2022, three of the university's vice presidents come from the Faculty of Business: International Affairs and Digitalisation, Study and Teaching, Sustainability, People & Culture. Since 2020, the faculty has been advancing these strategic goals with the formation of the Strategic Circle, which deals with the main topics of study/teaching/continuing education, international affairs, digitalisation and sustainability in focus groups. There are quick wins in the faculty, some of which have already been implemented, as well as medium- and long-term goals. Many members of the faculty as well as external stakeholders from the university or companies have agreed to participate in the focus groups. Here too, the faculty wants to maintain its momentum, flexibility and agility.

It's the economy: Prof. Dr. Riza Öztürk, Dean of the Faculty of Business, and Vice Dean Prof. Dr. Peter Hartel.



An important focus of the Faculty of Business is to reflect on and research the risks and opportunities that go hand in hand with the ongoing digitalisation.

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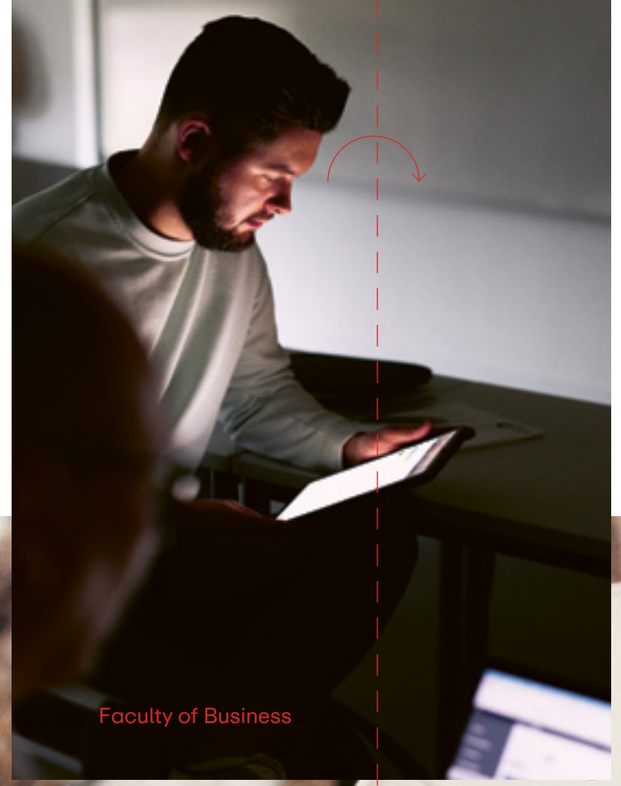

Faculty of Business

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Digital sovereignty

Digital sovereignty

Faculty of Business

Research on digital sovereignty has a long tradition at Bielefeld UAS, which is evidenced in particular by the work of Prof. Dr. Brunhilde Steckler, who is now retired.

How can people be empowered to handle digital technology with confidence? In the research project “SoDiLe,” Prof. Dr. Axel Benning addresses legal and anthropological questions of digitalisation together with researchers from Philipps-Universität Marburg.

From the electric toothbrush that tells us when we apply too much pressure, to the robotic lawnmower in the garden at home, to the personal Facebook account: hardly any area of life remains unaffected by digitalisation. But do we really know how to handle technology competently and confidently in our daily lives? After all, not only technical issues are relevant here – ethical, legal and social aspects also need to be considered.

How people can be empowered to take more personal responsibility is at the heart of the project “Souveränität in digitalisierten Lebenswelten” (Sovereignty in Digitalised Living Environments, SoDiLe), a joint project of the Faculty of Business and the Department of Theology of Philipps-Universität Marburg. The Federal Ministry of Education and Research (BMBF) is funding the overall project “Integrated Research” with 2.7 million euros as part of its high-tech strategy. Of the 360,000 euros for the SoDiLe subproject, around 200,000 euros go to Bielefeld UAS.

- Info

SoDiLe is a sub-project of the “Integrated Research” project of the Federal Ministry of Education and Research (BMBF). In this integrative, inter- and transdisciplinary project, a consortium of nine universities and institutes is to integrate research approaches from different fields of expertise, impart competences and provide impetus.

Digital sovereignty on the curriculum

Digital sovereignty

What exactly does “sovereignty” mean when dealing with a technology that fundamentally changes our self-development and communitarisation? The researchers of the project agree that this question cannot be dealt with by one discipline alone, but only in transdisciplinary exchange.

Among other things, they intend to create a common “curriculum” on digital sovereignty, which already raises awareness among students during their studies. The coordinator of the joint project is Prof. Dr. Axel Benning, professor of business law at the Faculty of Business. “For example, when mechanical engineering students develop artificial intelligence (AI) algorithms, they should also consider how employees use AI in their daily work,” says Benning. “This should be considered right from the start in development and planning.”

Another example is the development of care robots. In this context, it must be clarified at the outset whether it is ethically justifiable to have robots give care to people and, if so, what legal and ethical requirements must be met in order for such a machine to widely replace human labour. The Faculty of Engineering and Mathematics’ robot “Pepper” served as a prop for the photo shoot. But even if social robots like Pepper look friendly and cute and can talk to people, it is not desirable for them to constrict, patronise or even endanger us as data providers. By integrating this issue in courses, students are to be enabled not to “plan past people” when developing technology.

“What happens to our social media accounts when we die? This question leads us to very specific legal areas such as inheritance law.”

The question of digital sovereignty can only be dealt with in transdisciplinary exchange.

Facebook account after death?

New technologies also always involve a multitude of legal issues that must be considered in the development of such projects from the very beginning. Benning: “These legal issues include aspects of privacy and data protection law, such as the right to informational self-determination, ensuring the confidentiality and integrity of information technology systems, and taking into account data protection aspects.”

For instance, we know that Facebook, WhatsApp and others collect our data. But the majority of users probably do not know what exactly this means and what companies do with the data. What’s more, there is no legal clarity on many aspects. Benning: “For example, what happens to our social media accounts when we die? This question leads us to very specific legal areas such as inheritance law.”

Faculty of Business

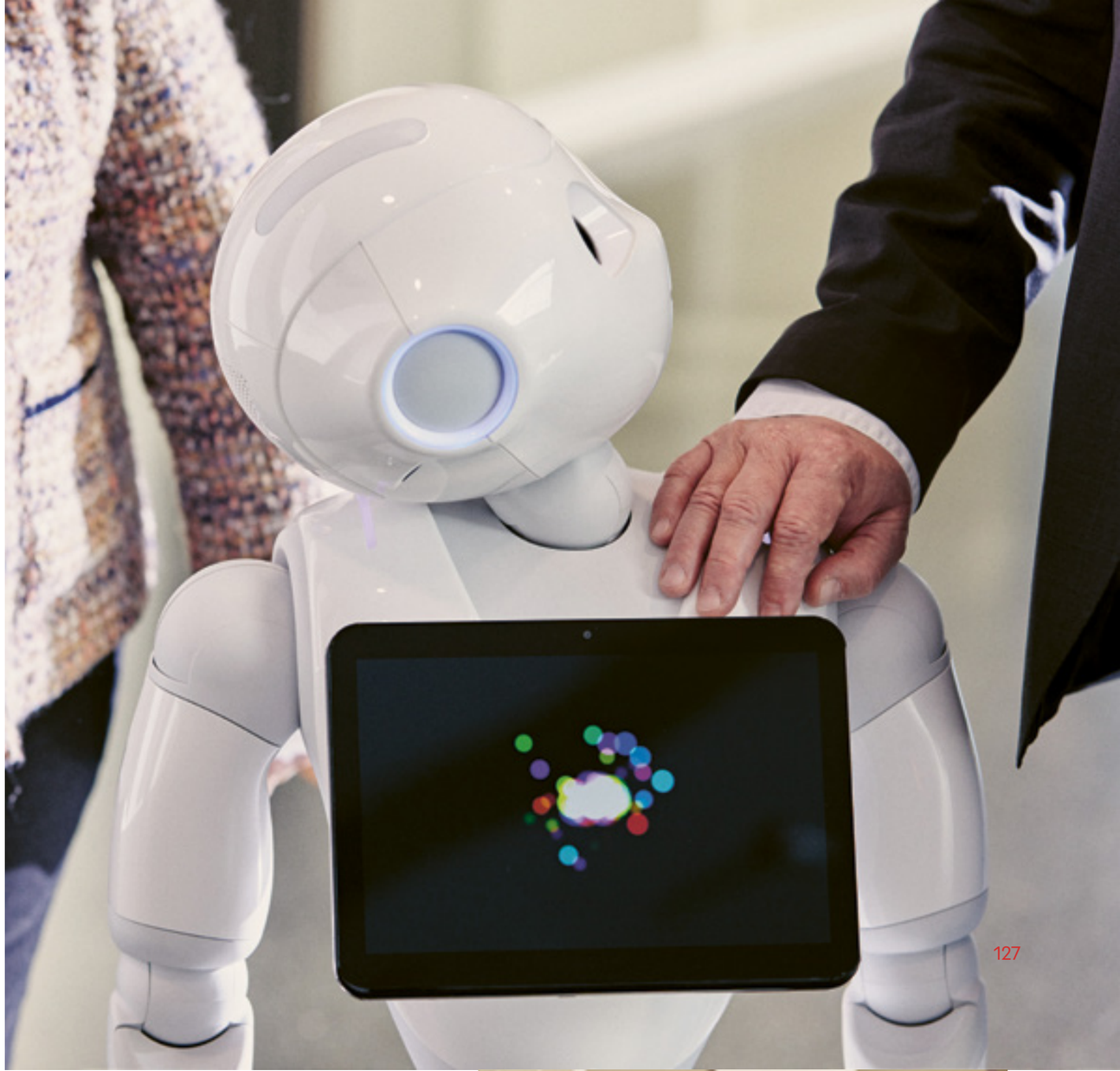
Does digitalisation change our self-conception?

The project’s anthropological aspect is the focus of the research group around Prof. Dr. Marcell Saß from the Department of Theology at Philipps-Universität Marburg. “Sovereignty means that a person as an individual should be able to determine and decide for themselves how much of their person they disclose to technology,” says Saß. “Now, however, we must assume that newly emerging human-technology interactions have consequences for the human image. It is important to reconstruct them, both from the point of view of individuals and from a structural technology perspective.” Especially in digitalised living environments, we must expect that the possibility of the individual to behave in a sovereign way will be a different one than previously assumed due to new technologies such as artificial intelligence or big data.

University teaching with “digital natives”

After developing the legal and anthropological foundations, competence models will be developed and tested in university teaching in the further course of the project. Experimental courses are planned in the study programmes Business Administration, Business Law, Business Psychology, Business Information Systems, and in the study programmes of the Faculties of Health and Engineering and Mathematics at Bielefeld UAS, as well as in the study programme Theology, in teacher training and in other bachelor’s degree studies at Philipps-Universität Marburg. The first interdisciplinary compact course, in which students from business law and business information systems as well as theology will participate, will take place this summer semester.

Working with students that are “digital natives,” i.e. a generation that grew up in the digital world, is a central part of the project. In different groups, the students are to work on fundamental questions of the SoDiLe project, change perspectives and identify their own “blind spots.” The results of the digital natives’ self-concept will be used in the overall consortium’s further work.



Digital sovereignty

Passing on the baton: retired Prof. Dr. Brunhilde Steckler (left) feels that the “digital sovereignty” field of research is in the best hands with her colleague Prof. Dr. Axel Benning.

Traces on the Internet – when our privacy is at risk

Everyone can be affected by cyberbullying, identity theft and doxing on the Internet. A cooperation project by the Faculty of Business and the Center for Digitalisation and Technology Research of the German Armed Forces analyses security risks through profiling on the Internet. Artificial Intelligence supports the development of methods for threat prevention.

Faculty of Business

The ADRIAN project team at Bielefeld UAS: (from left to right) project lead Prof. Dr.-Ing. Hans Brandt-Pook, employee Sergej Denisov and coordinator Dr. Frederik Bäumer.

Sharing your new record on Facebook after jogging – a normal thing to do for many users of fitness apps. We constantly share a lot of information about our lives via apps, smartphones and Internet browsers. In addition to IP address and location data, user behaviour also reveals personal information such as job, origin or political attitude. Together, these supposedly harmless bits of individual information give an almost transparent picture of users or entire institutions. But exactly how big are the security risks of this profiling? And how can we tackle them?

The research project "ADRIAN – Authority-Dependent Risk Identification and Analysis in Online Networks" at the Faculty of Business deals with these and other questions concerning the threat and prevention of profiling on the Web 2.0. To identify potential risks for individuals and institutions, data from running apps and social media platforms are analysed and vulnerabilities identified.

The research project of the working group "Angewandte KI" (Applied AI) is funded by the newly created Center for Digitalisation and Technology Research of the German Armed Forces (dtec.bw) within the framework of the cooperative project MuQuaNet (the Quantum Internet in the Greater Munich area) with 500,000 euros over four years.

Networking is a risk

Interaction, discussion and the exchange of diverse information make the Internet a place of cooperation. Images, videos and information such as geo and health data are exchanged on a substantial scale and with unprecedented ease and speed. Project lead Prof. Dr.-Ing. Hans Brandt-Pook, professor of business information systems at the Faculty of Business: "Social networking, easy-to-use devices, new mobile applications and application scenarios have given a huge boost to this exchange, and have even intensified in recent times during the Covid crisis and the associated reduction in personal social contacts."

This networking, which has been progressing for years, has made the Internet a comprehensive, relatively freely accessible source of information for a wide range of data-driven applications – with many possibilities, but also with considerable risks.

We share who we are

This is because user-generated data is being linked to existing resources in an automated manner, which is becoming increasingly effective. In this way, even trivial and sometimes unintentionally disclosed individual information may have harmful consequences for individuals, professions or entire institutions. "These include metadata in PDFs, backgrounds in photos that we share or our movement patterns in jogging routes that we record and share in fitness apps," says project proposer and coordinator Dr. Frederik Bäumer.

A further example of the unintended self-endangerment are doctors' reviews on the Internet. Bäumer: "Statements like 'As Ilka's father, I ...' not only reveal the family situation, but also the author's gender and that of their child." Bits of information like these seem trivial, but when analysing a user profile with dozens of contributions on disease progression, medications or treatment locations, they form a big picture.

"The same applies to jogging routes that are shared online, which seem harmless individually, but in total reveal the movement patterns of individuals right up to their own doorsteps and, for example, make military locations or other security-relevant locations identifiable, since soldiers and officials also log and publish their running routes," adds project employee Sergej Denisov.

Risk of extortion and identity theft is increasing

The research team knows that the public is aware of the potential, but often abstract risks involved in the somewhat naive exchange of data and information in general. "However, the scope and technical possibilities of harmful data evaluation and use have developed rapidly in recent years and are raising the risk to a new level," says Prof. Dr. Brandt-Pook. "More and more applications collect information for a specific purpose, which in combination increase the risk of cyberbullying, identity theft or extortion, even for private individuals." For example, running routes shared online can be combined with the relevant user profiles on social networks, which in turn reveal the social environment.

Although service providers now have a duty and interest to ensure the security and privacy of user data on the Internet, there are numerous instances where this data is misused, compromised or publicly available information is used against the original author. This Internet-based collection of personal data is known as "doxing."

To identify potential threats to individuals and institutions, the ADRIAN research group relies on artificial intelligence (AI). The Applied AI team can resort to extensive preparatory work in the field of computer linguistic methods and the automatic detection of privacy risks. The working group formed at the Faculty of Business in 2020 around Prof. Dr. Brandt-Pook, Dr. Bäumer and Sergej Denisov is bundling activities in research and practical transfer on AI topics. A special focus is on machine language processing, the methods of which are applied with particular emphasis in this research context.

Against this background, ADRIAN is starting as a cooperation between the Applied AI working group and the CODE research institute of the Universität der Bundeswehr München (University of the German Armed Forces in Munich). "With the successful acquisition of funds by ADRIAN, we have the opportunity to conduct research on this important topic for four years and to rely on a very strong cooperation in this process," says Dr. Bäumer.

The research project will first analyse geodata of selected running apps. In a second step, the apps' user profiles are then correlated with social media platforms in order to create so-called "people clusters" of the users and thus identify potential security risks.

As a so-called "digital (running) twin" can be reconstructed in this way, extremely sensitive data are generated. If these data can be compared with other confidential data, an estimation of the risk plausibility can be made for the corresponding (groups of) people or locations.

"In parts, the approach is similar to that of attackers who also collect and correlate data. The difference is that in this project, patterns are learned from the collected data in order to protect users and their data in the next step," explains Dr. Bäumer.

For this purpose, the technical implementation of the project combines, among other things, methods of information retrieval (the computer-aided search for content) with approaches from applied linguistics, for example for creating language patterns. Furthermore, network analysis and clustering techniques are used to develop novel assessment tools for estimating at-risk targets such as people or places based on the information disclosed on the Web 2.0.

