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Graduate Marcus Joppe and the Company Materialise

A photograph of two people from behind, wearing a large European Union flag as a cape. They are standing on a bridge with a metal railing. In the background, there are green trees and a building with a glass facade. A banner with the University of Bremen logo and name is visible on the left.

COMMITTED TO A STRONG EUROPE

How the University of Bremen
is standing for the
values of a free Europe



Photo credit: Harald Rehling /
University of Bremen

editorial

It's time for an update. That's what the Press Relations Office at the University of Bremen thought after having published the Bremer Uni-Schlüssel (BUS) university newspaper, and the highlights information magazine for many years. The result is a new magazine that will inform you about the university and what inspires the people on and around campus.

update. portrays the university in all its facets: It provides clear and comprehensible stories from research, as well as insights into teaching, studies and campus life. In addition, it reports on strategic decisions at the university and their effect on the future. In this regard, **update.** stands in the tradition of the previous university publications, since the first edition of the Bremen University Newspaper in 1973.

What Can You Expect from this Issue?

In the title story, read about how the University of Bremen and its partners campaign to strengthen the concept of a collaborative and free Europe, in times of a threatening Brexit, as well as growing populist, authoritarian and extreme right-wing trends.

Find out how Polar researcher Gunnar Spreen prepares for the greatest Arctic expedition of all times, in the article "Abenteuer im ewigen Eis (Adventure in eternal ice)". Learn about new teaching methods in the "Vorlesung in Häppchen zum Mitnehmen (Bite-sized lectures to-go)". "Khaled ist in Bremen angekommen (Khaled has arrived in Bremen)", tells the story of a former Syrian refugee who now studies computer science at the University of Bremen. The article "Bremer Universitätszeitung – noch mehr Papier? (Bremen University Newspaper – even more paper)?" in our category "Back then" provides insight into the first newspaper at the university. There are also other exciting articles in this issue for you to find.

Online Edition Starting in the Fall

update. appears once every semester in a German and English version. Starting in the 2019/2020 winter semester, it will also be supplemented with an online edition. It's always worth clicking in now and again – for an update!

We hope you enjoy an interesting read!

The Editors



lead story

Committed to a Strong Europe

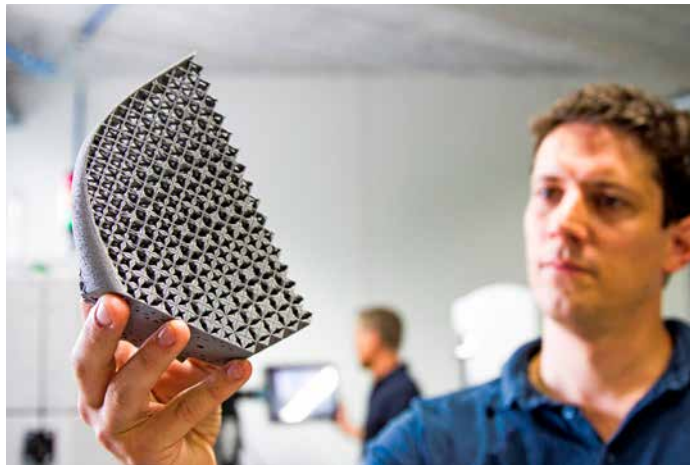
Studying, researching and communicating across borders: How the University of Bremen is standing together with its partners for the values of a unified and free Europe



research

Adventure in the Eternal Ice

Dr. Gunnar Spreen talks about how he is preparing for the biggest Arctic expedition of all time

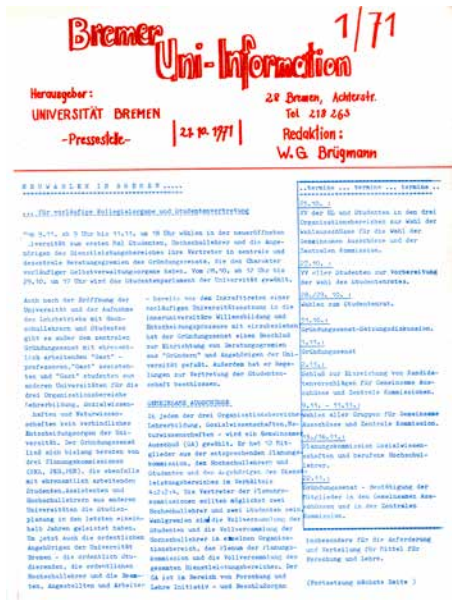


university & society

Marvels Made from Metal

A double-feature career – Marcus Joppe, the 3D-printing of metal, and the company Materialise

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back then

“University of Bremen Newspaper”

A look at the beginnings – from BUZ, BAUZ, and BUS to update. the magazine

BIMAQ Researches Electricity Production

What proportion do renewable energies have in electricity production? Where and at which times are wind and solar energy fed into networks? Where do the storage capacities need to be increased? A team from the Bremen Institute for Metrology, Automation and Quality Science (BIMAQ) are dealing with these questions. The project "Analyse der geographischen Verteilung von Wind und solarer Einspeisung und deren Einflüsse auf das Stromnetz" (Analysis of the geographical distribution of wind and solar input and their influence on the electricity network), in short "GEOWISOL 2", is being sponsored by the Federal Ministry of Economics and Technology. The data comes from three partners.

↗ <http://unihb.eu/5Ybm6BMD>

KRAM Is Turning 25

The Staff Council for Academic Employees (KRAM) at the University of Bremen will be celebrating its 25th birthday in June. As a representative of the interests of non-professional teaching staff, KRAM enables a culture of discourse between all of its members across all faculties. It also enables discourse with the university management and the senatorial authority. Works council election representatives have been members of the academic council for the past quarter of a century. KRAM also organizes and moderates welcome workshops for newly employed academic staff.

↗ <https://www.kram.uni-bremen.de/>

"I'm Afraid the Apartment Is Already Taken"

The Bremen linguist Inke Du Bois and her students carried out a test, of which the results have now been summarized in an acclaimed study. The students, who spoke with a Turkish accent, an American accent and a High German dialect, rang landlords in four different districts and asked to arrange an apartment viewing. They carried out 300 phone calls. The thought-provoking results: callers with a Turkish accent had lower chances of arranging a viewing. Prejudice against migrants is part of day-to-day life, even in Bremen.

↗ <http://unihb.eu/VGBCV6GV>

Humans and Robots Hand in Hand

At BIBA, the "Bremer Institut für Produktion und Logistik" (Bremen Institute for Production and Logistics), the research project "Autonomes Assistenzsystem zur Unterstützung von Mensch-Roboter-Kollaboration-Montageprozessen" (Autonomous assistance system for the support of human-robot-collaboration-assembly processes) has begun. It is being subsidized with 1.3 million euros by the Federal Ministry of Economic Affairs and Energy. Together with three industry partners, answers to the question of how humans and robots can work together in a safe way should be found using artificial intelligence by 2020. The assistance system is to be controlled by sensors.

↗ <http://unihb.eu/MUPPJ99>

Study Prizes Have Been Awarded

The "unifreunde" (uni friends) from the Gesellschaft der Freunde der Universität Bremen und der Jacobs University (Association of Friends of the University of Bremen and the Jacobs University) has awarded study prizes for outstanding theses. Three dissertations and two Master's theses in natural and engineering sciences and also the humanities and social sciences were honored. The award winners are Dr.-Ing. Georg Pesch (Production Technology), Magdalena Laurien (Production Technology), Dr. Insa Stefanie Jarass (Law) and Matthias C. Täger (Political Science). The special Bruke Daltonik GmbH prize was awarded to Dr. Florian F. Krause.

↗ <http://unihb.eu/QHCKZZIM>

Successful Library Test

For the first time, the Bremen State and University Library (SuUB) was open for six full weekends between February 12 and 17, 2019. The library was additionally open from 6 p.m. to 8 p.m. on Saturdays and from 10 a.m. to 6 p.m. on Sundays. During the extended opening hours, the

library was exclusively available as a study environment. Library services were not offered. The extra opening hours were received well: up to 1,200 visitors came on Sundays. The two-year project is set to continue in June.

↗ <http://unihb.eu/EhBnLg8D>

Support for Teachers

They come from France, the Netherlands, Poland and Russia and now especially from Syria: teachers. They have taught in their home countries and would like to enter into the German education system and are now being specially supported with regards to their career. The Fremdsprachenzentrum der Hochschulen im Lande Bremen (Foreign Language Center of the Higher Education Institutions of the State of Bremen) is supporting them with the development of the German skills needed for the job. The offer of a tutorial and individual coaching is made possible by a program in the "Integration durch Qualifizierung" (Integration through Qualification) network.

↗ <http://unihb.eu/H3fQ516f>

The offered SuUB opening times at the weekend were well received. Photo credit: Matej Meza / University of Bremen



Economists at the Top

Good news for the Faculty of Business Studies & Economics at the University of Bremen: Torben Klarl, Professor of Macroeconomics, and Lars Hornuf, Professor of Business Administration with a focus on financial services and financial technology, are among the top ten percent of German economists. That is the result of a ranking by the KOF Swiss Economic Institute (KOF) at ETH Zurich and the Düsseldorf Institute for Competition Economics (DICE) at Heinrich Heine University Düsseldorf. Amongst other things, the Impact per Publication (IPP) is rated.

↗ <http://unihb.eu/o8Db98XA>



Lars Hornuf (left) and Torben Klarl (right) are among some of Germany's best economists. Photo credit: Kai Uwe Bohn / University of Bremen

ZeMKI Is Being Strengthened

The Centre for Media, Communication and Information Research (ZeMKI) is going to be the central scientific institute for the University of Bremen for the next seven years. ZeMKI spokesperson Professor Andreas Hepp stated "This is a further step towards strengthening the humanities with development of interdisciplinary research in communication and media". Members of the faculties of Mathematics/

Computer Science, Social Sciences, Cultural Studies and Educational Sciences are currently working at ZeMKI within nine working groups.

↗ <http://unihb.eu/ikWVNL9>

New Chips Can Do More

Over the next three years, the DFG will provide around 300,000 euros in funding for a project that will make it possible to manufacture innovative computer chips. They will be able to simultaneously store and process data. This is usually a separate process. The boundary between memory and calculation unit will therefore be removed. The aim is to develop high-performance devices that consume little energy. The head of the project is Professor Rolf Drechsler from the Computer Architecture working group (AGRA).

↗ <http://unihb.eu/4JToEW2n>

Improved Teacher Training

"Schnittstellen gestalten" (Shaping Interfaces) is the name of a program for the improvement of the study quality for trainee teachers at the University of Bremen. The program has now been extended for a further four and a half years and will receive 2.7 million euros from the federal program "Qualitätsoffensive Lehrerbildung" (Quality Campaign for Teacher Training). The aim is to prepare future teachers in terms of lifelong learning for the day-to-day life in schools, which is constantly changing. One of the main areas of focus in the second funding phase will be placed in the digital world. Dual doctoral programs, which combine the teacher traineeship and PhD, will be continued.

↗ <http://unihb.eu/oY0FGVn>



"Open Worlds - Share Knowledge": the fourth OPEN CAMPUS of the University of Bremen will take place on June 15, 2019. Photo credit: Kai Uwe Bohn / University of Bremen

OPEN CAMPUS in June

Every two years, thousands of visitors come to OPEN CAMPUS. Under the motto "Open Worlds - Share Knowledge", the fourth OPEN CAMPUS will take place on June 15, 2019. Guests can expect a diverse mixture of workshops, talks, tours, a poetry slam, a program for families, live music and a great deal of culinary specialties in an international atmosphere. The event will start at 2 p.m. in the campus park. The headliner, Namika, will begin at 8 p.m. and the music will continue until midnight.

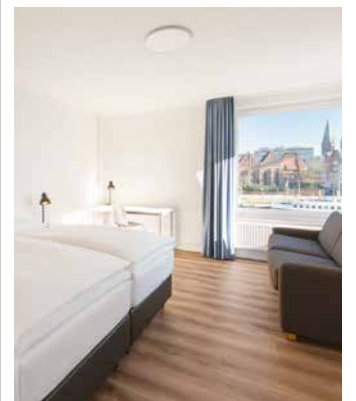
↗ www.uni-bremen.de/open-campus

Guesthouse Teerhof Has Been Renovated

After a five-month long pause for renovations, the university's guesthouse Teerhof has been revamped. The university no longer manages the complex on their own but has managed

to win Munte GmbH & Co. KG for this task. Alongside the change in management, the name has also undergone a slight change to Teerhof 58 – Guesthouse of the University of Bremen. Now that the renovation work has been completed, 30 fully furnished apartments with kitchenettes are available. The highlight is a breathtaking view of the Schlachte – Bremen's maritime street. The guesthouse is also celebrating its 25th birthday and is one of the oldest guesthouses of the university.

↗ www.teerhof58.de



One of the modern apartments in Teerhof58. Photo credit: Irina Neumann / ROOM37

Committed to a Strong Europe

Students study, research and are in an exchange with one another across country borders –something which has, in Europe, been matter of course for already many years

The future is, however, looking increasingly uncertain. Authoritarian governments in Hungary and Poland, growing right-wing extremism and populism as well as an impending Brexit threaten to jeopardize Europe's future. The University of Bremen, together with its partners, is committed to strengthening the idea of a united and free Europe and feels it has an obligation to these values.

March 2019: It is almost exactly two years ago that the United Kingdom notified the European Council in writing of its intention to leave the European Union (EU). Whilst the parliamentary members in London are in heated debates

on Brexit, UK's Cardiff University and the University of Bremen are growing closer and have agreed the "Bremen-Cardiff Alliance" – a strategic partnership which involves a particularly intense cooperation. Hereby researchers of

The University of Bremen is associated with 330 ERASMUS universities throughout Europe. The strategically most important partners in Europe are the 17 European partner universities from the YERUN – Young European Research Universities Network as well as Cardiff University (Great Britain).

YERUN partners of the University of Bremen

Universiteit Antwerpen (BE)
Universitat Autònoma de Barcelona (ES)
Universidad Autónoma de Madrid (ES)
Brunel University London (UK)

Universidad Carlos III de Madrid (ES)
Dublin City University – DCU (IE)
University of Essex (UK)
University of Eastern Finland (FI)
Universität Konstanz (DE)
Linköpings Universitet (SE)
Universiteit Maastricht (NL)
Universidade Nova De Lisboa (PT)
Université Paris Dauphine (FR)
Universitat Pompeu Fabra (ES)
Università degli Studi di Roma "Tor Vergata" (IT)
Syddansk Universitet (DK)
Universität ULM (DE)



both universities are able to become fully integrated in the teaching and research of each university thanks to an affiliation. Through this, both partners have access to each other's scientific systems in the event of a hard Brexit. "The University of Bremen feels that it has an obligation to support the idea of a united Europe," says President Professor Bernd Scholz-Reiter of the University of Bremen. "Seen against the background of Brexit, growing isolation and nationalism in Europe, our ties with British universities are particularly important." The cooperation with Cardiff University is therefore of special significance. "Europe is an idea which is worth fighting for," continued the president.

Vice-Chancellor Professor Colin Riordan of Cardiff University added, "With this alliance we are responding to the complex demands of Brexit by strengthening our relations with one of our long-standing European partners

"The University of Bremen feels that it has an obligation to support the idea of a united Europe."

President Bernd Scholz-Reiter



What Europe means to me:

Something that is in need of renovation. Actually, in my eyes Europe represents countries that grouped together some time ago in order to reduce border controls, exchange information, and take responsibility for each other. However, recently Europe has rather represented the opposite of this. Borders are being reinforced. One example is the development of the refugee issue. I don't necessarily consider myself to be a European. I don't generally feel connected to the concept of a nation. I would rather describe myself as a European than a German, simply because I live in Europe and profit from it. Nonetheless, I would not label myself as a European.

Maimuna Sallah, Student



What Europe means to me:

Common visions, ideas and interpretations of democracy. I consider myself to be a European. I associate myself with a democratic Europe, that young people like us can also profit from. That gives me a positive feeling. With regard to international development, it is very important that Europe remains the way it is now. Governments who are no longer interested in Europe and who no longer want to follow the idea that founded the EU, are a threat to Europe.

Marie Wendt, Student

and ensuring that employees as well as students of both universities continue to have access to many interesting educational and research opportunities."

Academic Freedom in Hungary Under Threat

"I have the impression that the tough Brexit negotiations are scaring off other governments which are critical of the EU, of flirting with the idea of leaving or even discussing such an option in politics," says Professor Shalini Randeria. The internationally recognized social anthropologist, ethnologist and sociologist currently holds a visiting professorship as part of the "U Bremen Excellence Chairs." (More on page 45) The president of the Institute for Human Sciences in

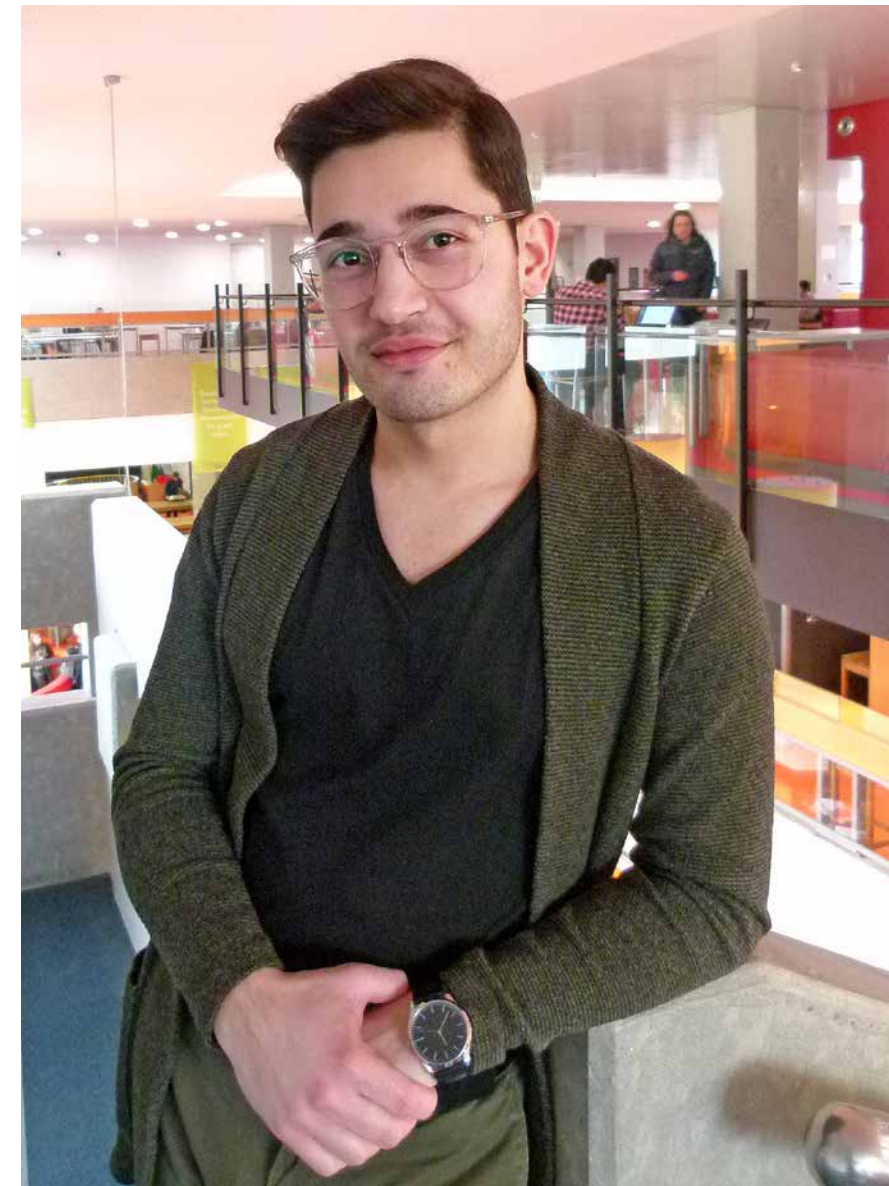
Vienna and professor at the Graduate Institute for International and Development Studies in Geneva has been following the latest political developments in Europe with concern – particularly in the EU member state Hungary. Here the right-wing government has not only largely assumed control of the media and justice but academic freedom is also no longer guaranteed. This can be seen in the situation of the Central European University (CEU) in Budapest as well as at the Hungarian Academy of Sciences, says Shalini Randeria. In recent years the government has put the internationally renowned private university under such pressure that it is currently unclear whether it might even have to give up its location in Budapest. At the time of the editorial deadline for this issue, nothing had been decided. However, what is certain is that at least part of the



What Europe means to me:

Freedom, internationality, friendship and future. I consider myself to be a native of Bremen, a German, and a European. Naturally, we also have to ensure that no one is left behind. We are at the university and come from a sector of society that gets to enjoy education and is consciously aware of that. Other people are not in this privileged situation. Taking these people seriously and showing them the positive aspects of Europe is an important task. In particular, we have taken this responsibility on in the educational sector.

Max Schlenker, Scientist



What Europe means to me:

A cultural approach: how we organize our daily lives, how we are culturally influenced. I feel very European. Although my parents have a Turkish migration background. Yet I would say that they are also very Europeanized. However, I think of several dimensions when I hear the word 'Europe': there are the historical and cultural – the common European values. Then of course I think of the EU – the countries who are part of the customs union and currency union. In addition, there is also the geographical dimension.

Tolga Yavuz, Student

university will have to move to Vienna. “The CEU is one of the world’s best places for master’s and doctoral students in humanities and social sciences and the university’s cosmopolitan spirit makes it a thorn in the side of the nationalist Orbán government,” says the academic. Shalini Randeria is closely associated with the CEU. In 2000 the academic was the founding director of the Institute for Social Anthropology and Sociology here and she is, meanwhile, also a member of the board of trustees of the private university.

Not an Exception

“Hereby the CEU is not an exception,” emphasizes Shalini Randeria. The autonomy of all universities in the country is being systematically undermined. With the goal of increas-

ing the influence of the government, investments in the Hungarian educational sector have continuously decreased since 2006 – also with the intention of employing party-related “chancellors” to manage the finances at the universities. The government has systematically and stealthily implemented a process to undermine academic freedom. “The EU should have intervened here much quicker,” says the academic. One can only hope that the situation for the Hungarian academic institutions will not escalate as dramatically as it did in Turkey.

Since the coup attempt there in 2016, numerous researchers had to leave the country or were imprisoned or sentenced. “They lost their jobs, their pensions and work possibilities,” says Professor Michi Knecht. Together with several other professors from the University of Bremen,

the ethnologist is taking part in the Philipp-Schwartz Initiative “Scholars at Risk” of the Alexander von Humboldt Foundation. The program offers threatened academics grants and employment opportunities. Shalini Randeria says appreciatively, “The University of Bremen was one of the first universities in Germany which became involved in this. This is important commitment in defending academic freedom.”

EU Democracy Project

Professor Andreas Klee, Director of the Center for Labor and Political Education – zap (Zentrum für Arbeit und Politik), experienced the fragility of democratic culture in Europe in an EU project. In association with partners in

Krakow (Poland), Budapest (Hungary), Seville (Spain) and Aarhus (Denmark), he and his team developed and tested various teaching formats for young people which promote democracy. The objective of this was to counteract radicalization tendencies and establish the relevance of social contexts for the respective teaching formats. Under the title, “Street Education” they organized information stands to speak to citizens on public squares. Workshops for a “democracy workshop” were also developed and training formats elaborated for “Democracy Coaches” for students training to be teachers.

Whilst there were intense public discussions in Bremen, the partners in Krakow and Budapest had to adapt their activities to the political circumstances in their country. “We’re not allowed to talk about topics which promote

What Europe means to me:

Getting to know other people and countries better through cultural exchange and trade. I think Europe is important for that reason. I would identify myself as an advocate to continue strengthening Europe. I believe that Europe is important as a counterpart to the USA, China and other large nations, because you can advance more together than every individual country for itself.

Timo Urban, Student



“Each one of us must support the strengthening of Europe.”