Bielefeld UAS contributes to shaping the Internet of the future

The use of highly secure quantum encryption is planned for the transmission of the acquired knowledge. ADRIAN is therefore being developed as part of the research project "MuQuaNet," the aim of which is to set up, test and conduct research on a quantum-safe communication network in the greater Munich area. This network will initially be made available to the Unversität der Bundeswehr, but later to other research institutions and authorities as well. "This gives our working group a unique opportunity to participate in technologies for the Internet of the future," says Dr. Bäumer.

What is our data worth to us?

Faculty of Business

Of cybercrime and hacker attacks: Prof. Dr. Achim Schmidtmann conducts research on the costs of IT security at the Faculty of Business. In addition to technical vulnerabilities, human beings are the biggest security gap for companies. Uniform regulations by the legislator are missing for the smart home sector.

What is our data worth to us?

Together with Sascha Kirschner, Stefanie Jurecz and other master students, Prof. Dr. Achim Schmidtmann (centre) has investigated which aspects are important for IT security in a cost-benefit calculation. The results have been published as a book.

From spam e-mail in your inbox, to security vulnerabilities in your private surveillance camera to hacker attacks on businesses: inadequate protection of our digital data can have serious consequences. But protecting them is costly and these costs can often not be quantified precisely. Together with master students from the study programme Business Information Systems, Prof. Dr. Achim Schmidtmann investigated which aspects are important in cost-benefit calculations. The results are summarised in the anthology "Kosten der IT-Sicherheit" (Costs of IT security).

"According to a survey by the digital association Bitkom e. V., attacks on German companies caused a total loss of almost 224 billion euros in 2020, 121 billion more than in the previous year. Of this, 52.5 billion euros were due to attacks on employees working from home. In contrast, German companies spent only approx. 6.2 billion euros in 2021 on hardware, software and services in the field of IT security," explains Schmidtmann, who teaches business information systems at the Faculty of Business. "The discrepancy shows that risk awareness among managers and decision-makers is still too low. Only when companies are affected by concrete incidents does IT security suddenly cease to be an abstract issue."

Breakdown of costs is difficult

But what exactly does it cost a company to protect itself from outside attacks? "To put it briefly, there is no magic formula," Schmidtmann explains. The complexity of information and IT security and the highly individual characteristics of an organisation make it difficult to estimate costs. For measures on the hardware or network side (such as daily backups), costs can be easily calculated. "In addition to the technical and organisational shortcomings, the biggest vulnerability is the person in front of the screen who clicks on links or opens attachments," says Schmidtmann.

"Many companies still do not feel seriously threatened by the risk of becoming cyber attack victims," says Schmidtmann. Figures from the Bitkom e. V. industry association, however, show that nine out of ten companies were affected by attacks in 2020/2021. The Alliance for Cyber Security (ACS)'s cyber security survey found that 76 percent of respondents believe cyber attacks have the potential to disrupt business processes. Police crime statistics showed a total of 108,000 cases of cybercrime in the narrower sense in 2020. Many of the attacks exploit the "human factor" as the supposedly weakest link in the security chain. 41 percent of 817 companies surveyed by Bitkom in 2021 recently experienced such attempts.

"All of these security incidents are of partially existential impact, ranging from loss of data and equipment, to image damage, to the threat of production and operational downtime. Investments in IT security are therefore in many ways well-spent money and urgently needed.

Security gaps in the smart home

But in private settings, too, the question of how much our security is worth to us is gaining importance because of smart home systems. Although some devices, such as electronic door locks or cameras, are designed to increase security in your home, they can also become a security issue. The reason for this is that the IT security of these devices is often deficient, which allows unauthorised persons to gain control of the devices, access data, completely remove security mechanisms like electronic door locks, penetrate the privacy of the actual owners by means of surveillance systems or simply cause financial damage.

In many areas, there is still a lack of necessary legal regulations. For example, it is not clear who is liable if a smart refrigerator makes an incorrect order or whether the refrigerator is legally able to place an order without the active intervention of a human being. Schmidtmann: "The market continues to develop rapidly, standards hardly exist. Here, the legislator must clearly define uniform regulations and requirements."

In addition to these topics, Prof. Dr. Achim Schmidtmann's anthology includes further contributions on data protection as a cost factor or an approach to cost calculation for the information security of Internet-of-Things devices. The idea for the book developed as part of a seminar in the master's degree study in Business Information Systems. "A scientifically substantiated discussion of the topic has so far taken place only to a limited extent. And that's exactly why we decided to publish the results of the seminar as a book in order to reach a broader audience and to stimulate and support the discussion on this topic," explains Schmidtmann.

Faculty of Business

What is our data worth to us?

Faculty of Health

The Faculty of Health, with currently around 680 students, is characterised by a high degree of commitment in studies and teaching. In particular, course offers on teacher education for health professions as well as on academic nursing and midwife training are shaping the range of courses. Students benefit from a wide range of research and development projects in education and health-care research. These are being worked on in the affiliated Institute for Educational and Health-Care Research in the Health Sector (InBVG). A close link between research and teaching is thus given. In addition, work in the faculty is influenced by extensive networking with partners from science and practice – also internationally.

The deans of the Faculty of Health...

- ... on the speed of change

Living and working environments are increasingly characterised by "uncertainties." Trends like urbanisation and the associated changes in rural and urban infrastructure play a major role in the pace of change, as do the shortage of skilled workers in the health sector and simultaneous overageing of the population. All this leads to shortfalls in the provision of care to which we must respond. In the age of globalisation, everything seems to be connected to everything, and many more factors need to be taken into account than a few years ago. Past failures, such as early adjustment to the demographic change, now require rapid solutions, which often seem to be clever technical advances, but can sometimes just be emergency solutions. As far as the working environment at the Faculty of Health itself is concerned, the fixed-term contracts for non-professorial teaching staff and the dependence on funding in research and teaching contribute to an uncertain basis for planning, which makes it difficult to adapt to change and to find the right answers.

- ... on the faculty's response to "Constant Change"

In 2020, we emancipated ourselves as a new faculty of our own from the Faculty of Business. New course offers were developed as a result of health and occupational policy processes and decisions. New continuing education offers were created that address the topics of digitalisation and leadership. We have also enhanced our research profile, for example with regard to digitalisation and generalist training of nurses. We are intensifying our collaboration with various faculties and our cooperation with partners from practice in the region – the keyword being CareTech – and are putting a lot of hope into the plans for new buildings for Bielefeld UAS. Finally, we must strive to intensify the PR activities for our study programmes.

- ... on the influence of constant change and disruption

Constant change is more important to health than a disruptive development, although constant change is gaining momentum. This becomes clear, among other things, in the reform of the nursing professions or in the academisation of midwife training, both being changes that require new study programmes and growing numbers of students and fields of action that need to be taken up in further education.

- ... on the Covid-19 pandemic as an accelerator for digitalisation

Overall, the pandemic has somewhat boosted digitalisation. Online formats for teaching have become better and more numerous. Thanks to the continuous and reliable use of Zoom and WebEx, we were able to keep communicating despite the pandemic.

- ... on the 50-year history of Bielefeld UAS as an expression of "Constant Change"

The foundation of our very young Faculty of Health in 2020 and the associated consolidation are examples that the university still addresses the need for change today. As far as the internal structure of the faculty itself is concerned, this is evidenced by the expansion of the course offer, for example, in teacher education, in management, in nursing, in midwifery, in the collaborative study programmes and certificates.

- ... on their most important strategic goal

We are working to increase the number of students in our still young faculty and to expand the number of study programmes. Our aim is to provide a wide range of offers, covering as many health professions as possible.

Prof. Dr. Michaela Brause, Dean of the Faculty of Health, and Vice Dean Prof. Dr. Änne-Dörte Latteck.

Faculty of Health

From science to practice: the midwives' lab

Baby dolls, models of pelvises and placentas, baby equipment – the innovative learning spaces for the new Midwifery study programme at the Faculty of Health are filling up. And these are signs that scientific findings can be incorporated more directly into training in the future.

The transfer of midwife training to universities enshrined in law signifies a new quality in training, says Pia Bakker: "Midwifery studies are now finally science-based. New, scientifically founded findings can immediately be integrated into training. In addition, the students learn to work scientifically, to interpret studies and to reflect on their own work." Pia Bakker is a trained midwife and a qualified vocational educator. As a lecturer for special assignments, she is currently establishing the new bachelor's degree study "Midwifery" at the Faculty of Health together with her colleagues.

Skills lab simulates real working environment

The proximity to science not only shapes the theoretical part of the course, but also the practical part. This is because before the students go into practice, they gain practical experience at the university in the so-called skills lab. There, various working environments such as a delivery room, a midwife's surgery or a living room (for home visits) can be realistically reproduced, including all aids. The first part of the equipment was delivered in September 2021.

Artificial pelvises help illustrate the mechanics of birth

Large and small cardboard boxes are stacked in a bright room in the main building on Bielefeld Campus. Together with Marina Müller, who is responsible for the administration of the equipment order, Pia Bakker opens the first box and unpacks a pelvis model. The muscles of the pelvic floor are also shown in the model. "We need this to illustrate the birth mechanics," the experienced midwife explains. "We can use the models to demonstrate how the pelvis is structured and where muscle strands lie. This is important for understanding how the muscles expand during birth and at which points there is a risk of injury, for example in the case of a perineal tear or episiotomy." Pia Bakker reaches into the box and takes out another pelvis: It is made of fabric and can be moved quite flexibly like a cushion. With this pelvis, the birth process can be simulated well.

Placenta for birth preparation

Now the midwife unpacks a small, soft baby doll. It lies in a bag made of transparent fabric and is connected to it by a thick cord. "This is the amniotic sac with placenta and umbilical cord," explains Pia Bakker, demonstrating how the baby makes its way out of the amniotic sac and through the pelvis. The model is used, for example, in birth preparation courses, another field of work for midwives. The students practise how to teach parents-to-be about the birth process.

Trained midwife, qualified vocational educator and lecturer for special assignments: Pia Bakker is part of the team that is building up the new bachelor's degree study in midwifery.

Realistic infant measurements

An essential task, especially for freelance midwives, is outpatient post-partum care. This too can be practised in the skills lab. Apart from attending to the mother, midwives also provide care to the baby. Pia Bakker misses something: "We don't have any baby clothes yet." Marina Müller makes a note on the shopping list and looks in a bag: "Look, one of them is already dressed. It even has underwear!" Pia Bakker takes out the baby doll. "Come here." She grabs the doll, which is unexpectedly heavy. "Oh, we have to really take hold of you!" The midwife gently supports the head and carries the baby to the table. At 3.7 kilograms and 56 centimetres, it has realistic infant measurements. It allows students to practise how to swaddle babies properly, i.e. wrap them tightly in a blanket, or how to carry them in a sling, because they are to teach this to parents later on. This, too, includes the scientific basis: Why is it sensible to carry a baby in a sling from a developmental psychology point of view? What do you have to pay attention to when swaddling, and for what reasons? Which research gaps exist? Pia Bakker: "Our students are not supposed to make recommendations based on intuition later, but because they can justify them scientifically."

One of the oldest obstetrical aids

A tall parcel is pushed into the room. Marina Müller helps unpack, and three soft rubber mats with cutouts come out. Into the cutouts fit the stools that have also been delivered and whose seats consist of a half, padded ring. Pia Bakker tries sitting on it. "It's like sitting on a toilet." Birthing stools allow women to give birth in an upright position. They are one of the oldest tools in obstetrics, but were forgotten when giving birth lying on the back became the medical standard. "If the woman gives birth on her back, those helping the birth may have more control, and it may be more comfortable – but this position is often less conducive for the progress of the birth."

Giving birth in an upright position is beneficial

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As an experienced midwife, Pia Bakker appreciates the benefits of giving birth in an upright position. It offers more freedom of movement and makes use of gravity. This is scientifically supported by the new "Guideline on Vaginal Birth at Full Term," published as recently as 2020: This text provides recommendations for action for normal births according to the latest state of knowledge. According to the guideline, in the final phase of the birth, women should be supported in finding their own birthing position and being able to stand up instead of lying on their backs. For Pia Bakker, the guideline is an example of how scientifically sound findings can shape the work of midwives. On the one hand, the recommendations refer to the "normal" birth, and on the other hand, the German Society for Midwifery, which was founded in 2008, was involved in the preparation alongside medical societies. This is why Pia Bakker calls the guideline "a milestone" for obstetrics.

Training at the university and in the skills lab, too, is a milestone on the way to science-based midwifery. Meanwhile, the "mothers" of the baby dolls have arrived: special high-tech simulation dolls. With them, even births can be simulated in a realistic way. The students can thus practise implementing the guideline immediately.

Faculty of Health

"Our students are not supposed to make recommendations based on intuition later, but because they can justify them scientifically." – Pia Bakker

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From science to practice

Pia Bakker and Marina Müller from the Faculty of Health unpack parts of the equipment of the new skills lab.

Digital care force

Using digital technologies with confidence: Sarah Palmdorf, researcher at Bielefeld UAS

Faculty of Health

Smartphone apps, smart sensors and video telephony can improve the quality of nursing care on a long-term basis – if nurses know how to use them wisely. For this reason, researchers from the Faculty of Health have developed a new bachelor module that improves the teaching of digital skills in nursing training.

Which effects does digitalisation have on nursing professions? How do nursing processes change? And what requirements will this create for the nursing staff of the future? The researchers Annika Behler and Sarah Palmdorf have addressed these questions in the research project "DiFuSiN – Digital Future Skills in Nursing." Their aim was to develop a bachelor module that prepares prospective nursing staff for the future requirements of the nursing profession – in particular with regard to the changes that digitalisation brings with it. The research project was carried out at the Institute for Educational and Health-Care Research in the Health Sector and led by the professors Christa Büker and Änne-Dörte Latteck. Furthermore, the team was supported by graduate assistant Karina Ilskens.

Digitalisation poses new challenges for nursing staff

Nursing processes and care activities are increasingly shaped by the use of digital technologies. Mobile devices are used during medical rounds, software is used for planning and documentation purposes, and intelligent sensor technology helps monitor vital signs such as blood pressure and heart rate. The use of these technologies places new demands on the nursing staff, who must integrate these technical systems into their processes. Not only media literacy is a prerequisite for care activities here, but completely new competences are also required, such as the consideration of data protection law issues when dealing with electronic patient data. Nevertheless, digital skills in the nursing profession have so far played a minor role in teaching in existing nursing programmes and are not usually found in the curricula.

"The digital skills of carers have so far been a marginal topic," says Sarah Palmdorf. The nursing scientist has already dealt with the tension field between technology and care in the context of a previous research project.

"With the DiFuSiN project, we now respond to current developments and investigate which competences must be taught to prospective nursing staff so that they can master the new challenges." The aim is that the result of this research work will be a module of the same name, "Digital Future Skills in Nursing." It is intended to be offered in the sixth semester of the bachelor's degree study with professional qualification in nursing.

Case scenarios are a means of choice in teaching future skills

Three basic aspects had to be considered when developing the module:

Faculty of Health

1. The numerous applications of hardware such as tablets, smartphones and sensors, as well as software solutions and apps that can support nursing.
2. The rapid pace of technological development, which requires fast reactions to change.
3. Very different application scenarios in the different fields of nursing care.

The new module's focus is therefore not only on teaching media literacy. Rather, the prospective nursing staff should be able to recognise, understand and deal flexibly with the challenges of digitalisation in their professional fields of action. For this purpose, the format of case scenarios was chosen for the module contents. In this context, the example of concrete situations serves to work out how a particular technology can be used in a care activity. The starting point of the case scenarios are therefore professional situations in which questions about the new technologies play a role. Students are then prompted to develop solutions to these questions.

Annika Behler, who graduated in "Education and Media: E-Education" and was responsible for the educational perspective in the team, explains: "Students are supposed to reflect on what they can expect from technology in these situations. They are to address the following questions: How do I use this and how can I apply technology to support the nursing process?" The case scenario format has several advantages: On the one hand, it enables students to learn in a clear, practical and self-directed way. On the other hand, the scenarios offer points of reference for dealing with future technologies.

An interdisciplinary and participatory approach influences module development

After a literature research, module development began, which was influenced by an interdisciplinary and participatory approach. A total of around 30 interviews were conducted with experts from technology, computer science, education, health and nursing science as well as instructional design. In the nursing field, experts from nursing management, from the industry and graduates from nursing programmes were interviewed. Many different questions had to be answered: What technologies and systems are used today in the context of nursing and how are they applied? What requirements for nursing staff result from this? Which teaching concepts should be considered when creating the case scenarios?

The participation and interaction of the different people and disciplines had a positive impact on the development of the module: "For me, the participatory approach was what was so special about this project," says Sarah Palmdorf. "The interviews with the experts have had significant influence on our approach, the derived competences and the general content. We were able to derive important information on the conception and design of the case scenarios from the experts' experiences."

Digital care force

After the interviews, the case scenarios were thematically defined and developed. "In total, we created eight cases that focus on a wide range of aspects of digitalisation in nursing," reports Annika Behler. For example, the "Distance caregiving for people with dementia" scenario deals with the possibility of supporting dementia patients and their relatives remotely using video telephony (telecare). This means that support can be provided anywhere and, if required, faster than is possible without the technology.

In the scenario "Digital documentation in home care," the focus is on the extent to which processes in domestic and mobile care situations can be optimised by means of mobile documentation assistants (MDAs). The focus here is on smartphones and the corresponding software solutions with which checklists can be processed and patient data can be easily assigned and stored.

In the "Blood glucose monitoring via app" scenario, prospective caregivers deal with how to monitor blood glucose levels on the patient using a smartphone and the appropriate sensor. On the one hand, this facilitates work processes of caregivers, and on the other hand, it enables the patients to manage the vital parameters that are important to them in a self-determined manner.

Digital teaching and learning scenarios and open educational resources

Now, suitable teaching materials had to be created from the concrete case scenarios: For this, media were used to prepare them in such a way that they can be edited on the computer in the form of digital teaching and learning scenarios. They are designed to be worked on in teams, so that the prospective nursing staff can deal with the questions together.

In addition, the digital format facilitates the dissemination of research results: the case scenarios were published as open educational resources (OER) under a free license in the new state-wide online portal ORCA.nrw (Open Resources Campus NRW). They are therefore also accessible to other universities and can be used to impart future skills in nursing care.

The module is unique with regard to Germany as a whole. It is an example of the successful transfer of current research into teaching. The "DiFuSiN" research project was completed at the end of 2021 after a 1.5-year period. It was funded by the Ministry of Culture and Science of North Rhine-Westphalia in cooperation with the "Stifterverband für die deutsche Wissenschaft" (Association for the Promotion of German Science and Humanities) and the Digital University NRW in the "Curriculum 4.0.nrw funding programme."

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Digital care force

Facts and Figures

Gütersloh
573

Minden
1,737

Bielefeld
8,518

Study locations

612
female 408
non-female 204
Design

675
female 544
non-female 131
Health

Facts and Figures

1,682
female 472
non-female 1,210
Minden Campus

3,164
female 1,591
non-female 1,573
Business

Faculties

3,086
female 382
non-female 2,704
Engineering and Mathematics

1,609
female 1,205
non-female 404
Social Sciences

FOLD HERE

female
4,602

non-female
6,226

Gender

10,828 Students

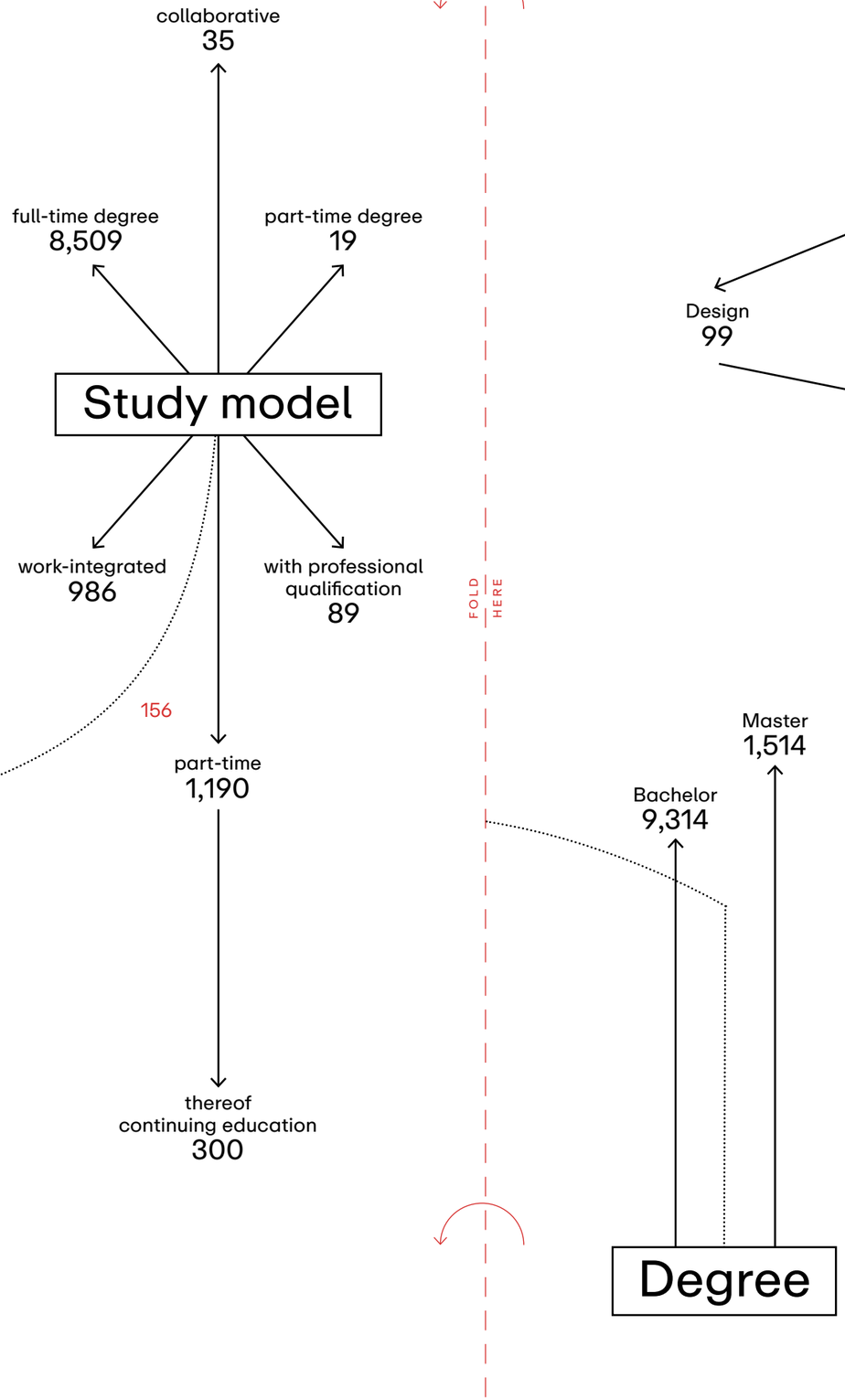
'Non-female' comprises 'non-binary' and 'male.'

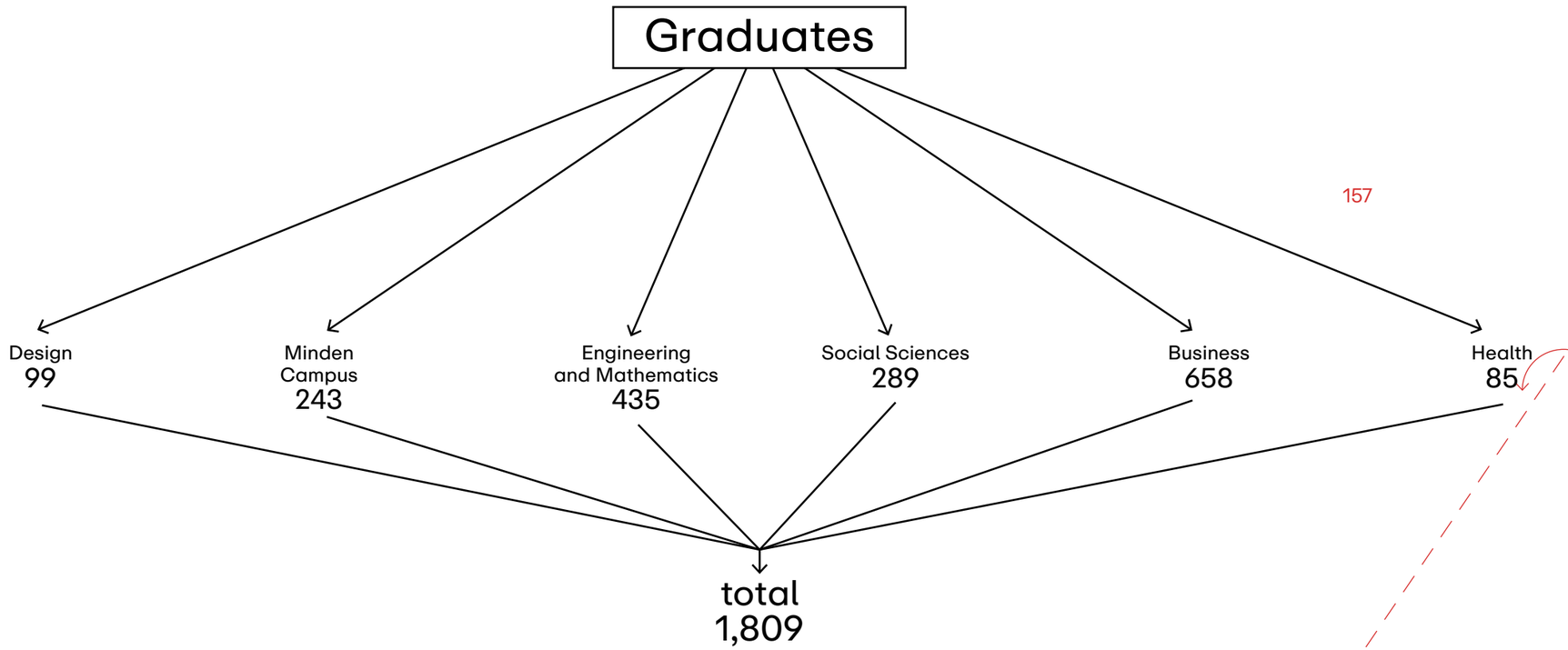
Summer semester
687

total
2,888

Winter semester
2,201

First-year students





Full-time studies

Full-time studies are the "classic" university studies with classroom teaching during the lecture period as well as their preparation and follow-up work, written examinations and possibly term papers during the lecture-free period. Depending on the study programme, there are also practical projects, internships or additional offers such as language courses.

Part-time studies

These are studies that, due to their duration and workload, permit students to work in a regular job alongside studies. It also takes into account the aspect of the "family-friendly university." The contents from the full-time degree are thus spread out over a higher number of semesters.

Facts and Figures

Part-time studies also comprise study offers such as combined studies, in which elements of distance learning are combined with classroom teaching, which usually takes place on Saturdays during the lecture period. Thus, the studies can be combined with a full-time job or an apprenticeship. Bielefeld University of Applied Sciences offers both bachelor's and master's degree studies as part-time studies.

Work-integrated studies

During work-integrated studies, students are enrolled at Bielefeld University of Applied Sciences and employed in a company at the same time. Work terms in the company alternate approximately quarterly with academic terms at the university. On-the-job work can be done as part of vocational training or in a study-related internship. It is also possible to study while you work.

In addition to study programmes from the fields of engineering and business, in which Bielefeld University of Applied Sciences cooperates with companies, the university has also been offering the work-integrated bachelor's degree study "Midwifery" since the winter semester 2021/22. In this study programme, the university cooperates with the Praxiszentren für angewandte Hebammenwissenschaft (PZHW) in Minden and Paderborn.

Dual studies/ studies with professional qualification

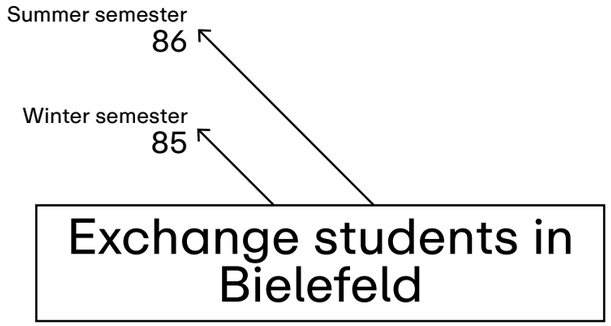
Since the winter semester 2020/21, Bielefeld University of Applied Sciences has been offering the bachelor's degree study "Nursing," which includes professional qualification. The primary qualifying bachelor's degree study combines university learning at Bielefeld University of Applied Sciences with practical learning in a wide range of fields of nursing care. After completing their studies, students receive a higher-education degree (Bachelor of Science) as well as a professional qualification (qualified nurse).

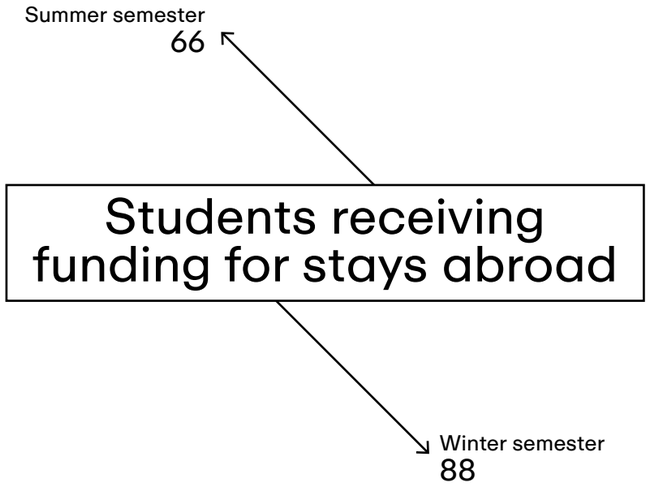
Collaborative course

This model combines a practical apprenticeship for skilled workers or journeymen with bachelor's degree studies. The bachelor's degree study in Mechanical Engineering in Bielefeld is a variant of collaborative studies in combination with vocational and technical training in the metal industry. At Minden Campus, apprenticeship in a traditional occupation in construction is combined with the bachelor's degree study in Civil Engineering. In the collaborative bachelor's degree study "Health (Nursing)," studies are combined with professional training to become a nurse. In the collaborative bachelor's degree study "Health (Therapy)," studies are combined with professional training to become an occupational therapist, speech therapist or physical therapist.

Continuing education (certificates)

Continuing education studies (certificates) are not bachelor's or master's degree studies, but consist of structured units (e.g. courses) and conclude with a continuing education certificate. In principle, persons who have successfully completed university studies are eligible for these studies.





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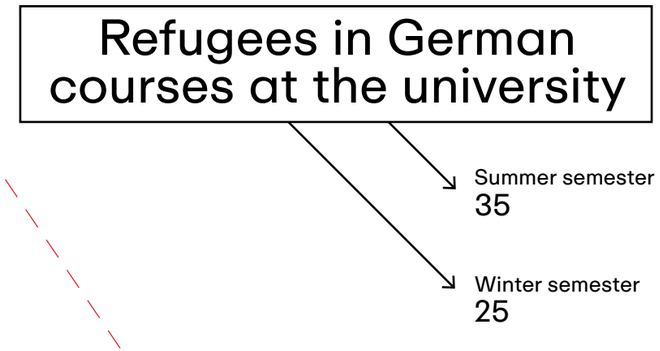
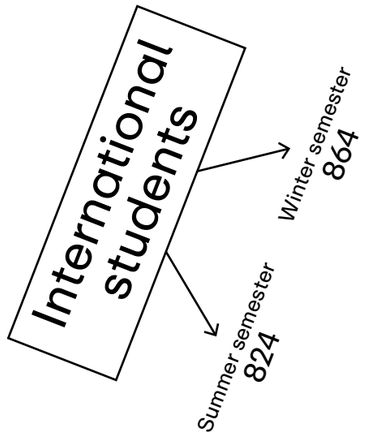
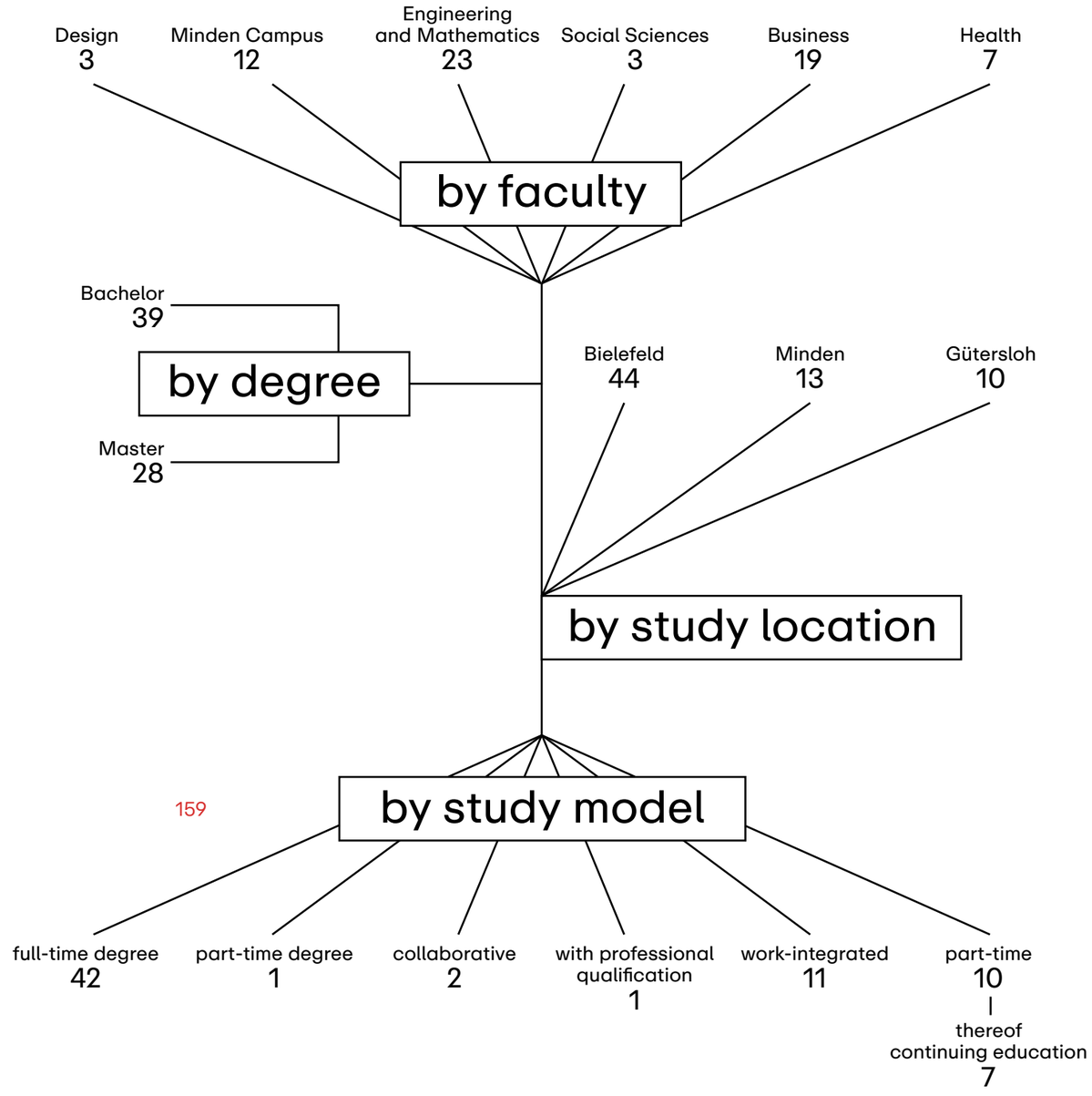