Professor Andreas Klee

democracy on public squares or areas,” says Klee. Democracy was celebrated in Poland and Hungary after the end of socialism but now the countries are experiencing increasing anti-democratic attitudes. “It’s alarming.” In Aarhus, in Denmark, people are perhaps too confident regarding the stability of democracy as a certain skepticism towards Europe and right-wing populist tendencies are an issue here. The domestic situation can also be seen in discussions in Seville. “It has become clear how much tension there is due to the immense inequality and unemployment in Spain,” says the academic. The project showed that democracy in Europe, at least in the participating countries, is no longer as matter of fact as it once was. Andreas Klee is certain, “Each one of us must support the strengthening of Europe.”

For a European University

What can make Europe become a stable community, once again, in the future? What can universities contribute? In his speech at the Sorbonne in autumn 2017,

“We want to promote strong European identities.”

Vice President International and Diversity, Eva-Maria Feichtner

the French president Emmanuel Macron encouraged the formation of European network universities which are distinguished by multilingual and innovative study programs which, in turn, promote the European idea. A pilot tender of the EU aims to form 20 European network universities by 2024. The graduates of these universities will be multilingual and mobile and embody the European values. The University of Bremen has participated in this tender together with seven universities from other European countries as part of the consortium Young Universities for the Future of Europe (YUFE). “With this, we are demonstrating a strong commitment to Europe,” says President Scholz-Reiter.

The alliance of the eight universities will create one European University which will primarily develop new and innovative courses and programs for its students. The opportunities for academic as well as technology and administration personnel will also broaden. “Our goal is to strengthen the mutual learning from one another and the understanding of institutions, regions and cultures in Europe,” says the Vice President International and Diversity Professor Eva-Maria Feichtner. “With this we are promoting strong European identities.” YUFE students will be able to easily change between the sites of the participating partners, learn in more than one language and move around between various European cultures. Employees, meanwhile, of the YUFE partners will have new career paths open to them which go beyond institutional, regional and national boundaries and it will become easier to flexibly change between the participating partners whether temporarily or permanently.

The YUFE Alliance incorporates the universities of Maastricht, Antwerp, Bremen, Carlos III Madrid, Cyprus, Eastern Finland, Essex and Roma Tor Vergata. If their

application is successful, the project will be implemented from September 2019. Its goals cannot be realized from one day to the next but will require a longer period of time as well as the support of politics and citizens. What is clear, though, is that, “Europe requires strong universities which bring life to the European idea,” says the President of the University of Bremen. \ MEIKE MOSSIG

www.uni-bremen.de/kooperationen/hochschulkooperationen/internationale-partner/

www.yufe.eu

www.uni-bremen.de/research-alliance/welcome-center/gefluechtete-und-gefaehrdete-wissenschaftlerinnen-und-wissenschaftler/





For many students, spending some time abroad is simply part of today's academic experience. The ERASMUS program in the EU makes it possible within Europe. It has existed since 1986. Barbara Hasenmüller coordinates the program at the International Office at the University of Bremen. During the interview, she remembers when she started the work 20 years ago, and describes the developments leading up to today.

Barbara Hasenmüller, what was the situation like at the end of the 1990s, for students who wanted to go abroad in Europe?

Barbara Hasenmüller: At the time, ERASMUS still went by the name Sokrates, and was available to students and teachers from the university only. Today, employees from administration and technology can also use the program to go abroad. The exchange numbers at the University of Bremen were much lower than they are now: Today, up to 400 students from the University of Bremen go abroad in Europe each year, whereas at the end of the 1990s, it was just over a hundred. A similar number of ERASMUS students came to us as well. Today, it is between 250 and 300 every year. The selection of partner universities was also smaller. In many countries, including Germany, it was not standard practice to teach in English. For that reason, most students

wanted to go to Great Britain. It was, for instance, rather unusual for a German political scientist to study in Poland or Sweden. Over the years, additional states joined the EU, and took part in the ERASMUS project, and all of the universities used this impulse to undergo reform.

What exactly happened?

The universities renewed the structures of their courses and designed programs and events in English. Today, it is a matter of fact for students to go to Estonia, for example, without being fluent in the country's language. They can study at a university or do an internship abroad. Their achievements abroad are recognized at their university at home. This was often still difficult before the reform.

What does the ERASMUS program represent today?

In the beginning, it had the reputation of being a party

program. This is now a thing of the past. ERASMUS is internationally recognized. Since it started, about 4.4 million ERASMUS students have been promoted across Europe since 2017. This is huge. The EU invests a lot of money. To those in charge, it is clear that this is an important program that contributes to the awareness of a European identity. In the meantime, 34 countries participate in the program. It is now called ERASMUS and it includes the entire areas of education, youth, and athletics. In addition to mobility programs, there are also cooperation programs. The EU pilot project of the European network universities is also part of Erasmus+. The University of Bremen participates in it along with seven international partners (editors' note: read more about it in the title story). Personally, I find: ERASMUS is the success program in Europe".

What does ERASMUS achieve for the participants?

I am convinced that the experiences that students gather abroad are exceptionally formative for them. They learn about the living and working situations in their guest countries. At the same time, they develop an international network and create friendships with students around the whole world. I believe that this experience is important in order to develop a differentiated understanding of a country and different cultures. ERASMUS promotes greater solidarity within Europe through personal experience.

THE INTERVIEW WAS CONDUCTED BY
MEIKE MOSSIG

www.uni-bremen.de/Erasmus

“ERASMUS is Europe's Successful Program”



ERASMUS University Coordinator Barbara Hasenmüller is convinced that the EU's program promotes greater solidarity within Europe. Photo credit: Matej Meza / University of Bremen



A warm welcome: Every year, between 250 and 300 ERASMUS students come to the University of Bremen. Photo credit: Matej Meza / University of Bremen



First Love with Terrible Consequences

Social psychologist Iris Stahlke has developed a project to prevent violence in teenager relationships

The first romantic relationship is something special for young people. The first “big love” often has an enormous influence on relationships later in life. But what happens when this relationship is characterized by violence? In a recently published study, Psychology Professor Iris Stahlke from the University of Bremen deals with the emergence and prevention of violence in the first relationship of a couple.

Romantic ideals like fidelity and understanding play a big role for young people. Unfortunately however, stalking, cyber-bullying, or physical or sexualized violence, are also aspects of teenagers’ daily relationship routines. Iris Stahlke, Professor of Social Psychology at the University of Bremen conducted a study on the topic and has developed a practical prevention program based on the results. The research team conducted group discussions and interviews with students in junior high school, and interviewed experts from various institutions.

Girls and Boys Have Different Needs

Sexuality is an important aspect of a partner relationship for young people. According to Stahlke, in this context there is also another striking finding: “Youth are often ill-reputed as being the ‘Porn Generation’, however traditional values are very important to them.” Gender roles are being negotiated

amongst each other more than before. At the same time, girls and boys partly display a very different type of behavior. “Girls are often verbally superior to their partners in difficult situations. This makes the boys feel helpless and so they would rather avoid confrontations”, Stahlke explains.

Furthermore, girls seem to feel particularly threatened by being separated temporarily and so they miss their partner more quickly. Boys on the other hand, are afraid of demands that are too great. These differing needs can quickly lead to conflicts, therefore young people need to learn to treat each other with respect and safeguard themselves from crossing boundaries.

Parents Are Role Models

A key message from the study: The relationship model of the parents or other attachment figures have a great influence on what the first relationships will look like. If boys have

experienced domestic violence at home, they are more likely to consider violence to be “normal” in a relationship. “Parents are role models for how to solve conflicts”, Stahlke emphasizes.

Integrating Prevention into Daily School Life

With her research work, Iris Stahlke intends to raise awareness of the problem and provide impulses for practical prevention work. Together with the women’s shelter and counseling center for domestic violence in Verden, she has developed this topic as class units for grades 7–10. With the assistance of employees at the counseling center and psychology students, these workshops have already been initiated at several schools. Over 1,000 students have participated in the course so far. They learn to recognize violent relationship patterns and to get help.

The Bremen Social Psychologist’s conclusion is that, “One can only gain access to the behavior and experience of young people in romantic behaviors and minimize violence, through respectful and trusting collaboration”. She recommends that schools use the values and standards units as topics for prevention. External specialized staff would be responsible for implementing these courses. The project is currently being continued in cooperation with the university and the Verden women’s shelter. Iris Stahlke is excited: “There is a great demand for them at schools”. ¹ STEFANIE MÖLLER

<http://unihb.eu/OjB9l2li>



Problematic relationships during people’s youth can impact their entire lives. Photo credit: fizkes, stock.adobe.com



Heinz Rothgang during the interview in his study.
Photo credit: Harald Rehling / University of Bremen

“If We Don’t Change Anything It Will Lead to a Catastrophe.”

Professor Heinz Rothgang about the crisis in long-term care

The renowned health researcher and health economist, Professor Heinz Rothgang, views the hiring of specialists from Eastern Europe as lacking in solidarity. He also doesn’t view robots as the answer. Digitalization will, however, ease the documentation of long-term care. Together with his team and partners, Rothgang is now working on a scientifically-based personnel assessment procedure for in-patient care.

Professor Rothgang, we are increasingly hearing the term “long-term care crisis” – is this scaremongering or a real problem?

There is, indeed, a crisis in long-term care and this in more than one sense. Firstly, we don’t have enough care workers in long-term care to fill the current vacancies. In 2017, in long-term care alone, 23,000 vacancies for specialists weren’t filled. If you add this to the 8,000 vacancies for nursing home assistants and helpers you have more than 30,000. One of the reasons for the shortage of care specialists is the fact that many leave the profession prematurely.

Surveys such as “Nurses Early Exit Studie” show that the main reason why people leave the profession is that care workers do not perceive the working conditions as being suitable for the provision of adequate care. As the people who work in long-term care are very committed, they then often turn their backs on the profession. The filling of these vacancies is then a very arduous business which takes an average of six months instead of four weeks for other branches.

What does the future look like?

Model calculations show that we need to reckon with an increase of 80 per cent in the

number of people requiring care in the four decades from 2015 to the 2050s. At the same time, the number of people able to work will drop by 20 to 30 percent due to demographic change. We would need to double the number of people working in long-term care just to maintain the current status and care ratio. If nothing changes there will already be an employee shortage of 350,000 by 2030. This takes all employees in long-term care into consideration, not only care specialists. This figure is based on full-time equivalents. However, as many people in this this profession only work

part-time, we are talking of a shortage of half a million people here, already in 2030. If we don’t change anything it will lead to a catastrophe.

Are care workers from abroad the answer?

The problem won’t be solved if we “steal” the well-trained care specialists from Eastern European countries. Demographic ageing isn’t as pronounced there as here yet but this will change. There is a shortage of care workers in almost all EU countries. I took part in a so-called “Joint Action” of the EU on this subject as the German representative.



“If nothing changes there will already be a shortage of 350,000 employees in long-term care by 2030.”

“The problem won’t be solved if we ‘steal’ the well-trained care specialists from Eastern European countries.”

Representatives from more than 28 countries took part in this and all complained of a lack of care specialists. It is therefore lacking in solidarity within Europe if the East trains the specialists and they then go to work in the West. We should at least assume a share of the training costs. If we look beyond eastern Europe to Asia, we should bear in mind that China is the fastest ageing country in the world. Japan already introduced a long-term care insurance in 2000, Korea followed in 2008. In the mid to long-term we are therefore competing with these countries for care workers. If we hire such employees from abroad this can only solve the problem in the short to mid-term. In the long-term, though, we need to train the employees we need ourselves and ensure they remain in the profession.

The federal government wants to increase its efforts to hire care workers from the EU. How

do you rate their language qualifications?

This is another problem. We promote a biography-orientated care whereby the history and experiences of those concerned are taken into consideration. For this we require specialists with knowledge and empathy who are able to come into contact with elderly people and those suffering from dementia and for this they need to be able to speak their language. Even if foreign care workers take language classes before they work in Germany, it will not be sufficient to be able to communicate with the patients on this level.

What possibilities do you, as expert, see for maintaining the quality of the care?

One opportunity is digitalization which will considerably ease workflow management, in particular. The masses of paper documentation which are created in the various facilities aren’t usually used for care processes

and are therefore pointless. It does, however, involve using the documented information as a tool for process control and quality assurance. With the change in the generations we will have young, new care workers who will be socialized with digitalization and it will then become easier for everyone to use this potential.

What about the personnel mix?