• 67 study programmes



• Bachelor's degree studies

Bielefeld University of Applied Sciences

Study programme	Study model	Degree	Faculty	Study location
Applied Mathematics	Full-time degree	B.Sc.	Engineering and Mathematics	Bielefeld
Apparative Biotechnology	Full-time degree	B.Sc.	Engineering and Mathematics	Bielefeld
Architecture	Full-time degree	B.A.	Minden Campus	Minden
Business Administration	Part-time combined study programme	B.A.	Business	Bielefeld, Gütersloh
Business Administration	Full-time degree	B.A.	Business	Bielefeld
Business Administration	Work-integrated	B.A.	Business	Bielefeld
Business Administration and Engineering	Work-integrated	B.Eng.	Minden Campus	Minden
Business Information Systems	Full-time degree	B.Sc.	Business	Bielefeld
Business Information Systems	Work-integrated	B.Sc.	Business	Bielefeld
Business Law	Full-time degree	LL.B.	Business	Bielefeld
Business Psychology	Full-time degree	B.Sc.	Business	Bielefeld
(Early) Childhood Education	Full-time degree	B.A.	Social Sciences	Bielefeld
Civil Engineering	Full-time degree	B.Eng.	Minden Campus	Minden
Computer Science	Full-time degree	B.Sc.	Minden Campus	Minden
Design	Full-time degree	B.A.	Design	Bielefeld
Digital Logistics	Work-integrated	B.Eng.	Engineering and Mathematics	Gütersloh
Digital Technologies	Work-integrated	B.Eng.	Engineering and Mathematics	Gütersloh
Electrical Engineering	Part-time combined study programme	B.Eng.	Engineering and Mathematics	Bielefeld
Electrical Engineering	Full-time degree	B.Eng.	Engineering and Mathematics	Bielefeld
Electrical Engineering	Work-integrated	B.Eng.	Minden Campus	Minden
Engineering Computer Sciences	Full-time degree	B.Eng.	Engineering and Mathematics	Bielefeld
Health	Full-time degree	B.A.	Health	Bielefeld
Health (Nursing/collaborative) (in collaboration with vocational schools)	Collaborative	B.A.	Health	Bielefeld
Health (Therapy/collaborative) (in collaboration with vocational schools)	Collaborative	B.A.	Health	Bielefeld
Industrial Engineering and Management	Full-time degree	B.Sc.	Engineering and Mathematics	Bielefeld
Industrial Engineering and Management	Work-integrated	B.Eng.	Engineering and Mathematics	Gütersloh
Infrastructure Management	Full-time degree	B.Eng.	Minden Campus	Minden
International Studies in Management	Full-time degree	B.A.	Business	Bielefeld
Mechanical Engineering	Full-time degree	B.Eng.	Engineering and Mathematics	Bielefeld
Mechanical Engineering	Part-time combined study programme	B.Eng.	Engineering and Mathematics	Bielefeld
Mechanical Engineering	Work-integrated	B.Eng.	Minden Campus	Minden
Mechatronics	Full-time degree	B.Sc.	Engineering and Mathematics	Bielefeld
Mechatronics/Automation	Work-integrated	B.Eng.	Engineering and Mathematics	Gütersloh
Midwifery	Work-integrated	B.Sc.	Health	Bielefeld
Nursing	With professional qualification	B.Sc.	Health	Bielefeld, Minden
Product-Service Engineering	Work-integrated	B.Eng.	Engineering and Mathematics	Gütersloh
Project Management Construction	Full-time degree	B.Eng.	Minden Campus	Minden
Renewable Energies	Full-time degree	B.Eng.	Engineering and Mathematics	Bielefeld
Social Work	Full-time degree	B.A.	Social Sciences	Bielefeld

• Master's degree studies

Study programme	Study model	Degree	Faculty	Study location
Advanced Nursing Practice	Further-education part-time combined study programme	M.Sc.	Health	Bielefeld
Applied Automation	Further-education part-time combined study programme	M.Eng.	Engineering and Mathematics	Gütersloh
BioMechatronics (in collaboration with Bielefeld University)	Full-time degree	M.Sc.	Engineering and Mathematics	Bielefeld
Business Information Systems	Full-time degree	M.Sc.	Business	Bielefeld
Business Law	Further-education part-time combined study programme	LL.M.	Business	Bielefeld
Business Law and Contract Drafting	Full-time degree	LL.M.	Business	Bielefeld
Computer Science	Full-time degree	M.Sc.	Minden Campus	Minden
Controlling Finance Accounting	Full-time degree	M.A.	Business	Bielefeld
Data Science (Master of Applied Research)	Full-time degree	M.Sc.	Engineering and Mathematics	Gütersloh
Design, 3-semester	Full-time degree	M.A.	Design	Bielefeld
Design, 4-semester	Full-time degree	M.A.	Design	Bielefeld
Digital Technologies	Further-education part-time combined study programme	M.Eng.	Engineering and Mathematics	Gütersloh
Electrical Engineering	Full-time degree	M.Eng.	Engineering and Mathematics	Bielefeld
General Management	Further-education part-time combined study programme	MBA	Business	Bielefeld
Human Resource Management and Organisation	Full-time degree	M.A.	Business	Bielefeld
Industrial Engineering and Management	Further-education part-time combined study programme	M.Eng.	Engineering and Mathematics	Gütersloh
Integral Construction	Full-time degree	M.A./ M.Eng.	Minden Campus	Minden
Integrated Technology and System Development	Part-time degree	M.Eng.	Minden Campus	Minden
Integrated Technology and System Development	Full-time degree	M.Eng.	Minden Campus	Minden
International Business Management	Full-time degree	M.A.	Business	Bielefeld
Management for Engineering and Natural Sciences	Further-education part-time combined study programme	MBA	Business	Bielefeld
Marketing and Sales	Full-time degree	M.A.	Business	Bielefeld
Mechanical Engineering	Full-time degree	M.Sc.	Engineering and Mathematics	Bielefeld
Optimisation and Simulation	Full-time degree	M.Sc.	Engineering and Mathematics	Bielefeld

Facts and Figures

Production and Logistics	Full-time degree	M.A.	Business	Bielefeld
Social Transformation Studies	Full-time degree	M.A.	Social Sciences	Bielefeld
Taxation and Audit	Full-time degree	M.A.	Business	Bielefeld
Vocational Education Science for Health Professions	Full-time degree	M.A.	Health	Bielefeld

• Certificates

Study programme	Study model	Degree	Faculty	Study location
Compliance Manager Digitisation and Law	Part-time certificate	Certificate	Business	Bielefeld
Doing Business in …	Part-time certificate	Certificate	Business	Bielefeld
International Project Management	Part-time certificate	Certificate	Business	Bielefeld
Management and Development of Health-Sector Schools	Part-time certificate	Certificate	Health	Bielefeld

• Partner universities

Bielefeld University of Applied Sciences

(As of 2021)

	Country	City	Partner university	Programme
A	Albania	Tirana	University of Arts in Tirana (UART)	Erasmus+ International (ICM)
	Albania	Tirana	Polytechnic University of Tirana	Erasmus+ International (ICM)
	Albania	Tirana	Tirana Business University College (TBU)	Erasmus+ International (ICM)
	Albania	Tirana	University of Tirana	Erasmus+ International (ICM)
	Albania	Durrës	Aleksandër Moisiu University	Erasmus+ International (ICM)
	Austria	Vienna	University of Applied Sciences Technikum Wien	Erasmus+
	Austria	Vienna	FH Campus Wien	Erasmus+
	Austria	Puch bei Hallein	Salzburg University of Applied Sciences	Erasmus+
	Austria	St. Pölten	St. Pölten University of Applied Sciences	Erasmus+
	Austria	Hall in Tirol	Tyrolean Private University UMIT	Erasmus+
B	Belgium	Antwerp	Artesis Plantijn	Erasmus+
	Belgium	Brussels	Luca School of Arts	Erasmus+
	Belgium	Ghent	HOGENT	Erasmus+
	Belgium	Kortrijk	VIVES University of Applied Sciences	Erasmus+
	Belgium	Leuven	KU Leuven	Erasmus+
	Belgium	Hasselt	PXL University College	Erasmus+
	Brasil	Centro, Santa Maria	Franciscan University	Coop. Bielefeld UAS
C	Canada	Halifax	Nova Scotia College of Art and Design	Coop. Bielefeld UAS
	Canada	Winnipeg	University of Manitoba (Price School of Engineering)	Coop. Bielefeld UAS
	Canada	Winnipeg	U Manitoba (Asper School of Business)	Coop. Bielefeld UAS
	Canada	Wolfville	Acadia University of Wolfville	Coop. Bielefeld UAS
	Canada	Abbotsford	University of the Fraser Valley (UFV)	Coop. Bielefeld UAS
	Canada	Regina	University of Regina	Coop. Bielefeld UAS
	Canada	Edmonton	Northern Alberta Institute of Technology NAIT	Coop. OWL
	Canada	Edmonton	Mac Ewan University	Coop. OWL
	Canada	Edmonton	University of Alberta	Coop. OWL
	Canada	Edmonton	Concordia University of Edmonton	Coop. OWL
	Chile	Región Metropolitana, Santiago	Universidad de Santiago de Chile	Coop. Bielefeld UAS
	China	Yinchuan	North Minzu University, Northwest University of Nationalities	Coop. Bielefeld UAS
	China	Nanjing	Hohai University (HHU), Changzhou Campus	Coop. Bielefeld UAS
	China	Chengdu	South West Jiatong University (SWJTU), Emei and Chengdu Campuses	Coop. Bielefeld UAS
	China	Shouguang	Weifang University of Science and Technology (WUST)	Coop. Bielefeld UAS
	China	Shanghai	Shanghai Normal University (SHNU), College of Information, Mechanical & Electrical Engineering	Coop. Bielefeld UAS
	China	Qingdao	Qingdao University of Science and Technology (QUST)	Coop. Bielefeld UAS
	China	Qingdao	Shandong University of Science and Technology (SDUST), College of International Exchange	Coop. Bielefeld UAS
	China	Shanghai	CDHAW at Tongji University	Coop. Bielefeld UAS (DHIK)
	China	Shanghai	Tongji University, College of Design and Innovation (TJDI)	Coop. Bielefeld AUS
	Colombia	Bogotá	Universidad Nacional de Colombia	Coop. Bielefeld UAS
	Cyprus	Nicosia	University of Cyprus	Erasmus+
	Czech Republic	Staré Město	Academy of Arts, Architecture and Design in Prague	Erasmus+
	Czech Republic	Liberec	Technical University of Liberec	Erasmus+

	Country	City	Partner university	Programme
	Czech Republic	Prague	Czech University of Life Sciences	Erasmus+
	Czech Republic	Brno	Brno University of Technology	Erasmus+
D	Denmark	Sorø	Absalon University College	Erasmus+
	Denmark	Esbjerg	University College South Denmark	Erasmus+
E	Ecuador	Riobamba	Universidad Nacional de Chimborazo	Coop. Bielefeld UAS
	Estonia	Tallinn	Tallin University of Technology (TalTech)	Erasmus+
	Estonia	Tartu	University of Tartu	Erasmus+
F	Finland	Vasa	Novia University of Applied Sciences	Erasmus+
	Finland	Joensuu	Karelia University of Applied Sciences	Erasmus+
	Finland	Lahti	LAB University of Applied Sciences	Erasmus+
	Finland	Kouvola	South-Eastern Finland University of Applied Sciences (XAMK)	Erasmus+
	Finland	Tampere	Tampere University of Applied Sciences	Erasmus+
	Finland	Kuopio	Savonia University of Applied Sciences	Erasmus+
	France	Besançon	Superior Institute of Fine Arts of Besançon	Erasmus+
	France	Paris	École Nationale Supérieure des Arts Décoratifs	Erasmus+
	France	Ivry-sur-Seine	École Supérieure d'Informatique Électronique Automatique	Erasmus+
	France	Nancy	University of Lorraine	Erasmus+
	France	Saint-Etienne	École Nationale Supériere des Mines de Saint-Étiennes (ENSMSE)	Erasmus+
	France	Toulouse	Institut Limayrac Toulouse	Erasmus+
	France	Valenciennes	Polytechnic University of Hauts-de-France	Erasmus+
	France	Dunkerque	University of the Littoral Opal Coast	Erasmus+
	France	Créteil	Paris-Est Créteil University	Erasmus+
G	Greece	Thessaloniki	Aristotle University of Thessaloniki	Erasmus+
	Greece	Tripoli	University of Peloponnese	Erasmus+ (internship only)
H	Hungary	Budapest	Moholy-Nagy University of Art and Design (MOME)	Erasmus+
	Hungary	Budapest	Budapest Business School University of Applied Sciences	Erasmus+
I	Iceland	Tralee	Institute of Technology, Tralee	Erasmus+
	Iceland	Bifröst	Bifröst University	Erasmus+
	Iraq	Erbil Region	Erbil Polytechnic University	Coop. Bielefeld UAS
	Israel	Jerusalem	Bezalel Academy of Arts and Design, Jerusalem	Erasmus+ International (ICM)
	Israel	Haifa	Technion – Israel Institute of Technology	Coop. Bielefeld UAS
	Italy	Bari	Academy of Fine Arts of Bari	Erasmus+
	Italy	Cagliari	University of Cagliari	Erasmus+
	Italy	Ancona	Marche Polytechnic University	Erasmus+
	Italy	Parma	University of Parma	Erasmus+
J	Jordan	Amman	German-Jordanian University (GJU)	Coop. Bielefeld UAS
K	Korea	Seoul	Chung-Ang University	Coop. Bielefeld UAS
	Korea	Chuncheon	Hallym University	Coop. Bielefeld UAS
L	Lithuania	Vilnius	Vilnius Academy of Arts	Erasmus+
	Lithuania	Kaunas	Kaunas University of Technology	Erasmus+
M	Mexico	San Andrés Cholula, Puebla	Universidad de las Américas Puebla (UDLAP)	Coop. Bielefeld UAS
	Mexico	Gómez Palacio	Universidad La Salle Laguna	Coop. Bielefeld UAS
	Mexico	San Pedro Cholula, Puebla	Universidad Iberoamericana	Coop. Bielefeld UAS
	Mexico	various locations	Instituto Tecnológico de Monterrey (MDHK)	Coop. Bielefeld UAS (DHIK)
N	Netherlands	Amsterdam	Amsterdam University of Applied Sciences	Erasmus+
	Netherlands	Rotterdam	Rotterdam University of Applied Sciences	Erasmus+
	Netherlands	Den Haag	The Hague University of Applied Sciences	Erasmus+
	Nicaragua	León	La Salle University of Technology (ULSA) Nicaragua	Erasmus+ International (ICM)
	Norway	Ålesund	Norwegian University of Science and Technology, Ålesund	Erasmus+
	Norway	Stavanger	University of Stavanger	Erasmus+ (internship only)
P	Palestinian territories	Jenin	Arab American University	Coop. Bielefeld UAS
	Peru	Ayacucho	Universidad Nacional de San Cristóbal de Huamanga	Coop. Bielefeld UAS
	Poland	Rzeszów	University of Rzeszów	Erasmus+
	Poland	Rzeszów	Rzeszow University of Technology	Erasmus+
	Poland	Warszawa	Institute of Power Engineering	Coop. Bielefeld UAS
	Poland	Wrocław	Wrocław University of Science and Technology	Erasmus+
	Poland	Gliwice	Silesian University of Technology	Erasmus+
	Poland	Katowice	University of Silesia in Katowice	Erasmus+
	Poland	Rzeszów	University of Information Technology and Management	Erasmus+
	Poland	Kraków	Cracow University of Economics	Erasmus+
	Poland	Lublin	Medical University of Lublin	Erasmus+
	Poland	Kraków	Jagiellonian University	Erasmus+
	Portugal	Lisbon	University of Lisbon	Erasmus+
	Portugal	Funchal	University of Madeira	Erasmus+
	Portugal	Braga	University of Minho	Erasmus+

	Country	City	Partner university	Programme
R	Russia	St. Petersburg	Saint Petersburg State University of Technology and Design (SPSUTD)	Coop. Bielefeld UAS
	Russia	Veliky Novgorod	Yaroslav-the-Wise Novgorod State University	Coop. Bielefeld UAS and Erasmus+ International (ICM)
	Russia	St. Petersburg	St. Petersburg State University of Economics (Unecon)	Coop. Bielefeld UAS
	Russia	Moscow	Institute of Business Studies Moscow (RANEPA)	Coop. Bielefeld UAS
	Russia	Nizhny Novgorod	State University of Architecture and Civil Engineering	Coop. Bielefeld UAS
	Russia	Rostov-on-Don	Southern Federal University	Coop. Bielefeld UAS
S	Serbia	Belgrade	University of Arts Belgrade, Serbia	Erasmus+ International (ICM)
	Slovakia	Staré Mesto	Academy of Fine Arts and Design in Bratislava	Erasmus+
	Slovenia	Maribor	University of Maribor	Erasmus+
	Spain	Vitoria-Gasteiz	Escuela Superior de Diseño de La Rioja	Erasmus+
	Spain	San Cristóbal de La Laguna	University of La Laguna	Erasmus+
	Spain	Oviedo	University of Oviedo	Erasmus+
	Spain	València	Universitat Politècnica de València	Erasmus+
	Spain	Vigo	Universidade de Vigo	Erasmus+
	Spain	Zaragoza	University of Zaragoza	Erasmus+
	Spain	Cáceres	University of Extremadura	Erasmus+
	Spain	Barcelona	Universitat Internacional de Catalunya	Erasmus+
	Spain	Vic, Barcelona	University of Vic	Erasmus+
	Spain	La Cañada, Almería	University of Almería	Erasmus+
	Spain	Madrid	Comillas Pontifical University	Erasmus+ (internship only)
	Sweden	Halmstad	Halmstad University	Erasmus+
	Sweden	Uppsala	Uppsala University	Erasmus+ (PhD students only)
	Sweden	Gothenburg	University of Gothenburg	Erasmus+
	Switzerland	Bern	BZ Pflege	Swiss-European Mobility Agreement

Bielefeld University of Applied Sciences

	Switzerland	Bern	Bern University of Applied Sciences	Swiss-European Mobility Agreement
	Switzerland	Muttenz	University of Applied Sciences and Arts Northwestern Switzerland	Swiss-European Mobility Agreement
T	Tanzania	Wits	Faculty of Civil Engineering and the Built Environment	Coop. Bielefeld UAS
	Tunisia	Sfax	University of Sfax – ENIS	Erasmus+ International (ICM)
	Turkey	Tepebaşı/Eskişehir	Anadolu University	Erasmus+
	Turkey	Kadıköy/Istanbul	Marmara University	Erasmus+
	Turkey	Sarıyer/Istanbul	Instanbul Technical University	Erasmus+
	Turkey	Urla/Izmir	Izmir Institute of Technology	Erasmus+
	Turkey	Beyoğlu/Istanbul	Mimar Sinan Fine Arts University	Erasmus+
	Turkey	Nilüfer/Bursa	Vocational School of Technical Sciences	Erasmus+
	Turkey	Beyoglu/Istanbul	Istanbul Kent University	Erasmus+
	Turkey	Konyaaltı/Antalya	Akdeniz University	Erasmus+
	Turkey	Küçükçekmece/ İstanbul	Istanbul Aydin University	Erasmus+
	Turkey	Balçova/İzmir	Izmir University of Economics	Erasmus+
	Turkey	Fatih/Istanbul	Istanbul University	Erasmus+
	Turkey	Beykoz/Istanbul	Turkish-German University	Erasmus+
	Turkey	Bahçelievler/İstanbul	Marmara University	Erasmus+
	Turkey	Kadiköy/ Istanbul	Marmara University	Erasmus+
	Turkey	Kötekli/Muğla	Muğla Sıtkı Koçman University	Erasmus+
U	United Kingdom	Inverness	Inverness College	Erasmus+
	United Kingdom	London	University of the Arts London	Erasmus+
	United Kingdom	Middlesbrough	Teesside University	Erasmus+
	United Kingdom	Nottingham	University of Nottingham	Erasmus+ (internship only)
	USA	Marquette	Northern Michigan University	Coop. Bielefeld UAS
	USA	East Stroudsburg	East Stroudsburg University	Coop. Bielefeld UAS
	USA	Spearfish	Black Hills State University	Coop. Bielefeld UAS
	USA	Boise	Boise State University	Coop. Bielefeld UAS
	USA	Tacoma	University of Washington, Tacoma	Coop. Bielefeld UAS
	USA	Fort Pierce	Indian River State College	Coop. Bielefeld UAS
V	Vietnam	Ho Chi Minh City	Ho Chi Minh City University of Technology (HCMUT)	Coop. Bielefeld AUS

• Appointments

Professors	Subject area	Faculty
Prof. Dr. Bernhard Wach	General business administration, esp. entrepreneurship and human resources	Business
Prof. Dr. Jan Rexilius	Applied computer science, esp. machine vision and simulation	Minden Campus
Prof. Dr. Manuel Stegemann	Market and advertising psychology and marketing	Business

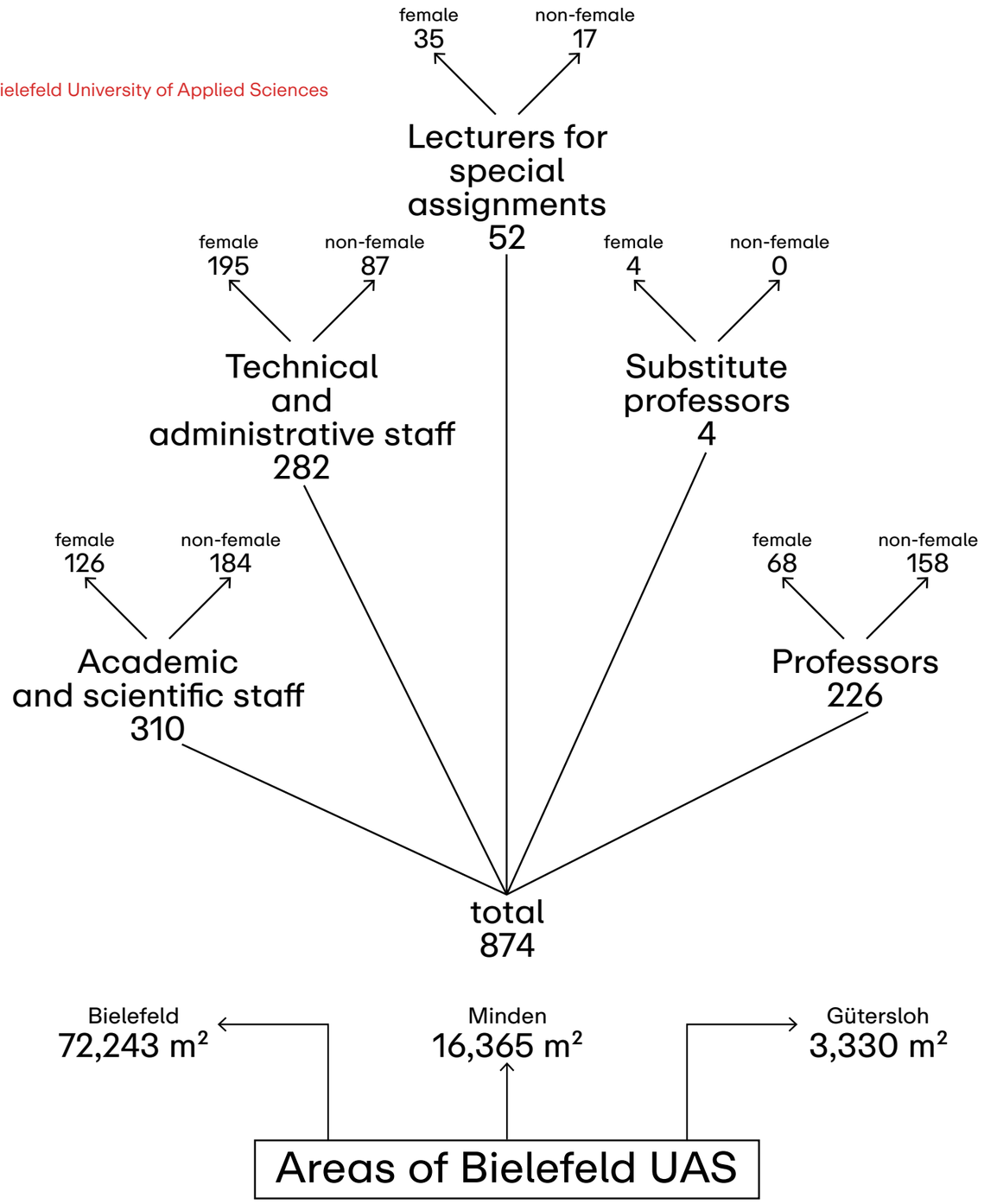
Facts and Figures

Prof. Dr. Burkhard Küstermann	Law, esp. the right of livelihood and social administration law	Social Sciences
Prof. Dr. Philip Wette	Engineering computer sciences	Minden Campus
Prof. Dr. Annette Bernloehr	Midwifery	Health
Prof. Dr. Brigitta Gänsicke	Engineering basics in mechanical engineeringand their application	Engineering and Mathematics
Prof. Dr. Ismail Özlü	Nursing science	Health
Prof. Wibke Jonas	Midwifery	Health
Prof. Andreas Kopp	Design and construction	Minden Campus

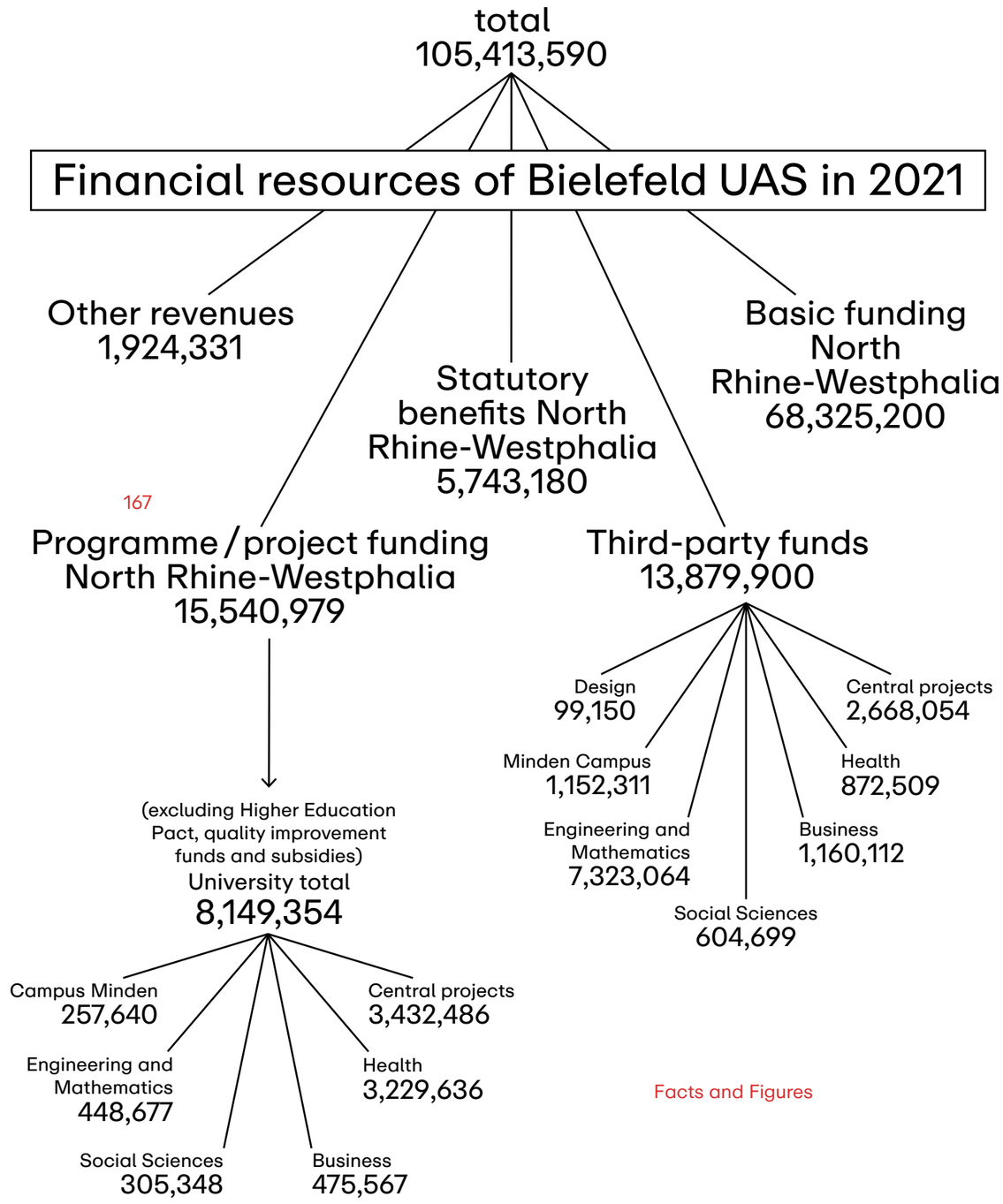
• Retirements

Professors	Subject area	Faculty
Prof. Silvia Pöld-Krämer	Law, esp. social and employment law	Social Sciences
Prof. Dr. Cornelia Giebeler	Social and educational theories and methods	Social Sciences
Prof. Dr. Volker Herzig	Business administration, esp. human resources and organisation	Business
Prof. Dr. Friedrich Biegler-König	Computer science	Engineering and Mathematics
Prof. Dr. Irene Müller	Nursing science	Health
Prof. Dr. Günter Schmid	Business administration, esp. marketing and retail management	Business

• Employees



• Finance



• Research networks

AMMO – Applied Mathematical Modelling and Optimization

In the AMMO research area, the competence in various application fields of mathematical modelling and optimization is pooled, which, together with the joint research activities, makes it possible to work on more extensive joint projects. Mathematical methods for the different applications are pooled in order to provide a considerable repertoire of possible solutions to current problems. For example, a logistics problem may be solved better or faster than with the conventional method by a suitable combination of a conventional solution method with optimization methods from other specialist disciplines. Conversely, there is also the possibility of using a special application method for different problems.

Bielefeld Institute for Applied Materials Research (BIfAM)

The expertise of the scientists participating in BIfAM from the disciplines of physics, chemistry, biology, biotechnology, computer science, mechanical engineering, process engineering and electrical engineering range from measurement technology, functional layers, energy transmission and sensor technology to material analysis, additive manufacturing and formulations, right through to computer-aided modelling and simulation. The scientific and technical work at BIfAM encompasses research and development in equal measure in order to meet the major societal challenges with innovative approaches – from basic research to novel materials, material and technology development to product and process development. In interdisciplinary teams, creative solutions are developed in the current areas of mobility, medical technology, energy and resource efficiency, digitalisation, bioeconomy and sustainability.

CareTech OWL – Center for Health, Social Affairs and Technology

Bielefeld University of Applied Sciences is raising regional health care to a new and forward-looking level with a novel concept of user-oriented and health-related technology research. CareTech OWL's format combines aspects of basic social, nursing, medical and therapeutic care and brings together people in need of support and their families with nursing staff, medical professionals, therapists, engineers and company representatives from the medical supply industry as well as other partners from the OWL health region in one place. Here, health-related questions are intended to be answered jointly in a closely interlinked ecosystem of practices, laboratories, sample environments and workshops. The center involves students from the fields of health, social sciences and engineering, thus creating an innovative transfer culture that, from basic and application research to acute individual solutions, creates and provides lean, demand-oriented formats for the preservation of the population's health.