In association with my team and partners from the university we are developing a scientifically-based personnel assessment procedure for in-patient care which set out joint self-administration in care in the realization of a statutory mandate. That’s a huge project and we will, as a result, present a procedure which determines the number of specialist employees which are needed depending on a facility’s residents and hereby we’ll differentiate between specialists and assistant workers. This will result in “specialist

staff quotas” specific for the respective facilities which will replace the uniform 50 per cent specialist quota which was valid until now. This current quota was simply decided at some point. However, we may see that we can achieve the same result with another mix ratio – for example, many more employees even if the number of specialists decreases. This is what we want to find out.

Wouldn’t it be most effective to improve pay in long-term care and therefore make the vacancies more appealing?

This is, indeed, one of the declared goals of politics but it’s hard to implement. For those leaving the profession the reason lies mainly in the working conditions. In contrast, in the choice of career, the pay plays a bigger role. Young men, in particular, look more at the pay and we are also seeking and need male care staff. Employees in long-term care work for the elderly earn an average of 600 euros less than those working in health care. If we now introduce the general training with the new care profession law, all trainees will be taught together for at least two years and can then work in long-term care as well as health care. Where do you think they will then go considering these pay differences? Care for the elderly therefore needs to catch up with regard to pay. However, the pay scales are complicated in this branch. Charity and welfare organiza-

tions have their own set of rules and the private providers have, if anything, mainly company contracts. It’s a pay scale jungle, so to speak, which makes it very difficult to declare one collective agreement as generally binding. The collective agreement act would probably have to be changed for this.

A further suggestion for solving the shortage of professionals in elderly care is the increased use of robots – what do you think about this?

That is real hype. For a few years, a robot called Paro has, for example, been used which looks like a cuddly baby seal and actually works quite well. People with dementia become calmer when they hold him in their arms. This is better than calming someone by medication. However, human contact would probably be even better. Pepper is also well known – a robot which has been programmed to analyze human facial expressions and gestures and respond accordingly. However, so far,

the possible areas of use of such interactive robots have been very limited. Up until now, they have been mainly used for entertainment or memory training in research projects and, at the moment, only very minimally help ease the workload in care. The use of robots in social care ultimately means that interpersonal interaction is being replaced by robots. Do we really want this in long-term care? I don’t think so and according to current research there is still a long way to go. The attempt

to use robots in care is often still very technically driven. Although there may be potential in the use of robots, I do, ultimately, still believe that long-term care has a great deal to do with interpersonal exchange and we should maintain this. \

INTERVIEW BY KARLA GÖTZ

“The attempt to use robots in care is often still very technically driven.”

An increasing number of care workers are criticizing their working conditions. They view the conditions as being inappropriate for their job. Photo credit: HNFOTO / fotolia.com



Profile:

Professor Heinz Rothgang is a health researcher and health economist. What does the latter involve? “The health industry is a huge economic factor,” says the scientist. “Six million people work in this sector in Germany and generate ten per cent of

the gross national product.” This is more than in the automobile industry. He describes his subject as, “the application of economic thought to the health and care sector.”

Rothgang has been the Director of the Health, Long-term

Care and Pensions Department at the SOCIUM Research Center for Inequality and Social Policy (Center for Social Policy ZeS until 2015) since 2006. Alongside his research and teaching, Rothgang is also in various high-level committees. He spent

ten years, for example, in the advisory committee for the review, elaboration and introduction of the new definition of care dependency which was established in long-term care insurance in the Second Act on Strengthening Long-Term Care.

Adventure in the Eternal Ice

Dr. Gunnar Spreen talks about how he is preparing for the biggest Arctic expedition of all time

Famous paintings by Caspar David Friedrich and Gerhard Richter which depict ice in the Arctic adorn the walls of his office. Ice is something Dr. Gunnar Spreen, Head of the Research Group “Remote Sensing of the Polar Regions” at the university’s Institute of Environmental Physics (IUP) will be experiencing first hand from autumn 2019. Spreen is one of 600 researchers taking part in the biggest Arctic expedition of all time: MOSAiC. In the preparation for this, the participants took part in a training camp in Finland.

End February 2019 in the Leuchtturm-Hotel Marjaniemi on Hailuoto, Finland’s biggest island: a white, snow-covered landscape as far as the eye can see. Forty researchers from all over the world are meeting here for a training where they will spend a whole week travelling across the ice every day in preparation for a year-long Arctic expedition MOSAiC (see box). One of the participants is Gunnar Spreen, expert for remote sensing at the IUP. He will board the “Polarstern” icebreaker at the end of September as one of four researchers from the University of Bremen taking part in the international expedition. The environmental physicist also belongs to the “Project Board” and is one of the project’s main organizers.

The objective of the training is for the participants to get to know each other, learn about what lies ahead and practice and coordinate. Together with colleagues from New Zealand, Canada and Switzerland, Gunnar Spreen is working with a microwave radiometer and hyperspectral camera. “With the radiometer we can measure the emission of snow and marine ice in microwaves,” explains the 43-year-old. “This helps us find out about the ice type, snow properties and ice thickness.” The hyperspectral camera measures snow, ice and melting pools.

200 Colors of Different Wavelengths

Hereby the image is not only composed of three colors as is the case with the human eye but out of more than 200 colors of different wavelengths right up to the infrared range.



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Practicing in the ice for an emergency in the Arctic: Dr. Gunnar Spreen working with a hyperspectral camera. Photo credit: Dr. Gunnar Spreen / University of Bremen



This is exactly the type of information that the researchers of the IUP and numerous other international institutions want to gather during their year in the ice. The expedition is divided into six sections which means there will always be new people working with the microwave radiometer. “The results should, of course, always have the same basis and the different users are therefore practicing together with the device beforehand,” says Gunnar Spreen.

Spreen and his IUP research group usually examine the ice of the North Polar region from an altitude of 800 km, currently, for example, from the Japanese satellite sensor AMSR2. “With this, we can also view and assess the marine ice through the clouds and in darkness. But the “footprint” which we are evaluating from up there measures 5 by 5 kilometers.” The comparison of the data gained from space and the detailed on-site microwave measurements will aid the development of significantly improved methods for future missions. These have already been planned and will be led by the European Space Agency ESA. “For one whole year we will be able to closely examine what would normally only be seen from a great distance. This will, ultimately, lead to better and more reliable results.” The Polarstern will set off on its big research adventure from Tromsø in Norway on 20 September and Gunnar Spreen will be amongst those on board. \ KAI UWE BOHN

The MOSAiC Project

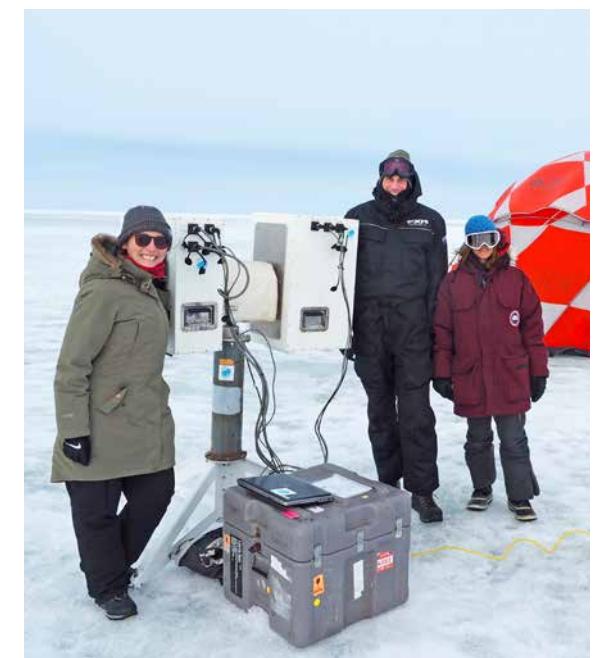
Frozen for a whole year in the Arctic Ocean: from autumn 2019 the German research icebreaker Polarstern will spend a year in a region which is otherwise largely inaccessible in the polar night. Six-hundred researchers will then set up their research camp – not at once but alternating – on an ice floe here. This is an international research project which is in a league of its own: for the first time, data will be collected over a period which never been possible up until now.

MOSAiC stands for “Multidisciplinary drifting Observatory for the Study of Arctic Climate”.

➤ www.mosaic-expedition.org

↑
White wilderness: At the end of February, Dr. Gunnar Spreen went on a training in Finland to prepare for the Arctic MOSAiC expedition. Photo credit: Dr. Gunnar Spreen / University of Bremen

One piece of equipment, several users: to ensure everyone has the same basis in the Arctic MOSAiC expedition, Dr. Gunnar Spreen (center) worked together with colleagues from all over the world in Finland – here with a microwave radiometer. Photo credit: Dr. Gunnar Spreen / University of Bremen





teaching & studies

Bite-Sized Lectures to Take Away

One lecturer is putting an end to long lectures at the blackboard with the students half-asleep

Professor Anna Förster has radically transformed her teaching methods. Helping her with this: the Center for Multimedia in Teaching, her team from the work group Sustainable Communication Networks in Physics/Electrical Engineering and the Vice President Academic Thomas Hoffmeister as well as the program ForstA digital, (research-based studies from the outset).



Professor of Computer
Science Anna Förster.
Own photo.



“It was quite clearly the wrong format, I had to do it differently.”



Six times a year, Anna Förster and her team invite students to a “Hackathon”. Photo credit: Jens Bücking / ZMML

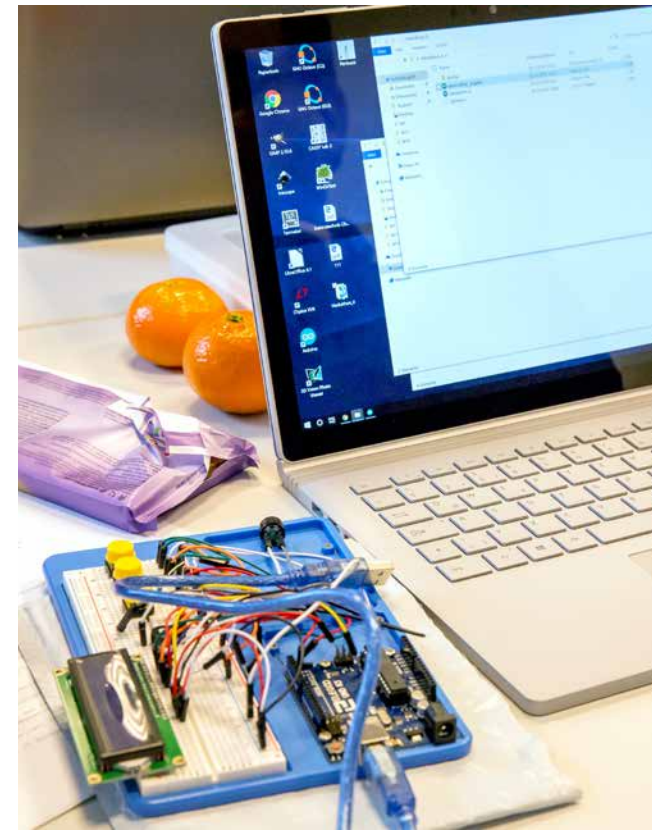
It is a beginner’s course which Anna Förster has revolutionized. “Introduction to the basics of computer science” especially for the electrical engineers. The innovative computer scientist clearly describes how she used to do it. “I used to teach programming by standing in front of the blackboard for two hours a week during which the students were all half asleep.” The lecturer used to explain and go into detail without end, she really made an effort. But when the programming beginners wanted to complete their practice slips at home they realized – it doesn’t work, it’s rubbish.

Invitation to the Hackathon

“It was quite clearly the wrong format,” says the lecturer. “I had to do it differently.” And this worked: The professor divided the lecture content into small sections and filmed it. Video clips, meanwhile 60 in total, offer information on various areas of programming. What do I need to enter for

a small lamp to flash in a given frequency or for a game to work? Students can now easily understand this by means of carefully edited videos. “Together with helpers, it took a lot of work but it has been worth it,” she says. The students are now able to look at their exercises on their smartphones, tablets or computers. Wherever they like and, above all, on the move and in a dialogue with friends.