Center for Entrepreneurship (CFE)

The CFE is the central coordination point for start-up funding at Bielefeld University of Applied Sciences and makes a major contribution to establishing a sustainable start-up culture. The interdisciplinary institution supports students, academic staff and professors of Bielefeld University of Applied Sciences extensively at all stages of the start-up process. The measures range from curricular and extra-curricular (teaching) offers to concrete support through an own incubator, coaching and mentoring programme. Members of the university will thus receive concrete assistance in the search, validation and implementation of innovative and sustainable ideas. In addition, extensive networking with the regional start-up ecosystem makes it easier for entrepreneurs to enter the market in a needs-based way. The CFE is funded by the Federal Ministry for Economic Affairs and Climate Action (BMWK) and by the Ministry of Economic Affairs, Innovation, Digitalization and Energy of the State of North Rhine-Westphalia within the scope of the programmes "EXIST-Potentiale" and "Exzellenz Start-up Center.NRW," respectively.

Center for Applied Data Science Gütersloh (CfADS)

The CfADS research network at Gütersloh Campus explores and designs the digital data world of companies and institutions. It focuses on the application- and implementation-oriented execution of innovative research and development projects in the field of data acquisition, preparation and analysis, for example for the digitalization and optimization of work and business processes. CfADS is funded by the European Regional Development Fund (ERDF) and the federal state of NRW within the framework of the "Research Infrastructures" competition.

Center for Interdisciplinary Materials Research and Technology Development (CiMT)

As a joint project of Bielefeld UAS and Bielefeld University, CiMT combines the complementary strengths of the research institutes "Bielefeld Institute for Applied Materials Research" (BIfAM, Bielefeld UAS) and the "Bielefeld Institute for Nanoscience" (BINAS, Bielefeld University). In partnership with leading technological companies in the region, CiMT will be expanded into a complete R&D platform for applied materials research. It focuses on the development of more durable and resource-efficient materials and optimised industrial production processes with a high potential for saving raw materials.

Institute for Educational and Health-Care Research in the Health Sector (InBVG)

At InBVG, researchers from the fields of nursing, therapy and health sciences, medicine and vocational education and training work on current issues relating to societal challenges and issues. It focuses on issues related to demographic change and objectives such as health, well-being and social participation.

Research and development projects at InBVG in education research aim at vocational education for health professions, digitalisation of educational processes, curriculum development and the development and evaluation of study and continuing education offers for educators at schools and companies in the health sector. Health-care research focuses on the promotion of health literacy and social participation, digitalisation in the health sector as well as the development and evaluation of user-oriented health care concepts for specific target groups, such as people with disabilities and chronic diseases, people in need of care and caregivers.

The transfer of current research results to studies and teaching supports application-oriented teaching and learning in the field of health.

Institute for the Intelligent Building (InfinteG)

InfinteG focuses on research on living and working in intelligent buildings. To address this issue, interdisciplinary working groups are developing concepts that can be used to renovate and redesign buildings to meet future demands for well-being and functionality. The research activities are structured in the three areas of "Work and well-being in the intelligent building," Sensor data fusion in the intelligent building" and "Dynamic escape route management."

The institute developed from the former research focus "InteG-F: Building Technologies under One Roof."

Institute for System Dynamics and Mechatronics (ISyM)

ISyM aims at synergetic cooperation between engineers in mechanical engineering, electrical engineering and information technology in the fields of model-based system development, system dynamics and control engineering as well as mechatronics. On the one hand, joint projects aim to further develop methods and processes and transfer them directly into industry. The offer ranges from the simple utilization and application of the methods of model-based system development up to the higher-level process design in companies in the sense of an integrated cross-domain development process. On the other hand, the institute's research strategy includes the objective of opening up completely new fields of application and technology in the long term, such as medical technology and also biomechatronics.

Institute for Technical Energy Systems (ITES)

The Institute for Technical Energy Systems (ITES) conducts research – currently in five key subject areas – into solutions for designing future-oriented and intelligent energy concepts as well as the development of the necessary technologies. The interdisciplinary team has extensive project experience in smart mobility, smart energy, smart interfaces, smart light and smart textiles. The research fields include energy storage, conversion and management, circular value creation, mobility and lightweight construction, textile technologies and intelligent human-machine interaction.

Interdisciplinary Research and Application Development in Environmental Informatics (IFE)

The research focus IFE combines the already existing expertise of the participating professorships in an interdisciplinary research team from the fields of computer science, IT security, physics and measurement technology with the aim of contributing to the development of climate-friendly residential buildings. Special emphasis is placed on the renovation of existing properties taking into account the needs of the residents.

Facts and Figures

Mieletec FH Bielefeld

Mieletec FH Bielefeld is a long-term cooperation in the field of research into methods, processes and concepts for innovative home appliances. The aim of the project is a permanent scientific cooperation for a joint acquisition of knowledge in the fields of electrodynamics, thermodynamics and fluid mechanics. In these areas, it aims to jointly develop scientific foundations and to advance the expansion of forward-looking innovative know-how with regard to processes and methods in household appliances with the objective of optimizing these processes and methods, in particular in terms of increasing resource efficiency and boosting the benefits for potential end users.

• Research projects

Faculty of Design

A Portrait of the Artist as a Young Mother – Maternity as a Constructed Image
Duration: 2021–2022
Prof. Katharina Bosse

Bielefeld-Bilder (Images of Bielefeld)
Duration: 2021–2022
Prof. Dr.
Andreas Beaugrand

Everybody Can Be
Duration: 2021–2023
Prof. Katharina Bosse

Fred Schierenbeck. Raum. Farbe. Zeit. (Space. Colour. Time.) Painting and picture objects.
Duration: 2021–2022
Prof. Dr.
Andreas Beaugrand

Iris Friedrichs Lebensräume (Iris Friedrich's Habitats)
Duration: 2021
Prof. Dr.
Andreas Beaugrand

Leineweber Future LAB
Duration: 01/12/2020–31/12/2021
Prof. Dr. Dr.
Andrea Ehrmann,
Prof. Philipp Rupp

Personalized Augmented Guidance for the Autonomy of People with Intellectual Impairments (PAGAnInl)
Duration: 01/09/2019–31/08/2023
Prof. Dr. Dominic Becking,
Prof. Dr. Gudrun Dobslaw,
Prof. Dr. Udo Seelmeyer,
Prof. Patricia Stolz

Bielefeld University of Applied Sciences

The American Night – Cinematic Portraits
Duration: 2017–2023
Prof. Katharina Bosse

The Femx Photographer's Road Trip
Duration: 2014–2025
Prof. Katharina Bosse

Thingstätten – Publication and Database
Duration: until the end of 2023
Prof. Katharina Bosse

ÜberMalen
Duration: 2021
Prof. Dr.
Andreas Beaugrand

ZwischenBild
Duration: 2021–2023
Prof. Emanuel Raab

Working Worlds in Fashion/ Textile and Fashion Production in Europe
Duration: 01/10/2021–01/03/2022
Prof. Philipp Rupp

50 Years of Future. Bielefeld UAS 1971–2021
Duration: 2021
Prof. Dr.
Andreas Beaugrand

Faculty of Minden Campus

Adaptive Yield Forecasting with Data Mining in the PV Field Based on a Digital Signature of the PV Modules and System Components
Duration: 01/08/2018–31/12/2021
Prof. Dr.-Ing. Grit Behrens

BIMiB Load-Bearing System
Duration: 01/05/2019–30/04/2023
Prof. Dr. Dominic Becking

Development and Evaluation of an Intervention to Avoid Rebound Effects Triggered by Energy-Oriented Renovation (Environ)
Duration: 01/09/2018–15/04/2022
Prof. Dr.-Ing. Grit Behrens,
Prof. Dr.
Sebastian Bamberg

Dynamic Runtime Environment for Organic (Dis)Aggregating IoT Processes (DORIOT)
Duration: 01/05/2019–30/04/2022
Prof. Dr. Dr.-Ing.
Matthias König

Experience from the Operation of a Partially Insulated Downhole Heat Exchanger
Duration: since 09/2016
Prof. Dr.-Ing.
Hans-Georg Gülzow

Feasibility Study for an Intelligent and Manufacturer-Independent Photovoltaic Module Database (iPVModul)
Duration: 01/03/2021–31/08/2021
Prof. Dr.-Ing. Grit Behrens

Institute for the Intelligent Building
Duration: 03/06/2016–31/12/2021
Prof. Dr. Dominic Becking et al.

International Building Performance Evaluation (IBPE)
Duration: ongoing since 1997
Prof. Dr.-Ing.
Ulrich Schramm

Partially Automatic Generation of 3-D Models from 2-D Drawings Using Methods of Machine Learning and Spatial Reasoning (AutoBuild3D)
Duration: 01/11/2019–28/02/2022
Prof. Dr.-Ing.
Michael Eisfeld

Personalized Augmented Guidance for the Autonomy of People with Intellectual Impairments (PAGAnInl)
Duration: 01/09/2019–31/08/2023
Prof. Dr. Dominic Becking,
Prof. Dr. Gudrun Dobslaw,
Prof. Dr. Udo Seelmeyer,
Prof. Patricia Stolz

Pipe Network Configurator
Duration: 01/04/2021–31/03/2022
Prof. Dr.-Ing. Carsten Gips

Production and Calibration of Non-Linear Load Cells
Duration: 01/09/2019–31/12/2021
Prof. Dr.-Ing.
Oliver Utz Wetter

Stationary Telepresence Consultation in Rural Areas (STellaR)
Duration: 01/09/2020–31/08/2024
Prof. Dr. Udo Seelmeyer,
Prof. Dr. Dominic Becking

Faculty of Engineering and Mathematics

Additive Production of Heat Pipe Injection Molding Tools (AMHeaP)
Duration: 01/03/2021–28/02/2023
Prof. Dr.-Ing.
Christoph Jaroschek

AI4DG: AI-on-the-Edge for a Safe and Autonomous Control of the Distribution Grid With a High Proportion of Renewable Energies
Duration: 01/10/2021–30/09/2024
Prof. Dr.-Ing. Jens Haubrock

AI for the Working Environment of Industrial Medium-Sized Businesses (KIAM Competence Center)
Duration: 15/10/2020–30/09/2025
Prof. Dr. Swetlana Franken,
Prof. Dr.-Ing.
Martin Kohlhase

AI-Supported Platform for the Classification and Sorting of Plant Seeds: Evaluation of Seed Purity with Rapeseed as a Test Case (KIRa)
Duration: 21/05/2021–20/05/2024
Prof. Dr.-Ing.
Reinhard Kaschuba

A Modelica-based Systems Biology approach to engineer the cell's decision between growth, storage, and secondary metabolites (MoSysBl)
Duration: ongoing
Prof. Dr.
Bernhard Bachmann

A Production Site Closes Cycles (CirQualityOWL)
Duration: 17/09/2019–16/09/2022
Prof. Dr.-Ing.
Eva Schwenzfeier-Hellkamp

Application-Oriented Industrial IoT Platform for the Center for Applied Data Science Gütersloh
Duration: 01/11/2018–30/09/2022
Prof. Dr.-Ing.
Martin Kohlhase,
Prof. Dr. Pascal Reusch,
Prof. Dr.-Ing.
Wolfram Schenck

Audiovisual Support Through a Cognitive and Mobile Assistance System for the Modern Working World (AVIKOM)
Duration: 01/05/2019–30/04/2022
Prof. Dr.-Ing.
Joachim Waßmuth

Building a Human-Centered Smart Service Lab for the Center for Applied Data Science
Duration: 01/11/2019–30/04/2022
Prof. Dr.-Ing.
Martin Kohlhase,
Prof. Dr. Pascal Reusch,
Prof. Dr.-Ing.
Wolfram Schenck

Building an IoT-Influenced Production as a Heterogeneous Data Source and Open Research Platform for the Center for Applied Data Science
Duration: 01/11/2018–31/10/2021
Prof. Dr. Pascal Reusch

"CellActive": Development of a Plasma/UV Treatment for Surface Hydrophilization of Cell Culture Scaffolds to Improve Cell Adhesion of Adherent Cells and Stem Cells
Duration: 01/04/2021–30/09/2023
Prof. Dr. Dr.
Andrea Ehrmann

Center for Interdisciplinary Materials Research and Technology Development (CiMT)
Duration: 01/07/2019–31/12/2022
Prof. Dr. Sonja Schöning

Co-Cultivation of Microalgae with Synergistic Bacteria (COMBINE)
Duration: 01/02/2019–30/04/2023
Prof. Dr. Anant Patel

Coloured Petri Nets (CPN)
Duration: ongoing since 01/09/2012
Prof. Dr.
Bernhard Bachmann

Competence Center Arbeitswelt. Plus (Working World.Plus)
Duration: 15/10/2020–30/09/2025
Prof. Dr. Swetlana Franken,
Prof. Dr.-Ing.
Martin Kohlhase

Construction and Testing of a Demonstration Plant of a Phase Separation Unit for CO_2 Cooling Process
Duration: 01/05/2019–30/09/2021
Prof. Dr.-Ing.
Jürgen Hermeler

Constructive Human-AI Collaboration: A Human-Centric Approach to Preventing Mental Strain in the Workplace
Duration: 01/04/2021–30/09/2021
Prof. Dr. Thomas Süße

DeepPRO – Multi-Criteria Optimization of Industrial Production Planning Using Simulation and Self-Learning Algorithms
Duration: 01/12/2020–30/11/2022
Prof. Dr.-Ing. Jürgen Sauser

Development of a Compiler Backend for the Programming Language Modelica
Duration: ongoing
Jens Schönbohm

Development of a Frequency-Dependent Damping Technology for Hydraulic Shock Absorbers
Duration: 01/09/2019–31/10/2021
Prof. Dr.
Marc-Oliver Schierenberg

Development of an Intelligent Curtain Fan Sensor System to Optimize the Thermal Comfort of Cattle (iCurS)
Duration: 01/08/2019–31/07/2022
Prof. Dr.-Ing.
Eva Schwenzfeier-Hellkamp

Development of Holistic Formulation Methods for the Biological Crop Protection of Berries (HOPE)
Duration: 15/04/2021–14/04/2024
Prof. Dr. Anant Patel

Development of a Plant for the Storage and Reconversion of Excess Electrical Energy (CCHS)
Duration: 08/04/2020–30/09/2022
Prof. Dr.-Ing.
Jürgen Hermeler

Development of a Modelling and Calculation Environment with Its Own Library for Optimization Tasks
Duration: ongoing since 2009
Jens Schönbohm

Development of a Thermally Controllable Chemical Processing Methodology for Targeted Modification of the Molecular Weight Distribution of PA12 Powder
Duration: 03/12/2018–30/04/2021
Prof. Dr.-Ing. Bruno Hüsgen

Development of Novel Formulations for Behavioural Manipulation Strategies for the Biological Control of Cacopsylla Picta, the Transmitter of Apple Proliferation (PICTA-KILL)
Duration: 15/01/2016–14/03/2021
Prof. Dr. Anant Patel

Development of Novel Materials and Formulations with a Modular Twin-Screw Extruder (Extru4Mat)
Duration: 01/02/2021–31/12/2021
Prof. Dr.-Ing. Bruno Hüsgen

Development and Use of Smart Fertilizers for Organic Blueberry Cultivation
Duration: 05/02/2019–15/08/2022
Prof. Dr. Anant Patel

Development and Qualification of a 3D-Printed Hybrid Tool Element (AMHyTo)
Duration: 01/12/2021–31/12/2022
Prof. Dr.-Ing.
Christoph Jaroschek

Development and Validation of an AI-Based System for the Autarkic Control of Intelligent Cellular Grids (KI Grid)
Duration: 01/01/2020–31/12/2022
Prof. Dr.-Ing. Jens Haubrock

Development of Data-Based Methods for Error Prediction and for Error-Tolerant Plant Operation Using IoT-Shaped Production as a Validation Environment
Duration: 01/11/2018–31/10/2021
Prof. Dr.-Ing.
Martin Kohlhase

Development of Innovative Formulation Methods Using Beneficial Fungi as Novel Plant Fortifiers for the Potato Crop Rotation (FORK)
Duration: 01/10/2019–30/09/2022
Prof. Dr. Anant Patel

Development of Prototype Workflows and Methods for IoT-Influenced Production
Duration: 01/11/2018–31/10/2021
Prof. Dr.-Ing.
Wolfram Schenck

Didactic Further Development of Risk Analysis and Risk Modeling for Teaching Stochastics
Duration: ongoing
Prof. Dr. Claudia Cottin

Digital Determination of Therapy Success in the Field of Compression Therapy (THERAFOLG-KOMP)
Duration: 01/08/2018–31/03/2022
Prof. Dr. Dr.
Andrea Ehrmann

Digitalization of a Process Chain for the Production, Characterization and Prototypical Application of Magnetocaloric Alloys (DiProMag)
Duration: 01/02/2021–31/01/2024
Prof. Dr. Christian Schröder

Discrete Modelling and Optimization of Processes with Petri Nets Relevant for Practical Application
Duration: ongoing since 01/04/2013
Dr. Sabrina Proß

ExperiMint DiGiTal
Duration: 01/01/2020–31/08/2022
Prof. Dr. Mariam Dopslaf,
Prof. Dr.-Ing.
Jörg Nottmeyer

Fit2Load – Planning and Implementation of a Mobility Concept for the Low-Carbon Use of Electromobility in the Field of Delivery Traffic Focusing on Intelligent and Economic Grid Integration
Duration: 01/01/2018–30/06/2021
Prof. Dr.-Ing.
Jens Haubrock

Facts and Figures

Foamdynamics
Duration: 01/09/2021–31/08/2022
Prof. Dr. Martin Petry

GeSA (Controlled Synchronous Operation of Eccentric Shafts for the Use in Vibrating Machines)
Duration: 01/01/2018–31/07/2021
Prof. Dr.-Ing.
Sebastian Hoffmann

HaekelMasch: Development of a Functional and Fully Automated Crochet Machine
Duration: 01/02/2021–31/01/2023
Prof. Dr. Dr.
Andrea Ehrmann

Human-Centered Smart Service Lab – Establishing a Human-Centered Smart Service Lab for the Center for Applied Data Science
Duration: 01/11/2019–31/12/2022
Prof. Dr.-Ing.
Wolfram Schenck

Hybrid Models to Precisely Predict Joint Torques/Movements Based on sEMG Measurements for Wearable Robotics
Duration: 01/01/2018–31/08/2022
Prof. Dr. Axel Schneider

Identifying and Classifying Progression Markers: Methods for Measuring Inactive HIV Pathogens in HIV Reservoirs in HIV Patients
Duration: 15/12/2020–14/12/2022
Prof. Dr. Dirk Lütkemeyer

Individualization in Health and Engineering (InGeTec)
Duration: 01/07/2017–30/06/2021
Prof. Dr.-Ing.
Christoph Jaroschek,
Prof. Dr. Annette Nauerth,
Prof. Dr.-Ing.
Magnus Horstmann,
Prof. Dr.-Ing. Rolf Naumann,
Prof. Dr. Patrizia Raschper,
Prof. (i. V.) Dr.
Renate von der Heyden

Innovative LED Lamp for Increased Requirements in Livestock Farming (InnoLED_4_Livestock)
Duration: 01/08/2017–31/01/2021
Prof. Dr.-Ing.
Eva Schwenzfeier-Hellkamp

Intelligent Cooking (InGa)
Duration: ongoing since April 2010
Prof. Dr. Christian Schröder,
Prof. Dr. Sonja Schöning

Interprofessional from the Outset: Biology – Engineering – Health
Duration: 01/10/2019–31/07/2022
Prof. Dr. Lars Fromme,
Prof. Dr. Annette Nauerth,
Prof. Dr.-Ing.
Joachim Waßmuth

Leineweber Future LAB
Duration: 01/12/2020–31/12/2021
Prof. Dr. Dr.
Andrea Ehrmann,
Prof. Philipp Rupp

Live and Inverted Learning through Integration of Distributed Experts and Systems
Duration: 01/01/2020–31/03/2021
Prof. Dr.-Ing.
Magnus Horstmann

MagnetoShield: Development of Flexible Materials from Partially Conductive Carrier Textiles as Well as Nanofiber Mats with Magnetic Nanoparticles for Shielding Static Magnetic Fields up to 100 mT and Damping of EM Fields from 50 Hz by > 12 dB
Duration: 01/12/2021–30/11/2023
Prof. Dr. Dr.
Andrea Ehrmann

Machine Intelligence for the Prediction of Interaction Based on Motion Information (MIPIB)
Duration: 01/04/2021–30/09/2022
Prof. Dr.-Ing.
Thorsten Jungeblut

Making Human-AI Collaboration Possible: Developing Employees' AI Skills
Duration: 01/05/2021–31/12/2022
Prof. Dr. Thomas Süße

Measuring and Predicting the Aging of Laminated Safety Glass
Duration: 01/10/2021–01/10/2023
Prof. Dr.-Ing. Bruno Hüsgen

Method Project for the Development of a Smart Service for Predictive and Proactive Production Planning and Control Using AI Methods (Predictive Scheduling)
Duration: 01/11/2019–30/04/2022
Prof. Dr. Pascal Reusch

Method Project for the Development of a Worker Assistance System for Quality Forecasting in Industrial Production ("Predictive Quality")
Duration: 01/11/2019–30/04/2022
Prof. Dr.-Ing.
Martin Kohlhase

ML4Pro2 – Machine Learning for Production and Its Products
Duration: 01/12/2018–31/03/2022
Prof. Dr.-Ing.
Wolfram Schenck

Model-Based Development of an Energy-Efficient ACC System for Electric Vehicles Taking into Account V2V/V2X Communication (eco.ACC)
Duration: 01/06/2021–31/05/2022
Prof. Dr.-Ing. Peter Reinold

MonoCab OWL: Construction and Demonstration of MonoCabs
Duration: 01/09/2020–31/12/2022
Prof. Dr.-Ing. Rolf Naumann

MOSES – Modular Hardware/Software Platform for the Flexible Use of Modern Sound Source Localization Algorithms
Duration: 01/12/2018–31/10/2022
Prof. Dr.-Ing.
Joachim Waßmuth

Network Study Bioeconomy
Duration: 01/11/2021–31/12/2022
Prof. Dr. Frank Gudermann

New Integrated Mobility in Urban-Rural Areas
Duration: 09/12/2019–31/12/2024
Prof. Dr. Rolf Naumann

Neuro-Inspired Resource-Efficient Hardware Architectures for Plastic SNNs (NireHApS)
Duration: 01/02/2021–30/11/2024
Prof. Dr.-Ing.
Thorsten Jungeblut

Next-Generation Intelligent Technical Systems through Machine Learning (ITS.ML)
Duration: 01/08/2018–31/01/2022
Prof. Dr. Axel Schneider,
Prof. Dr.-Ing.
Wolfram Schenck

OpenModelica Simulation Development Project
Duration: 01/09/2012–31/03/2022
Prof. Dr.
Bernhard Bachmann

Parallax in Electric Fields (PERFEcto)
Duration: 01/02/2020–15/10/2022
Prof. Dr. Axel Schneider

PHyMoS – Proper Hybrid Models for Smarter Vehicles
Duration: 01/03/2021–29/02/2024
Prof. Dr.
Bernhard Bachmann

Power2Load – Intelligent Automation to Expand Charging Points for Electric Vehicles and Reduce CO_2 by Shifting Loads and Increasing the Share of Renewables in the Charging Current for Electrified Company Cars (Power2Load)
Duration: 01/11/2019–31/10/2022
Prof. Dr.-Ing. Jens Haubrock

Psychoacoustic Metrics for the Automated Evaluation of Mechatronic Systems Using the Example of Electric Motors (PsyMe)
Duration: 01/04/2021–30/09/2022
Prof. Dr.-Ing.
Joachim Waßmuth

Radar-Based Patient Monitoring in an Intelligent Medical Bed
Duration: 08/04/2020–30/06/2022
Prof. Dr.-Ing. Thomas Hesse

Renephro
Duration: 01/10/2021–31/03/2023
Prof. Dr. Dirk Lütkemeyer

Research and Development to Cultivate Microalgae and Mosses on Textile Substrates outside a Bioreactor for Urban Greening and Improvement of the Indoor Climate (TUAM)
Duration: 01/02/2021–31/01/2023
Prof. Dr. Dr.
Andrea Ehrmann

Research Cooperation with the Company Stiegelmeyer GmbH & Co. KG
Duration: 01/04/2018–31/03/2021
Prof. Dr. Axel Schneider,
Prof. Dr.-Ing.
Joachim Waßmuth,
Prof. Dr.-Ing. Rolf Naumann

Research Grant for the Georg Forster Research Scholarship of Dr. Amir Bahri
Duration: 01/04/2021–31/03/2023
Prof. Dr.-Ing.
Thomas Kordisch

Robust Individualization of Smart Sensors through Transfer-Learning-Based Feature Selection (RoSe)
Duration: 01/02/2021–30/11/2024
Prof. Dr. Axel Schneider

Simulation and Optimization of Lamination Processes
Duration: 20/09/2021–19/12/2021
Prof. Dr.-Ing.
Christoph Jaroschek

Smart Demand Forecasting: Method Project for the Development of a Smart Service for an AI-Based Demand Forecast to Optimize the Customer/Supplier Interface in the Supply Chain of Industrial Medium-Sized Businesses
Duration: 01/11/2019–30/04/2022
Prof. Dr. Pascal Reusch

SolarFlex: Development of a Novel, Fully Textile-Integrated Solar Cell Based Exclusively on Non-Toxic Components for Use in Mobile and Static Stand-Alone Photovoltaic Installations
Duration: 01/04/2021–30/09/2023
Prof. Dr. Dr.
Andrea Ehrmann

StereoTex: Development of a Porous (Volume Porosity >= 3%) Resin to 3D Print a Stab-Resistant Composite on Technical Textiles by Means of a Stereolithographic (SLA) Process
Duration: 01/06/2021–30/11/2023
Prof. Dr. Dr.
Andrea Ehrmann

Stabilised Metal Carbon Composites (MeCC)
Duration: 01/09/2019–31/07/2021
Prof. Dr. Dr.
Andrea Ehrmann

Structural Integrated Heat Pipes in Tool Elements with Ceramic Thermal Insulation (CeraHeaP)
Duration: 01/07/2019–30/11/2021
Prof. Dr.-Ing.
Christoph Jaroschek

Systematic Development of Teaching Concepts for Mixed-Reality-Based Engineering Didactics
Duration: 08/04/2020–31/12/2021
Prof. Dr.-Ing.
Jan Robert Ziebart

Target-Specific RNA-Based Bioprotectants for Sustainable Crop Production in a Changing Climate (BioProtect)
Duration: 01/07/2021–30/06/2024
Prof. Dr. Anant Patel

Technology and Didactics for Media in Teaching
Duration: ongoing
Prof. Dr. Jörn Loviscach

Facts and Figures

Transformation in Care and Technology (TransCareTech)
Duration: 01/11/2021–31/10/2024
Prof. Dr. Udo Seelmeyer,
Prof. Dr. Annette Nauerth,
Prof. Dr. Axel Schneider

7dSh – A Cyanobacteria-Based Natural Sugar on the Way to a Sustainable Herbicide (7dSherbicide)
Duration: 01/09/2021–31/08/2024
Prof. Dr. Anant Patel

Faculty of Social Sciences

Arrived Well – Strong Parents and Children in Primary Schools
Duration: 01/10/2021–31/08/2023
Prof. Dr. Yüksel Ekinci

be_smart – The Importance of Specific Music Apps for the Participation in Cultural Education of Young People and Young Adults with Complex Disabilities
Duration: 01/05/2018–30/09/2021
Prof. Dr. Juliane Gerland

Bots Building Bridges (3B): Theoretical, Empirical, and Technological Foundations for Systems That Monitor and Support Political Deliberation Online
Duration: 01/12/2020–30/11/2024
Prof. Dr. Udo Seelmeyer

Development and Evaluation of an Intervention to Avoid Rebound Effects Triggered by Energy-Oriented Renovation (Environ)
Duration: 01/09/2018–15/04/2022
Prof. Dr.
Sebastian Bamberg,
Prof. Dr.-Ing. Grit Behrens

Digitalization in Day Care Centers
Duration: 01/03/2020–30/09/2021
Prof. Dr. Helen Knauf

Evaluation of Professionals' and Volunteers' Skills to Improve their Confidence to Act – Recognizing Signs of Sexualized Violence in Children and Young People
Duration: 28/05/2021–21/12/2021
Prof. Dr.
Wolfgang Beelmann

Female Addiction – Resilience in Women with Addictions and Their Coping Strategies in the Course of Their Lives (WuS)
Duration: 01/05/2021–31/03/2022
Prof. Dr. Katja Makowsky

"Finally someone asks me!" – Participatory Data Collection with and among Single Parents in Bielefeld-Stieghorst
Duration: 01/01/2019–31/03/2021
Prof. Dr. Michael Stricker

From All Sides – Gender in Intersectional Discrimination Settings. Students' Experiences with (In-) Competence in Advisory Centers
Duration: 15/09/2020–15/11/2021
Dr. Madlen Preuß

(Gem-)einsam durch Corona (Facing Covid Together and Alone)
Duration: 01/01/2020–31/12/2021
Prof. Dr. Udo Seelmeyer

Initiation of a Local Mobility Turnaround through Inter-Company Mobility Management and Collective Learning Processes for Changing Mobility Behaviour (Bad Boll)
Duration: 01/11/2018–31/01/2021
Prof. Dr.
Sebastian Bamberg

Innovative Ways to Participate in Working Life – Rehapro Consulting – Encouraging – Assisting (BEA)
Duration: 01/12/2019–30/11/2024
Prof. Dr. Gudrun Dobslaw,
Prof. Dr. Michael Stricker

Machine Decision Support in Welfare State Institutions: Technical Possibilities, Professional Use, Democratic Implications and Political-Legal Regulatory Requirements (MAEWIN)
Duration: 04/10/2017–31/12/2022
Prof. Dr. Udo Seelmeyer

Migration and Organizational Change in Sports Clubs (MoWiS)
Duration: 01/11/2017–28/02/2021
Prof. Dr.
Thomas Altenhöner

MobiliSta – Mobility Areas Away from the Car-Friendly City
Duration: 01/10/2017–31/03/2021
Prof. Dr.
Sebastian Bamberg

Personalized Augmented Guidance for the Autonomy of People with Intellectual Impairments (PAGAnlnl)
Duration: 01/09/2019–31/08/2023
Prof. Dr. Dominic Becking,
Prof. Dr. Gudrun Dobslaw,
Prof. Dr. Udo Seelmeyer,
Prof. Patricia Stolz

Psychosocial Counselling for Refugee Children and Adolescents (Diakonie II)
Duration: 01/06/2021–31/05/2024
Prof. Dr. Michael Stricker

RESPOND! No to Anti-Semitism on the Internet! Development, Implementation and Evaluation of a Multiplier Training Course to Combat Anti-Semitic Hate Speech in Young People's Social Media – a Collaborative Project
Duration: 01/08/2021–31/07/2025
Prof. Dr. Gudrun Dobslaw

Stationary Telepresence Consultation in Rural Areas (STellaR)
Duration: 01/09/2020–31/08/2024
Prof. Dr. Udo Seelmeyer,
Prof. Dr. Dominic Becking

Strengthening the Plural We in/of Society
Duration: 01/09/2021–31/03/2022
Prof. Dr. Cornelia Muth

Textbook "Supervision – Einführung für Studierende" (Supervision – An Introduction for Students)
Duration: 01/09/2019–30/09/2022
Prof. Dr. Gertrud Siller

The Hospital Social Services in Crisis Mode – Findings for a Future-Oriented Care through Social Work in the Interdisciplinary Team in OWL Post COVID-19 (postCOVID@owl)
Duration: 01/10/2021–30/09/2023
Prof. Dr.
Anna Lena Rademaker

Transformation in Care and Technology (TransCareTech)
Duration: 01/11/2021–31/10/2024
Prof. Dr. Udo Seelmeyer,
Prof. Dr. Annette Nauerth,
Prof. Dr. Axel Schneider

Faculty of Business

ADRIAN – Authority-Dependent Risk Identification and Analysis in online Networks
Duration: 15/05/2021–31/12/2024
Prof. Dr. Hans Brandt-Pook, Dr. Frederik Bäumer

Accrediting Competences Acquired in Occupations to Higher Education Studies
Duration: 01/12/2020–31/12/2021
Prof. Dr. Heiko Burchert

AWARE – Work 4.0: Analysis of Needs and Development of Support Offers for Companies in the Manufacturing Industry to Shape the Digital Change in the Work Environment
Duration: 01/12/2018–31/01/2021
Prof. Dr. Swetlana Franken

BlockWASTE
Duration: 01/10/2020–30/09/2022
Prof. Dr. Rainer Lenz, Bernd Kleinheyer

CfE2020
Duration: 01/04/2020–31/03/2024
Prof. Dr. Tim Kampe

Competence Center Arbeitswelt. Plus (Working World.Plus)
Duration: 15/10/2020–30/09/2025
Prof. Dr. Swetlana Franken, Prof. Dr.-Ing. Martin Kohlhase

DAbeKom – Database for Accrediting Professional Competences
Duration: ongoing
Prof. Dr. Axel Benning, Prof. Dr. Heiko Burchert

Data.LiteracySkills@OWL –DaLiS@OWL
Duration: 28/01/2020–31/12/2022
Prof. Dr. Daniel Antonius Hötte

Determination of Optimum Threshold Values
Duration: 2018–2021
Prof. Dr. Gerrit Hirschfeld

Diversity 4.0 – Promoting a Wider Participation of Women, Older People and Immigrants in Shaping Digitalization in Companies in East Westphalia-Lippe
Duration: 01/12/2018–31/01/2021
Prof. Dr. Swetlana Franken

Excellence Start-up Center OWL
Duration: 01/09/2019–31/08/2024
Prof. Dr. Uwe Rössler