Everyone can learn at their own speed which is a further huge benefit. Six times per semester, Anna Förster and her team invite students to take part in a “Hackathon” – the word is often used in computer science and is a combination of “Hacker” and “Marathon”. As the name suggests, it can therefore last a long time and is very intense. “There are no pizza boxes but we do end up with a lot of chocolate on the tables,” laughs Anna Förster. The students spend four hours working on a programming task in a group and, in doing so, deepen their knowledge.



There may not be any pizzas but chocolate and citrus fruits are essential to keep everyone going. Photo credit: Jens Bücking / ZMML

Positive Response

The principle is called “inverted classroom” or “inverted teaching”. The knowledge acquisition is reversed. First, the students do exercises online with instructions and then the learnt material and theory are consolidated. Anna Förster is convinced that a whole series of students have understood the subject who would otherwise hardly have had a chance thanks to her innovative teaching method. “With the beginners, in particular, we have many foreign students who aren’t fluent in German and I don’t know what would have happened to them,” she says. An initial evaluation has proven her right – out of 100 students 80 have given a positive response.

“We are teaching a new generation that has grown up with digital media and we have to keep up with this,” says Anna Förster. She herself is under 40 and for her it’s nothing new that students would rather look at a video than photocopied worksheets. “We mustn’t laugh at them but simply need to use other opportunities,” she concludes. \ KARLA GÖTZ

<https://www.uni-bremen.de/zmml/projekte/forsta-digital/fb01-grundlagen-der-informatik-ii/>

https://www.youtube.com/playlist?list=PLK_Ujz7qXyqMNR-g5I-xgCmCwecmhEi-y

Group work: For four hours, students solve programming tasks. Photo credit: Jens Bücking / ZMML



“Risk” is the Key Word

Matthias C. Täger has won the Bremen Study Prize for his master’s thesis in political science

If sustainability and finance meet does this result in “sustainable finance”? Matthias C. Täger, political scientist and historian, examined this question in his master’s thesis. His research on “Greening Finance” led to him winning the Bremen Study Prize for his paper which was written in English.



↑
Matthias C. Täger in front of the state and university library in which he spent many hours working.
Photo credit: Harald Rehling / University of Bremen

“I investigated various initiatives and practices within the financial markets,” says Täger. By 2050, global society will not be able to achieve a climate-friendly carbon footprint. In order to survive, huge investments in energy, industry and agriculture are needed. The major banks and insurance companies operated according to an exploitation-based logic of accumulation. In other words, the main concern was to achieve a return. How can this be united with environmental sustainability?

“The environmental “sins” of companies can lead to price losses,” highlighted the study prize winner in his work. The environment and environmental protection are therefore increasingly being viewed as a source of risk for companies and, with this, finance. “A source of risk which must be managed internally.” The “risk” is one of the crucial points of the award-winning thesis. “With this, “environmental logic” is turned on its head,” says Matthias Täger.

Professor Sebastian Botzem, one of the experts reviewing the paper, highlighted exactly this point in his laudation. “An important and very innovative finding of Matthias’s research is that an understanding of risk has developed over time which doesn’t, for example, focus on the threat posed by



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The chairman of the “friends of the university”, Bengt Beutler, and Eva Quante-Brandt Senator of Science, congratulate Matthias C. Täger on the Bremen Study Prize.
Photo credit: Harald Rehling / University of Bremen

companies for the environment. Instead, the environmental challenges are examined with view to the effects of the financial performance of companies.”

Countless Interviews

To establish the relevant findings, the prize winner conducted countless interviews: with rating and consulting agencies, insurance companies, management consultancies and NGOs. Since his bachelor’s degree, sustainability and environmental policy has been a subject which is very close to his heart.

Matthias C. Täger is, meanwhile, continuing with this subject and working on his PhD at the renowned London School of Economics and Political Science (LSE). For the prize presentation, he flew especially from the Thames to the Weser for 24 hours. Matthias, who was born in Munich, studied political sciences and history at the Ludwig-Maximilians University. After his bachelor’s degree, he wanted to study at another university. “Munich, Berlin, Frankfurt and Bremen are the four main places for German political sciences,” he says. With the “International Relations” master’s program in English

which Bremen University offers in association with the Jacobs University, he found the course he was looking for. “It’s very international, research-orientated and broadly based,” he says.

International and Research-Oriented

The 28-year-old student remembers his arrival at the campus in autumn 2014. “It was quite a change in mood – from the conservative and “stiff” atmosphere of the LMU to the “politically wild” Bremen where there were student strikes already in the first month. In Sebastian Botzem and Roy Karadag at the Institute of International and Intercultural Studies (InIIS), he encountered lecturers “who were excellent at teaching”. He became research assistant in Botzem’s group, learnt that there is a whole political cosmos behind the mundane word “bookkeeping” and received a scholarship to spend a year at the University of Massachusetts in Boston.

“It was a great time,” says the doctoral candidate today. Now that he has his master’s in his pocket it’s no longer difficult to continue researching abroad. Why did he choose the LSE? “Good facilities, the right professors and I want to be there where the finance world is – on the field, so to speak.” \ KARLA GÖTZ

Marvels Made from Metal

A double-feature career: A graduate from the university and a Belgian guest scientist are inspired in Bremen by a new technology – and meet up again later on

Of course, any university would be proud of a success story like this one: A student and graduate first follows his path into research, then starts his own business, and later becomes the General Manager of the German location of a world market leader with its branch in Bremen. In turn, this leading world market company emerged from an idea that was substantially pursued at a university affiliated institute a good 30 years ago. A double-feature career – for people, and for the company. To be specific, we are referring to Marcus Joppe, the 3D-printing of metal, and the company Materialise.



Intricate marvels: Several thousand print layers often produce a complex structure that could never be sawn or milled that way.
Photo credit: Materialise GmbH



Once a student and graduate at the University of Bremen, now the General Manager of the German location of world market leader Materialise: Marcus Joppe. Photo credit: Kai Uwe Bohn / University of Bremen



Differing geometries can come to life with additive manufacturing. Photo credit: Materialise GmbH



“There was a train in the station and I wanted to be sitting in it – not waving at it as it passed me by.”

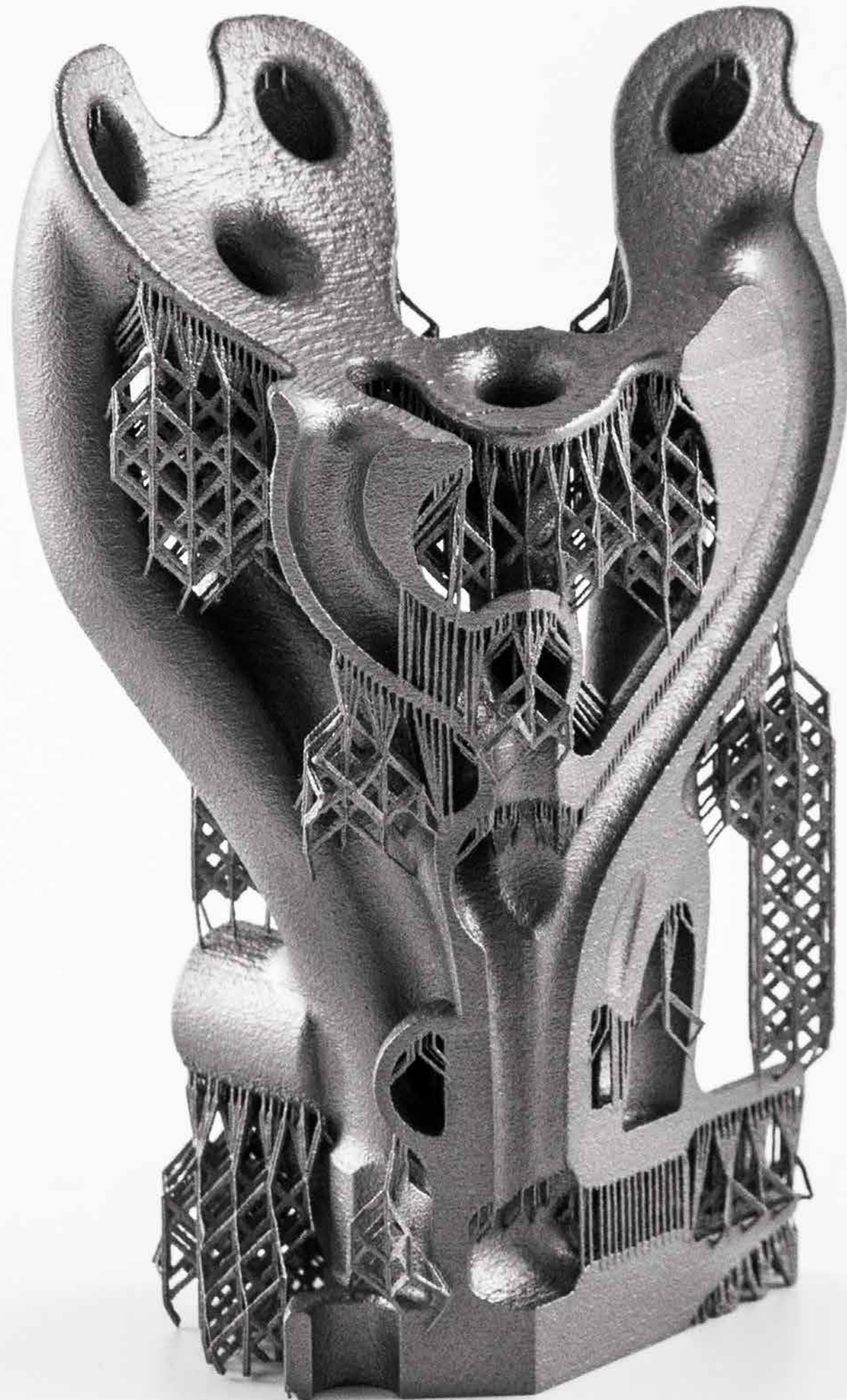
Marcus Joppe, Materialise GmbH

It was almost 30 years ago, when Computer Science student Marcus Joppe, who was in his third semester at the time, was looking for a student job at the University of Bremen. And he found one: from that point on, he would work with three dimensional design and production programs at the affiliated institute BIBA – Bremer Institut für Produktion und Logistik GmbH. He soon came into contact with 3D printing – 20 years before the hype around three dimensional printing really got started. “Hardly anyone believes me when I tell them that the first 3D-printing system in Europe was put into operation at BIBA in 1989”, Joppe says.

“It was fantastic technology, even back then”, he remembers. “Highly interesting for producing prototypes or sample designs.” It did however, still need to be developed quite a bit: “With the CAD-systems at that time, it would take one to two

weeks to prepare printing jobs. Today it just takes minutes.” Someone needed to be able to recognize the possibilities of 3D printing and have a vision for the future. One person had that ability – Wilfried Vancraen from Belgium. The scientist from the University of Leuven was working together with BIBA as part of a European research project. During a visit there, he saw the first 3D printer. From that moment onward, he couldn’t get three dimensional printing out of his mind. After another half a year at the Belgian metal industry research institute, in 1990, Vancraen founded the company ‘Materialise’ in his home country. His goal: to forge ahead with the new technology.

Back to Marcus Joppe. He continued on his path as a scientist in Bremen – first with the student job at BIBA, then getting his Computer Science diploma at the same institute,



An excerpt of a suction gripper that was printed with support structures originating from the Materialise e-stage for Metal software
Photo credit: Materialise GmbH

becoming a research assistant there, and soon becoming the department head for 3D printing. He dedicated five years primarily to software development – because without data preparation and control technology to guarantee flawless production, the whole idea of three dimensional printing was just a beautiful dream. Eventually, Joppe became an entrepreneur, because there was something about the scientific field that inherently bothered him: “You achieve a research result by investing a lot of energy and dedication – and then the project is over and it often doesn’t continue any further.”

Seeing the Business Idea

But Marcus Joppe wanted it to continue: “I knew that we didn’t have to hide ourselves away with the BIBA software. I could already see the business idea.” In 2001, he founded Marcam Engineering GmbH, which specializes in 3D-printing software, initially with the strong support of BIBA. Joppe’s company soon began to grow steadily in the Bremer Innovations- und Technologiezentrum (BITZ), one of the first “start-up forges” for business promotion in Bremen. “We bet on the right niche, namely 3D-printing of metal. Plastic was already established at the time, but there were hardly any

printed metal products on the market.” That slowly began to change – also thanks to Joppe’s company, which offered software support for the growing sector.

It soon became apparent that the printing of metal parts was highly interesting for certain fields. “You cannot drill a curved ventilation duct”, Joppe explains. “You can only drill straight. This exemplifies how metal 3D-printing enables the existence of completely innovative components – with a wealth of detail that is incomparable.” He presents a cage-like metal cube with exceptionally intricate structures inside it: “You cannot mill, cast or press something like this. It is only possible with 3D-printing.”

Around 2010, the worldwide boom of three dimensional printing began, also driven by the hype amongst stock market speculators. “Marcam was in a good position, but I had a feeling that the market was growing faster than we were. There was a train in the station and I wanted to be sitting in it – not waving at it as it passed me by.” Joppe began to look for partners. This is where the Vancraen from Belgium came into play: He had made Materialise big with a high level of competence in plastics, but not a lot of expertise when it came to metal printing. Both companies found each other, and in 2011, Marcam became part of Materialise. It even went

3D-Printing of Metal: How Is it Done?

Three dimensional printing is no longer rocket science. There are already devices available for around 300 Euros for hobby household use with plastic wire as the material base. Yet high-grade industrial components are being printed with metal powder more frequently, which requires a lot of know-how and is still relatively expensive. The printing process looks spectacular: Small sparks - similar to a sparkler - flash sporadically over an even, gray surface. Dark-gray seams are left wherever there had been a flash.

They won’t be seen for long though: As soon as the sparks stop, a slider distributes a new wafer-thin layer of gray powder evenly onto the surface. And the process starts over again.

On areas specified by the control software, the metal powder – usually aluminum, titanium or a titanium-aluminum-alloy - is precisely heated by a laser within one hundredth of a millimeter. The powder melts in these places, hardens, and forms one of thousands of layers of a structure that is often very complex. This

process repeats itself for hours. The specialists call this production method “additive production”. Because unlike “subtractive production”, where a part is sawn or milled out of a metal block, and the details are sanded down or drilled, in this method the product is formed layer by layer. The highlight here: Whatever needs to be produced can be customized – right down to the very last detail.

Since the unheated powder remains in the machining area, you can get to see the printing

result at the very end, when the excess powder is brushed off and the three dimensional product is revealed. Thus, just a car wreck disappears under the desert sand, the produced pieces remain hidden at first. A welcome side effect: The remaining metal powder can be re-used by to 95 %.



The support structures fixate the parts during the printing process and also dissipate the heat.
Photo credit: Materialise GmbH

back to BITZ: This is where the company opened a production location especially for the order production of components made from titanium and aluminum. One-offs, small series and prototypes were produced there for various sectors of industry, as well as for private clients – from extravagant pieces of jewelry, custom-made hip implants and transverse link suspensions for race cars, to certified production for the aerospace or automotive industry.

The 100 Threshold in Sight

The company has enjoyed great success. Eight years ago, when the university graduate's company came to Materialise, Marcus Joppe had twelve employees. Today

there are 75 employees, and the company is soon looking forward to breaking through the threshold of 100 employees. “It’s running smoothly”, says Marcus Joppe, delighted. He doesn’t get tired of emphasizing how valuable the accumulation of technical engineering know-how at the university and the technology park is to his company. BIBA, BIAS, IWT, BIMAQ, ISEMP, Fraunhofer-IFAM – these abbreviations stand for excellent scientific establishments full of bright individuals with impressive networks who collaborate closely with the user industry – such as Materialise, in this case. “When we have a challenge, we know who we need to ask right away”, says Joppe. “The specialists that we need in these moments are basically just around the corner in Bremen.”

It is a matter of fact that students and the next generation of scientists are in high demand at Materialise. And perhaps there is a young student who is only initially looking for a job, and who then continues along their path. The boss will certainly have some good advice for them. \ KAI UWE BOHN

www.materialise.de

Materials Science Made Easy

Interesting and Educational: Finja Researches on the University Campus

University employee Isabell Harder has written a children's book on materials science at Bremen University. The special thing about it is that it not only offers easy to understand insights into a very complex research field. All the institutions and employees mentioned in the story also exist in real life.

Finja and her friend Malik are really excited after finding a mysterious powder in a small box in a Bremen park. They don't only want to find out whom it belongs to but also what it is. Their search leads the children to several institutions at Bremen University: firstly, to the MAPEX Center for Materials and Processes and the Leibniz Institute for Materials Engineering – IWT Bremen. Then they went to the 146-metre drop tower at the Center of Applied Space Technology and Microgravity (ZARM). They were welcomed everywhere they went. The scientists explained to the children how to find out what the powder is. In the drop tower, Finja and Malik were able to watch an experiment on microgravity.

The Idea for the Book Came During Maternity Leave

Isabell Harder spent several months researching her story. The 33-year-old visited numerous laboratories and spoke to the researchers who would feature in the book.

"I learnt a great deal during this time," says the former humanities student. Hereby it was certainly beneficial that she used to work in PR at the IWT Bremen. Isabell Harder, meanwhile, coordinates the kid's university and numerous other knowledge transfer programs for children and young people on the campus and works as a freelance science communicator.

The young mother came up with the idea of the book during her maternity leave. "Someone should write a children's book about a research topic," she thought. There are so many exciting things to discover in Bremen." In spring 2018 Isabell Harder started the project with the help of a crowdfunding campaign which raised 17,000 euros. Hereby the people who helped fund the idea were also able to choose the subject and figures which would appear in the story. The response of Bremen's materials scientists to this idea was so great that the Collaborative Research Center (CRC) "Colored States" at Bremen University even brought the subject. Further people in materials science also wanted to appear in the story and were all carefully drawn by illustrator Lea Fröhlich.



What is the mysterious power that Finja (left) is holding? The author, Isabell Harder (right) carried out research for her book for several months at the University of Bremen. Copyright: Isabell Harder / Lea Fröhlich / Photo credit and montage: Harald Rehling



Complicated Processes Explained Clearly

"We are all really impressed by the book," says Dr. Nils Ellendt, Director of the CRC "Colored States". "And we were really impressed by how clearly and easily the story describes complicated processes. It describes really well, for example, how a scanning electron microscope (SEM) works. "I will use this explanation for my lecture," says the engineer. The research association thought a children's book about materials science would be a good idea as the CRC is overseeing a project at the Wilhelm-Focke school in Bremen. "The pupils really enjoy our research topics," says Ellendt.

The book "Finja forscht – das geheimnisvolle Pulver" (Finja researches – the mysterious powder) is the first volume of a series in which Isabell Harder plans to present four further research areas in Bremen in the next few years. The book is published by Bremen's Carl Schünemann Verlag. \ MEIKE MOSSIG

➤ <https://facebook.com/Finjaforscht>



Khaled Has Arrived Safely and Settled in Bremen

The story of a former Syrian refugee who is now studying computer science at Bremen University

Khaled Swaidan's distinctive feature is his unusual hairstyle. On the one side, his hairdresser, a Turk from Bremen's Neustadt district, has cut a section of hair similar to a parting and kept the hair relatively short whilst the top displays an unusually high quiff. "I keep it in place with spray or gel," says the Syrian who is pleased to have arrived safely in Bremen. He is in the first semester of studying computer science.



Khaled Swaidan loves trees and particularly likes the green islands on the campus. Photo credit: Harald Rehling / University of Bremen

Khaled, his name "Chaled" is pronounced with a "hissed" "Cha", speaks very good German. The 22-year-old completed the HERE preparatory course. HERE stands for Higher Education Refugees Entrance – a joint program of Bremen's universities whereby refugees can learn the German language and prepare for their studies. Khaled was very lucky. The Bremen "Jürgens-Stiftung – Chance auf ein neues Leben" (Jürgens Foundation – Chance for a New Life) chose his application and granted approval for a grant for him. "I get 150 euros a month from the foundation as well as the BaföG student grant," says the refugee explaining his finances.

Happy because of the Nice Flat

He shares a flat in Neustadt, near the university, with his brother who is 20 years-old and in the 11th grade and wants to complete his Abitur (A-levels) in Bremen. "It's (the flat) really nice," he enthuses. The job center already started paying the rent before his studies began. His brother also receives a student grant. "I really like it in Bremen, particularly the area where I live," says Khaled. "The Turks' culture is similar to ours,

some also speak Arabic." There are also more mosques in that area than he thought – he has found a piece of his homeland here.

Where and how did he live before? He suddenly looks a little sad and wistful. He misses his parents and both his brothers who stayed in the war-torn country. They used to live well. "My father had a farming business," says Khaled. "We had a higher standard of living." With his Abitur grade of 1.6 he was able to study exactly the subject he wanted to, medicine, at an expensive private college. "I'm going to become a doctor and can help others" – this was his motivation at the time. "But then there was the revolution and my father lost his business," he says sadly. His brother was the first to escape to Europe followed by Khaled. He set off on his journey from Idlib, in the North West, on the border to Turkey.

Khaled doesn't say much about the escape only that he had a really bad night in Turkey as the station didn't open until the morning and it wasn't possible to get accommodation. "I spent seven hours wandering around," he recalls. He was allowed to sleep in a mosque for a bit. The second terrible experience was on a Greek island but he doesn't want to talk about that. The first place he was aiming for was Bavaria, a small village by the Chiemsee lake. "Eight of us lived in a four-room house here," says the computer science student. Far off the beaten track and with nothing to do ... "Of course, we fought," he says.

Crunch Point: Task Formulation

He spent six months in South Germany before going to his brother in Bremen. He still feels that it's almost like a miracle that he has the flat in Neustadt. "I wrote more than 50 e-mails, none of which were successful, before I got the flat. His local supervisor took care of the viewing and the rental agreement and Khaled and his brother are very grateful to her for this.

Now he has to see his studies through to the end. "I don't find it difficult to solve problems and am good at mathematics," says the scholar. The tasks are the crunch point for him. "To understand them I translate them into English first and then into Arabic. It sometimes takes me two hours." He also can't always follow his teacher's fluency but Khaled Swaidan grits his teeth – he knows he has to manage it. "My parents were so worried about me and am now so relieved that I've started studying. I am in contact with them every day." His vision is that the whole family will follow him and come to Bremen where he feels he has arrived safely and is settled.

The young man who describes himself as a family person, wants to stop the interview. "I want to cook something for my brother." "What are you having? Chickpeas, lamb, chicken, coriander, cardamom, pomegranates?" "Not what you think, we only eat unhealthy food," he laughs. \ KARLA GÖTZ



higher education policy

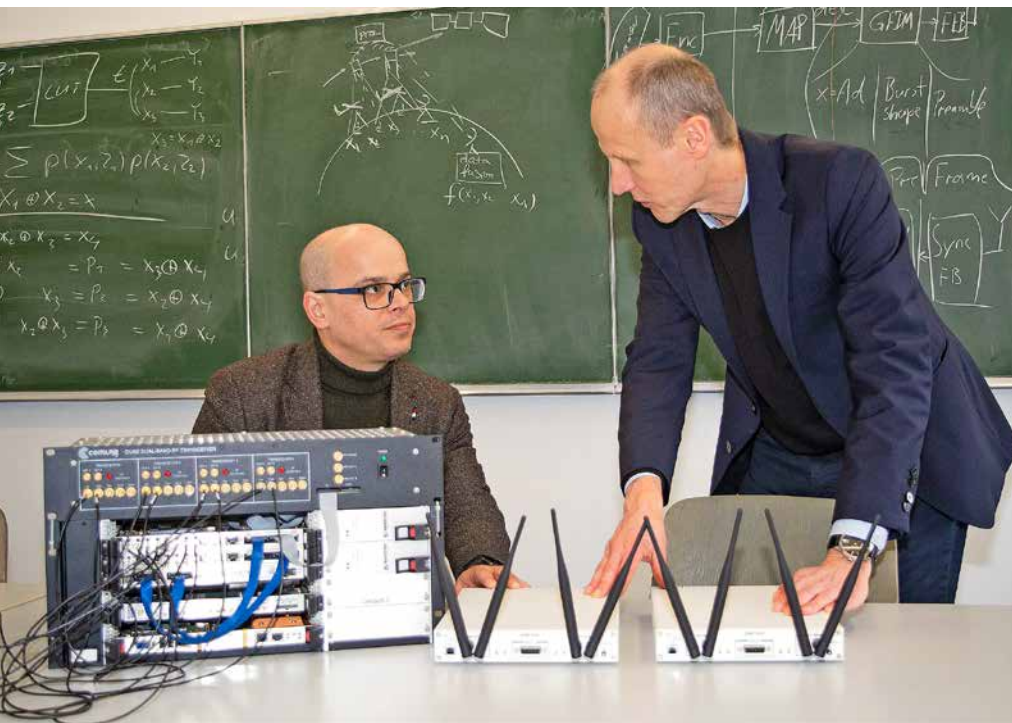
Guest Professorships for Top Researchers

With the U Bremen Excellence Chairs, University and MARUM are breaking new ground in international cooperation

Exciting transnational projects, fresh ideas, totally new forms of cooperation: The university and MARUM – Center for Marine Environmental Sciences have created a new format of international cooperation – the U Bremen Excellence Chairs. In the future, selected experts from all over the world are to do research as visiting professors together with their colleagues in Bremen. The expertise of both sides will merge into new projects focusing on the specialized issues of the respective research disciplines. The first seven chairs have now been occupied, more are to follow.