Living Social Robots Creating Trust and Sympathy (VIVA) – Legal, Ethical and Social Implications (ELSI-Accompanying Research) as Well as Intellectual Property Rights and Exploitation
Duration: 01/08/2018–31/12/2021
Prof. Dr. Axel Benning

OER Content.NRW with the Module Introduction to Business Administration
Duration: 01/10/2020–30/09/2022
Prof. Dr. Andreas Stute

Optimized Crisis Communication after Attacks with an Islamist Background in Germany (OKAI)
Duration: 01/10/2020–30/09/2023
Prof. Dr. Gerrit Hirschfeld

Bielefeld University of Applied Sciences

Practical Projects in Business Information Systems
Duration: 01/10/2020–28/02/2021
Prof. Dr. Hans Brandt-Pook, Prof. Dr. Alexander Förster, Prof. Dr.-Ing. Peter Hartel, Prof. Dr. Jörg-Michael Keuntje, Prof. Dr. Achim Schmidtmann, Prof. Dr. Volker Wiemann

Registration, Adherence and Data Availability of Clinical Trials in Germany – Time Trends and Structural Factors
Duration: 01/10/2018–31/03/2022
Prof. Dr. Gerrit Hirschfeld

Short Scales for Measuring the Perception of Websites
Duration: 2018–2021
Prof. Dr. Gerrit Hirschfeld

Sovereignty in Digitalized Living Environments (SoDiLe)
Duration: 01/04/2021–31/03/2024
Prof. Dr. Axel Benning

The Quantum Internet in the Greater Munich Area (MuQuaNet)
Duration: 01/04/2021–31/12/2024
Prof. Dr. Hans Brandt-Pook, Dr. Frederik Bäumer

Working from Home – New Spaces or Old Gender Roles? Empirical Study of Gender-Specific Aspects in the Flexibilization of Work Short Title: Her Home Office
Duration: 01/05/2021–21/12/2021
Prof. Dr. Swetlana Franken

Faculty of Health

Development of Cooperative Relationships in Nursing Training
Duration: 01/01/2019–31/12/2021
Prof. Dr. Änne-Dörte Latteck

Development of the Module "Digital Future Skills in Nursing" (DiFuSiN)
Duration: 01/03/2020–31/12/2021
Prof. Dr. Änne-Dörte Latteck, Prof. Dr. Christa Büker

Digitalization in Healthcare – A Challenge for In-Company Educators (Digi_BB)
Duration: 01/08/2020–31/12/2021
Prof. Dr. Marisa Kaufhold

Digital and Virtually Supported Case Work in Health Professions (DiViFaG)
Duration: 01/01/2020–31/12/2022
Prof. Dr. Annette Nauerth, Prof. Dr. Katja Makowsky

Further Development and Quality Improvement of Day Care for Older People in North Rhine-Westphalia (TagespflegeQualität TpQ)
Duration: 01/10/2020–30/09/2022
Prof. Dr. Christa Büker, Prof. Dr. Änne-Dörte Latteck

Health and Well-Being of Clients of Outpatient Care during the Covid-19 Pandemic (GeWoC)
Duration: 01/07/2020–30/06/2021
Prof. Dr. Katja Makowsky

In-Company Teaching and Learning in Health Professions
Duration: 01/07/2019–26/02/2022
Prof. Dr. Beate Klemme

Individualization in Health and Engineering (InGeTec)
Duration: 01/07/2017–30/06/2021
Prof. Dr.-Ing. Magnus Horstmann, Prof. Dr.-Ing. Christoph Jaroschek, Prof. Dr. Annette Nauerth, Prof. Dr.-Ing. Rolf Nauman, Prof. Dr. Patrizia Raschper, Prof. (i. V.) Dr. Renate von der Heyden

Interprofessional from the Outset: Biology – Engineering – Health
Duration: 01/10/2019–31/07/2022
Prof. Dr. Lars Fromme, Prof. Dr. Annette Nauerth, Prof. Dr.-Ing. Joachim Waßmuth

Making Health Easy – Designing Health Promotion in Workplaces and Homes
Duration: 01/05/2021–30/04/2024
Prof. Dr. Änne-Dörte Latteck

Medication Management and Health Care for People with Intellectual Disabilities (MGMB)
Duration: 01/11/2017–31/05/2021
Prof. Dr. Änne-Dörte Latteck

Model Project for the Creation of Digital Contact, Communication and Leisure Opportunities through the Expansion of Media Competence and the Essential Equipment in the Facilities and Services of Lebenshilfe Brakel (ROOKIE)
Duration: 01/10/2020–31/03/2022
Prof. Dr. Änne-Dörte Latteck

Nursing and Care of People with Learning Difficulties from a Family Perspective
Duration: 01/07/2019–30/06/2023
Prof. Dr. Änne-Dörte Latteck

Prevention and Rehabilitation for Caregivers (PuRpA): Overall Project Coordination and Cross-Sectional Analyses – Prevention and Rehabilitation for Caregivers – Importance of Target-Group-Oriented and User-Oriented Care Concepts
Duration: 01/10/2020–30/09/2023
Prof. Dr. Norbert Seidl, Prof. Dr. Änne-Dörte Latteck, Prof. Dr. Christa Büker

Promotion of Physical Abilities and Physical Activity of People with Intellectual Disabilities (förges 3)
Duration: 01/06/2018–31/03/2021
Prof. Dr. Änne-Dörte Latteck

Support for the Self-Management of Caregiving Children Using the Example of Families with Addictions (förges 2)
Duration: 01/05/2018–31/03/2021
Prof. Dr. Katja Makowsky

Transformation in Care and Technology (TransCareTech)
Duration: 01/11/2021–31/10/2024
Prof. Dr. Udo Seelmeyer, Prof. Dr. Annette Nauerth, Prof. Dr. Axel Schneider

Video Tutorials to Improve Health Literacy in People with Intellectual Disabilities (Geko-MmgB)
Duration: 01/03/2020–28/02/2023
Prof. Dr. Änne-Dörte Latteck, Prof. Dr. Norbert Seidl

VR-Based Digital Reusable Learning Objects in Nursing Training (ViRDiPA)
Duration: 01/03/2020–31/08/2023
Prof. Dr. Annette Nauerth, Prof. Dr. Patrizia Raschper

work & care – care-active SMEs in East Westphalia-Lippe
Duration: 15/11/2019–14/11/2022
Prof. Dr. Annette Nauerth

• Faculties

Facts and Figures

Design

Location: Lampingstrasse 3, 33615 Bielefeld
Dean: Prof. Dirk Fütterer, Prof. Roman Bezjak (until 1 March 2021)
Vice Dean: Prof. Patricia Stolz, Prof. Dirk Fütterer (until 1 March 2021)

Bachelor's degree study: Design
Master's degree study: Design
Fields of study: Digital Media and Experiment, Photography and Visual Media, Communication Design, Fashion

Research focus: Perception forms of photography
Number of laboratories / workshops: 8

175

Minden Campus

Location: Artilleriestrasse 9, 32427 Minden
Dean: Prof. Dr.-Ing. Oliver Nister
Vice Dean: Prof. Dr. Christoph Thiel

Bachelor's degree studies: Architecture, Civil Engineering (full-time/collaborative), Electrical Engineering (work-integrated), Computer Science, Infrastructure Engineering, Mechanical Engineering (work-integrated), Project Management Construction, Business Administration and Engineering (work-integrated)
Master's degree studies: Computer Science, Integral Construction, Integrated Technology and System Development (part-time), Integrated Technology and System Development (full-time)

Institute: Institute for the Intelligent Building (InfinteG)
Research focus: Interdisciplinary Research and Application Development in Environmental Informatics (IFE)
Number of laboratories/studios: 23

Engineering and Mathematics

Locations: Interaktion 1, 33619 Bielefeld
Gleis 13, Langer Weg 9a, 33332 Gütersloh
Schulstrasse 10, 33330 Gütersloh
Apparative Biotechnology, Universitätsstrasse 27, 33615 Bielefeld
Dean: Prof. Dr.-Ing. Rolf Naumann
Vice Deans: Prof. Dr.-Ing. Andrea Kaimann (Vice Dean Gütersloh Campus), Prof. Dr.-Ing Joachim Waßmuth, Prof. Dr. Axel Schneider

Bachelor's degree studies: Applied Mathematics, Apparative Biotechnology, Digital Logistics (work-integrated), Digital Technologies (work-integrated), Electrical Engineering, Electrical Engineering (part-time), Engineering Computer Sciences, Mechanical Engineering (full-time/collaborative), Mechanical Engineering (part-time), Mechatronics/Automation (work-integrated), Mechatronics, Product-Service Engineering (work-integrated), Renewable Energies, Industrial Engineering and Management, Industrial Engineering and Management (work-integrated)
Master's degree studies: Applied Automation (part-time), BioMechatronics, Data Science (Master of Applied Research), Digital Technologies (part-time), Electrical Engineering, Mechanical Engineering, Optimisation and Simulation, Industrial Engineering and Management (part-time)

Institutes: Bielefeld Institute for Applied Materials Research (BIfAM), Institute for System Dynamics and Mechatronics (ISyM), Institute for Technical Energy Systems (ITES)
Research foci: Applied Mathematical Modelling and Optimisation (AMMO), Individualisation in Health and Engineering (InGeTec)
Research networks: CareTech OWL, Center for Applied Data Science Gütersloh (CfADS), Center for Interdisciplinary Materials Research and Technology Development (CiMT)
Research laboratory in cooperation with a company: Mieletec
Number of laboratories/project rooms: 124

Social Sciences

Location: Interaktion 1, 33619 Bielefeld
Dean: Prof. Dr. Michael Stricker
Vice Dean: Prof. Dr. Erika Schulze

Bachelor's degree studies: (Early) Childhood Education, Social Work
Master's degree study: Social Transformation Studies

Number of laboratories/workshops: 2

Business

Location: Interaktion 1, 33619 Bielefeld
Dean: Prof. Dr. Riza Öztürk
Vice Dean: Prof. Dr. Peter Hartel, Prof. Dr. Natalie Bartholomäus (until 31 August 2021)

Bachelor's degree studies: Business Administration, Business Administration (part-time), Business Administration (work-integrated), International Studies in Management, Business Information Systems, Business Information Systems (work-integrated), Business Psychology, Business Law
Master's degree studies: Controlling Finance Accounting, General Management (MBA, part-time), International Business Management, Management for Engineering and Natural Sciences (MBA, part-time), Marketing and Sales, Human Resource Management and Organisation, Production and Logistics, Taxation and Audit, Business Information Systems, Business Law (part-time) [discontinued], Business Law and Contract Drafting
Certificates: Labour Law and Personnel Management, Doing Business in ..., International Project Management, Business Law and Management

Number of laboratories: 1

Health

Location: Interaktion 1, 33619 Bielefeld
Dean: Prof. Dr. PH Michaela Brause
Vice Dean: Prof. Dr. phil. Änne-Dörte Latteck

Bachelor's degree studies: Midwifery (work-integrated), Mentorship, Preceptorship and Counselling in Nursing [discontinued], Mentorship, Preceptorship and Counselling in Therapy [discontinued], Health, Health (Nursing/collaborative), Health (Therapy/collaborative), Nursing (dual) [discontinued], Nursing (with professional qualification)
Master's degree studies: Vocational Education Science for Health Professions, Advanced Nursing Practice (part-time)
Certificates: Digitalisation in Health – Developments and Challenges, Fields of Action for Vocational Teachers in the Health Sector, Management and Development of Health-Sector Schools

Institute: InBVG – Institute for Educational and Health-Care Research in the Health Sector
Number of laboratories/studios: 2

• Central organisation

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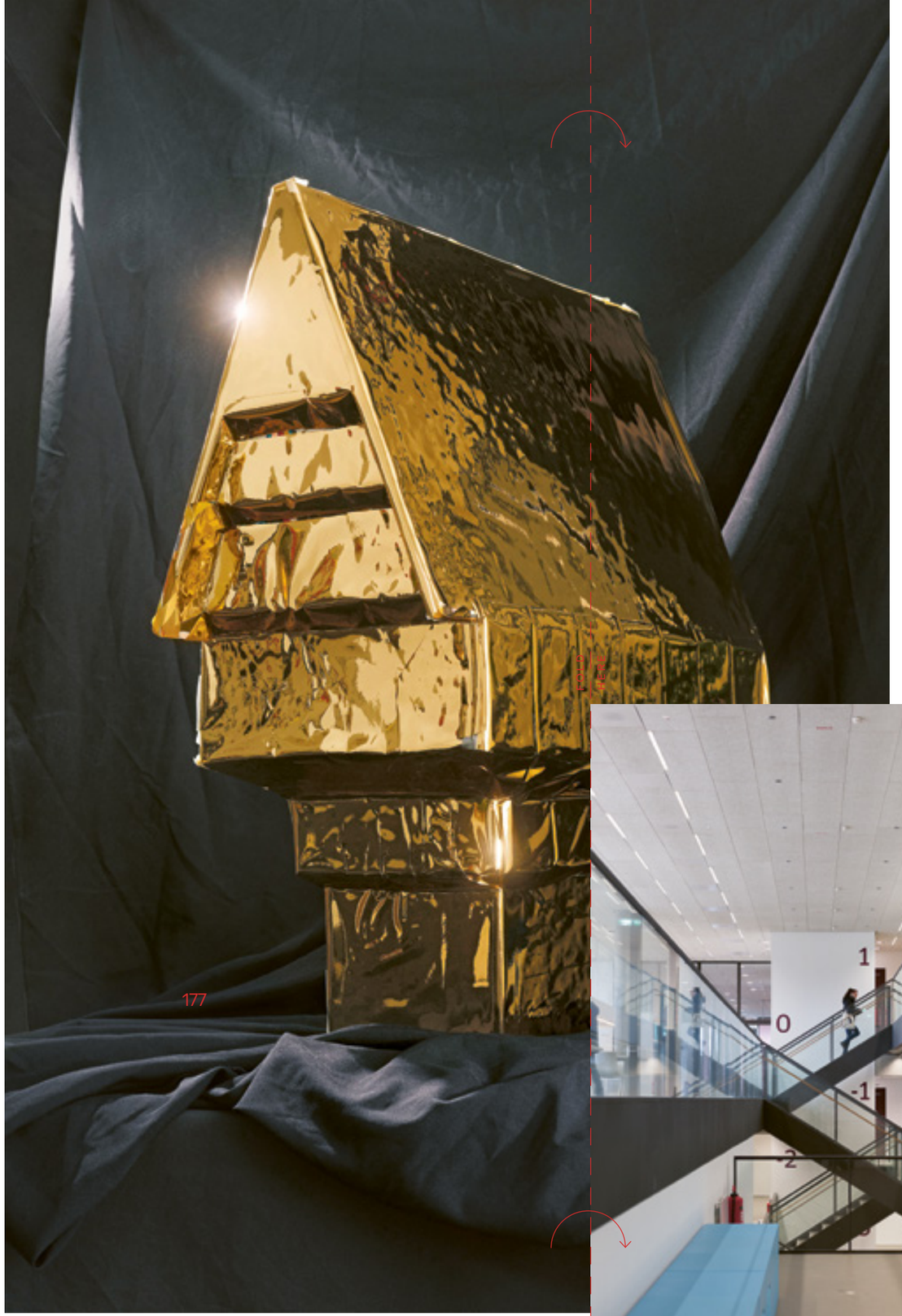

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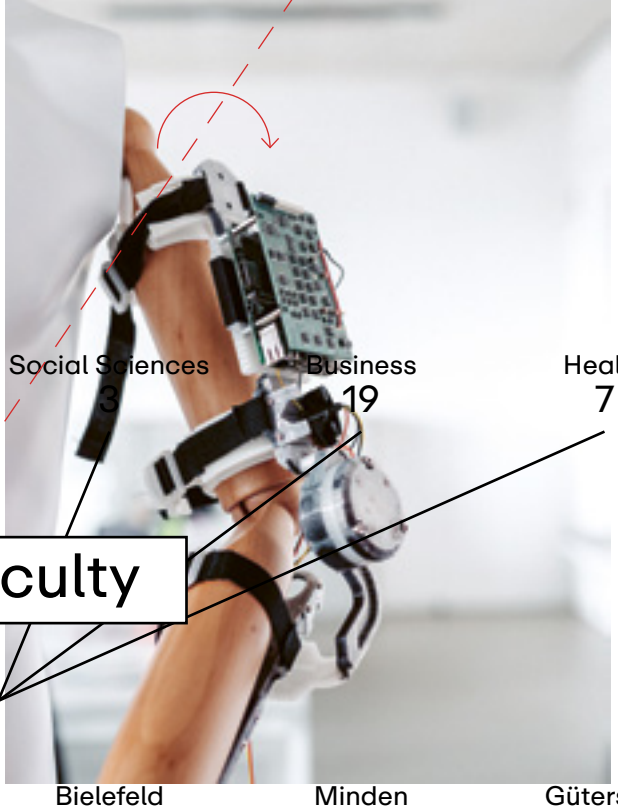

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