An animated exchange is pre-programmed: Professor Ingo Warncke, visiting professor Shalini Randeria (center) and professor Michi Knecht.
Photo credit: Kai Uwe Bohn / University of Bremen



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Subject “Data exchange among small satellites”: Professor Petar Popovski (left) from Aalborg and professor Armin Dekorsky from Bremen are now working even more closely together. Photo credit: Kai Uwe Bohn / University of Bremen

Two men, a blackboard – and an animated discussion: Professor Petar Popovski, one of the most regarded wireless communication experts is talking with his colleague Armin Dekorsky about the objectives of their future cooperation. Both intend to develop new communication technologies for networked small satellites, which are soon to become part of the so-called New Space era. The latter will be important for future internet applications – for example, the “Internet of Things”, interference-free streaming, or the high-frequency trading of bankers. The safe data streams of today and tomorrow are based on the research of the working groups of communication theorist Petar Popovski and signal theorist Armin Dekorsky. Both have already been working together for quite a while. Thanks to the Excellence Chair at the university, they now got an ideal cooperation platform to make even better progress together.

Professor Shalini Randeria – a highly regarded social anthropologist and sociologist, who is the director of renowned institutes in Vienna and Geneva – has also already begun with her work as U Bremen Excellence Chair guest professor. In the scope of the research platform “Worlds of Contradiction”, for which the humanities and social, cultural and legal sciences have joined forces, she now works closely

together with researchers surrounding Professor Michi Knecht and Professor Ingo Warncke.

For at least six weeks per year, Shalini Randeria will be in Bremen, direct research projects, organize summer schools and engage in an intensive exchange of knowledge and ideas with her colleagues. In the meantime, she will be present by regularly held video conferences, for which the research platform even intends to equip a special room to enable stable broadcasts of high quality. The thematic core of the research group she established in Bremen is “Soft Authoritarianisms” in all their facets: processes of insidious, systematic transformation of democratic institutions to authoritarian regimes, for example, in the eastern European countries, in India, and in Turkey.

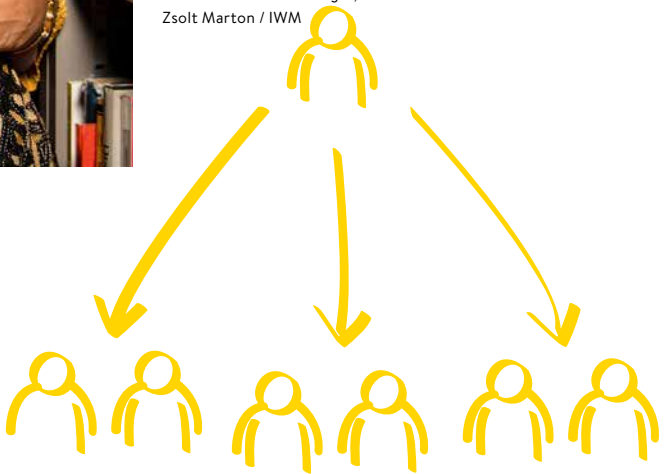
Boost for International Cooperation

President Bernd Scholz-Reiter is happy about the international top researchers who are coming to the university because of the Excellence Chairs. “This measure will give research in Bremen and our international cooperation another great boost,” he is convinced. “We are associating with very successful researchers from other countries, who



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Prof. Dr. Shalini Randeria is President of the Institute for Human Sciences in Vienna and Professor of Social Anthropology and Sociology at the Graduate Institute of International and Development Studies in Geneva, where she also manages the Albert Hirschman Centre on Democracy. In Bremen, she is building a research group on the subject of “Soft Authoritarianisms” in the scope of the interdisciplinary research platform “Worlds of Contradiction” (WoC) at the interface of cultural sciences, social sciences, and law. The processes of insidious, systematic transformation of democratic institutions are examined in case studies.

Photo credit: Klaus Ranger, Zsolt Marton / IWM



“This measure will give another great boost to research in Bremen and our international cooperation”

President Bernd Scholz-Reiter

The Excellence Chairs are also entitled to supervise doctoral theses at the University of Bremen.

Prof. Dr. Jack Middelburg

is Professor for Geochemistry at the University of Utrecht and Research Institute Director. His research interest is centered on the interface between environmental sciences, biogeochemistry and geosciences. As U Bremen Excellence Chair at MARUM–Center for Marine Environmental Sciences of the university he will explore topics related to the marine carbon cycle, both experimentally and theoretically. One special focus: How is carbon transported through the water column, from the light-flooded zone down to the deep sea and ultimately in the ocean floor–the habitat of the deep biosphere?

Photo credit: Ulrike Prange / MARUM



are working in highly interesting fields, and intensifying our professional cooperation. Both sides will benefit from the networks of all involved.”

The Cluster of Excellence “The Ocean Floor – Earth’s Uncharted Interface” of MARUM–Center for Marine Environmental Sciences also establishes three marine science Excellence Chairs. “We have succeeded in including internally leading researchers active in the fields of marine biogeochemistry, geomicrobiology, and the analysis of so-called ‘old’ DNA into our ocean floor research,” says MARUM director Professor Michael Schulz. “This will complementarily strengthen our cluster professionally and excellently increase its international network at the same time.”

1.5 Million per Year for Each Chair

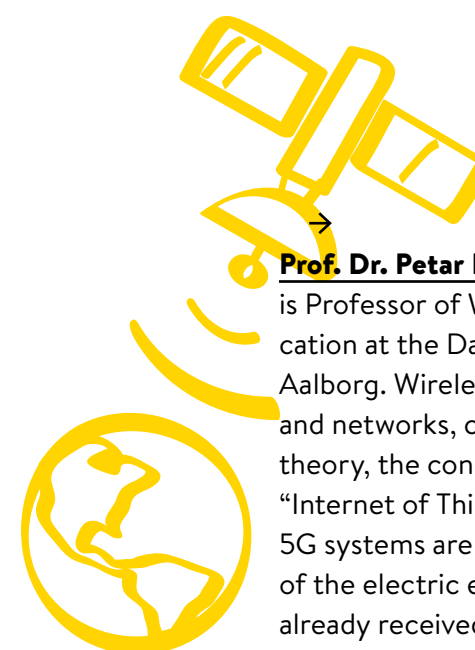
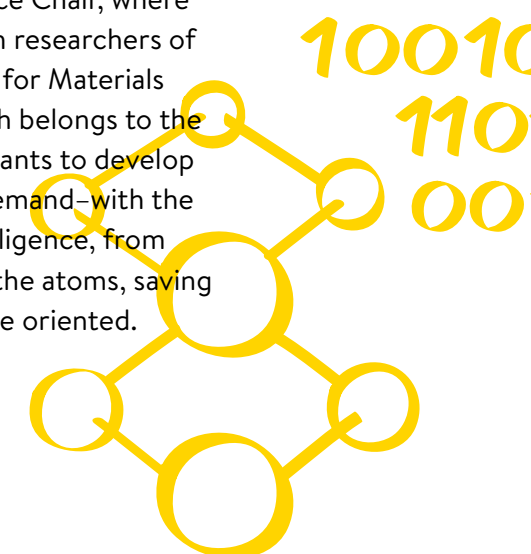
The U Bremen Excellence Chairs are financed by the “university flat rate” of 1 million euros per annum which the University of Bremen will receive from 2019 to 2025 in the scope of the excellence strategy of Germany’s federal and state governments. These funds were granted to the university in addition to MARUM’s successful cluster application. The state of Bremen will enhance these funds by adding another 500,000 euros per year. “With it, the universities who have proven successful in the Excellence Cluster competition are also expected to expand strategically in width,”



Prof. Dr. Nicola Marzari

is holder of the Chair “Theory and Simulation of Materials” at the Swiss École Federale Polytechnique de Lausanne (EPFL) and one of the most prominent material scientists worldwide. At the EPFL, he heads the MARVEL Excellence Center for Computer-aided Design and the Discovery of novel materials. At the U Bremen Excellence Chair, where he collaborates with researchers of the MAPEX Center for Materials and Processes which belongs to the university, Mazari wants to develop new materials on demand–with the aid of artificial intelligence, from the perspective of the atoms, saving resources and future oriented.

Photo credit: Harald Rehling / University of Bremen



Prof. Dr. Petar Popovski

is Professor of Wireless Communication at the Danish University of Aalborg. Wireless communication and networks, communication theory, the connectivity of the “Internet of Things” and wireless 5G systems are the core subjects of the electric engineer who has already received multiple awards. His U Bremen Excellence Chair is integrated into the Cluster Initiative “Advancing Earth Observation Science” (AEOS) of the University. The objective of the research group is to improve the data transmission between small satellites and earth by using modern methods of machine learning.

Photo credit: Kai Uwe Bohn / University of Bremen





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Prof. Dr. Haizhou Li
is Professor at the Department of Electrical and Computer Engineering and the Department of Mechanical Engineering of the National University of Singapore. As a U Bremen Excellence Chair, he will head a research program of the high-profile research area “Minds, Media, Machines” at the University of Bremen, having to do with modelling, implementing and verifying a biologically inspired auditory model for machine listening which matches human hearing ability. In this context, Professor Li will set up the “Machine Listening Laboratory” and collaborate closely with information technologist Professor Tanja Schultz at the Cognitive Systems Lab.

Photo credit: Private



says Fabian Heuel from the Staff Unit for Strategic Initiatives. “As these are so-called ‘free strategy funds’, they can be applied at will. We decided for a total of eight Excellence Chairs, MARUM–financed with cluster support funds – for three Chairs.”

The guest professorships are geared to the long term and each will last for at least four years. Two posts for young scientists will also be financed for each guest. Bremen’s research group can also be upgraded and expanded using other funds. The Excellence Chairs are closely integrated into Bremen’s professional structures and are also entitled to supervise doctoral theses here.

Seven Excellence Chairs have by now been started at the University of Bremen and MARUM. Four more will be established in the course of this year. \ KAI UWE BOHN

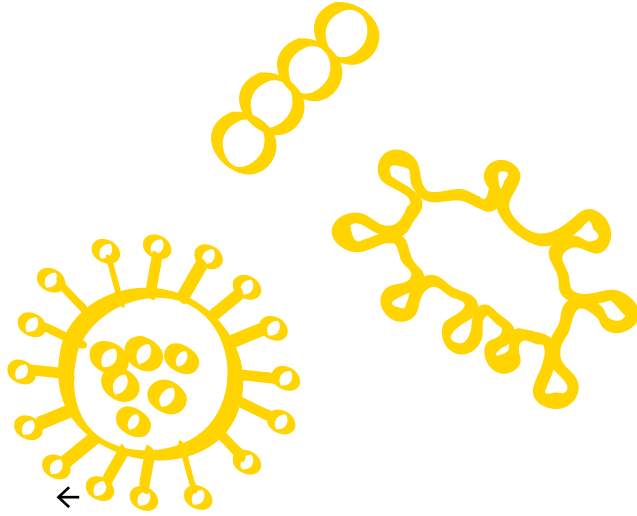
Homepage of the university referring to the Excellence Chairs:
↗ <http://unihb.eu/3dj7gZ4Y>

Homepage of MARUM referring to the Excellence Chairs:
↗ <http://unihb.eu/SfdVMHoM>



←
Prof. Dr. Eske Willerslev
is Professor and Director of the GeoGenetics Institute at the University of Copenhagen and Prince Philip Professor for Ecology and Evolution at the University of Cambridge. He is regarded as a pioneer in applying fossil DNA analyses to paleo-environmental studies. Together with his colleagues working in the Cluster of Excellence “The Ocean Floor –Earth’s Uncharted Interface” at MARUM – Center for Marine Environmental Sciences of the university, he now wants to explore the fossil DNA archive in marine deposits.

Photo credit: University of Copenhagen



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Prof. Dr. Victoria Orphan
is Professor of Environmental Science and Geobiology at the California Institute of Technology. Among her research topics are microbial communities involved in the carbon, nitrogen and sulfur cycles. In the Cluster “The Ocean Floor – Earth’s Uncharted Interface” at MARUM – Center for Marine Environmental Sciences, Orphan is going to expand her research in cooperation with members of MARUM. A novel understanding of the dynamic transformation of carbon, nitrogen and sulfur compounds in microbial communities is to be developed with the aid of highly modern analytical facilities and deep-sea instruments unique in Bremen.

Photo credit: California Institute of Technology

back then

“University of Bremen Newspaper” – Even More Paper?

The Long History of the Internal University Publications

The editorial in the pilot issue of the “Bremer Universitäts-Zeitung. Nachrichten Kommentare Diskussionen (BUZ)” (University of Bremen Newspaper. News Comments Discussions) from June 4, 1973 featured the same headline as above. The Commission for Information and Publicity (KIO) at the University of Bremen had previously commissioned the information department with preparing the publication of a university newspaper – as it also criticized that there was a lack of information. In the convention of the University’s former policy committee, the information department had already been labeled as the “information prevention department”.

Of course, the prevention of information was the exact opposite of the aspiration for transparency that the University of Bremen had when it was first founded. All of the committees held public meetings, and Wednesday was committee day. The editorial statute, drawn up by the KIO and confirmed by the legal agency in June 1973, obligated the BUZ to “responsibility towards the working population, as well as to advocate for one-third parity and the principle of the public sphere, on the basis of the Bremen Modell (...)”. The

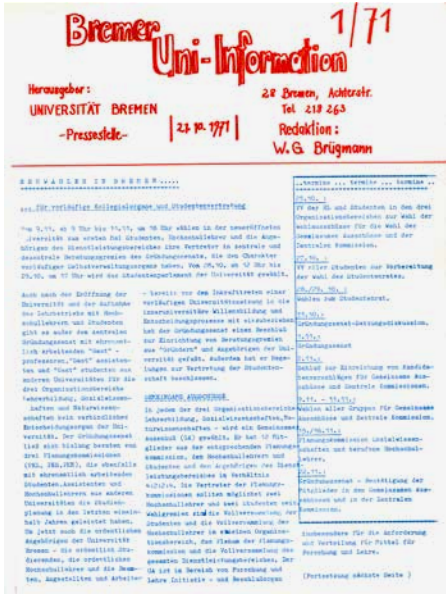
newspaper was supposed to involve university members and make planning and decision-making processes transparent.

Was the BUZ Really the First University Newspaper?

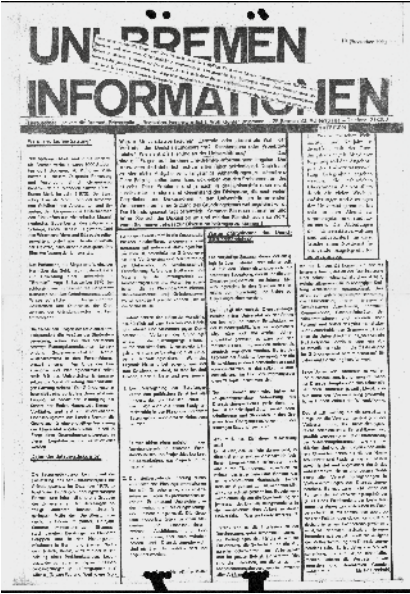
The “Bremer Uni-Information” had already been previously published on November 19, 1971. It was, at first, considered to be an experiment – just like the first semester and a “transition period

to try out new organizational structures” proposed by the founding director. The newspaper was published irregularly, with a different layout – even its name would change. At the same time, the university press office had already published the first issue of the “Bremer Modell. News and Commentary from the University” in May 1972. This newspaper had also stepped up to “improve the flow of information within the university, to bring awareness to the differences of opinion associated with practicing the Bremen

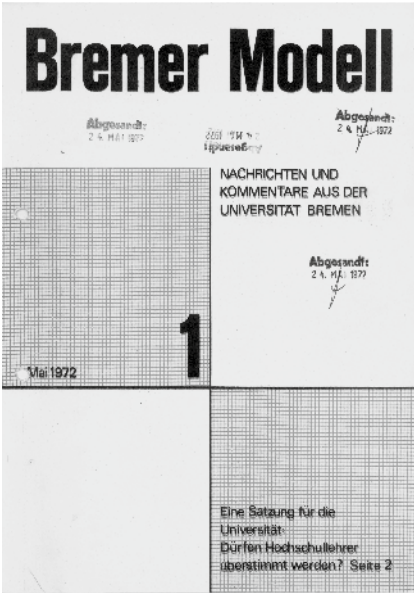
Modell, and the successes of university members (...)”. It also wanted to make clear to the public “that the University of Bremen is not exclusively a scientific and academic center, but that it also deals with issues from the workplace – in other words, from the realm of experience of broader sections of the population”. The first issue of this publication was dedicated to one-third parity. All status groups had an opportunity to speak. As was typical for the time, they only had monotonous text to



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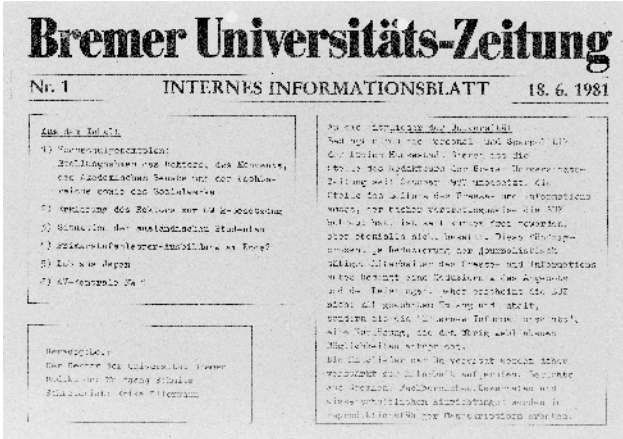
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Monotonous texts were “in”: Words were the key means used to question the world and change it.

- 1 Bremer Uni-Information (1971)
 - 2 Uni Bremen Informationen (1971)
 - 3 Bremer Modell (1972)
 - 4 Bremer Universitäts-Zeitung (First issue 1973)
 - 5 Bremer Universitäts-Zeitung (1981)
 - 6 Fake-BUZ-special issue for the 10th anniversary of the university
 - 7 First issue of BAUZ (1985)
- Photo credit: University of Bremen Archive



7



people



Photo credit: University of Bremen

Christian Palentien, Professor for the working group “Education and Socialization” at the Faculty of Pedagogy and Educational Sciences of the University of Bremen, was, in October 2018, appointed as the Chair of the Expert Commission of the German Federal Government for the compilation of the 16th Children and Youth Report. This report is intended to create a basis for the German Federal Ministry for Family Affairs to be able further to develop institutions and concepts for education in democracy for age groups up to 27-year-olds. The focal points of Palentien’s research and teaching at the University of Bremen are in analyzing the connection between the social and education-related conditions of parents and the success at school of their children.



Photo credit: Private

The University of Bremen mourns the late Hispanic Studies Professor, **José María Navarro de Adriaensens**, who died on October 21, 2018. Navarro held the professorship for Linguistics and the Theory of Language Learning, majoring in Spanish with consideration of Catalan, at the University of Bremen from 1975-1996. Although he was situated in linguistics, he was primarily interested in Spanish and Catalan language, literature and culture. Honors he received for his achievements included the Spanish Order of Civil Merit, Orden al Mérito Civil, in 1975, and the Orden de Isabel la Católica.



Photo credit: Kai Uwe Bohn

“Geschichte und Gesellschaft. Zeitschrift für Historische Sozialwissenschaft”. The VHD is the representative body for German historical studies in public. By awarding the essay prize, the Society has honored a text form of academic discourse that is particularly suitable for making the results of academic work accessible to a broader specialist public quickly and trenchantly.

Frieder Nake, former Computer Science Professor at the University of Bremen, was awarded the Klaus Tschira Medal in September. The Medal is awarded by the Gesellschaft für Informatik (or German Informatics Society) and the Klaus Tschira Foundation, “for

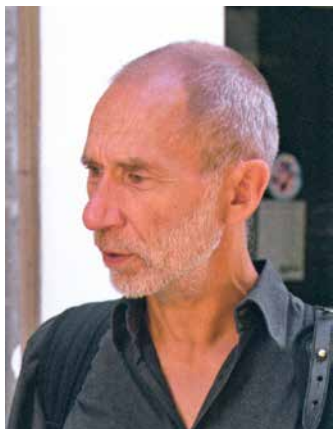


Photo credit: Private

Jutta Günther was admitted to the German-Korean Reunification Committee for Reunification Questions in September 2018. The Committee, which convenes once a year, alternately in Berlin and in Seoul, has joint chairs in the State Secretary for Eastern Germany and the Vice Minister of the South Korean Ministry for Reunification.



Photo credit: Private

Jutta Günther is Professor for Macroeconomics in the Economics Faculty of the University of Bremen, and is currently researching economic structural change, innovation systems and modernization processes in transformation countries.

For her essay “Negotiated (un) freedom. Slavery, serfdom and intra-European knowledge transfer at the end of the 18th century,” **Rebekka von Mallinckrodt**, Professor for History of the Early Modern Age at the University of Bremen, received the Essay Prize of the Verband der Historiker und Historikerinnen Deutschlands (VHD, or German Historical Society) in September 2018. The essay was published in 2017 in the specialist publication

Exzellenzcluster für das MARUM



30 years of the “Bremer Uni-Schlüssel”:
First issue (1988), issue 27 (1993) and the last issue, No. 152 (2018)
Photo credit: University of Bremen Archive

present – hardly any illustrations were used and at the time, words were the key means used to question the world and change it. A second issue appeared in July 1972, the main topic that it covered was: Research strategy and co-determination. However, after that things got quiet at the university, at least with regard to newspaper production. Staff shortages at the press office prevented further issues from being printed.

The first BUZ was published under these unfavorable conditions in June 1972, it was followed by two more. Starting in the fall of 1974, the staff situation permitted regular production of the newspaper. The BUZ appeared every two weeks with a circulation of about 5,000 copies until the end of 1980. It covered general as well as education-policy topics or debates on these matters. Then in 1981, it was suspended completely again due to staff shortages.

Due to the lack of a university newspaper, a few bustling minds at the university became impatient. So on November 20, 1981, a fake BUZ extra edition came out on the occasion of the ten-year anniversary of the University of Bremen: “The uni-

versity isn’t creating a University of Bremen newspaper, so we are making one ourselves”. In 1985, the first BAUZ (“Bremen Autonome Universitäts-Zeitung” – Bremen Independent University Newspaper) was published, however it too was unable to fill the information gap. It took three more years, until finally in April 1988, the “Bremer Universitäts-Schlüssel” (BUS) reached “the first BUS-station”.

30 Years of the “Bremer Uni-Schlüssel”

The BUS, published by the press office on assignment from the Rector, began with a circulation of 3,500 copies “as a new way of transferring information and exchanging ideas within the university”. It was hoped that it “would go a long way without all too many mishaps”. It was published with at least four issues per year, first in A4-format and later in classic newspaper format.

The President’s greeting included the following: “The Bremer Universitäts-Schlüssel intends to examine processes within the university, address

and clarify questions about teaching and research, showcase exceptional achievements and activities, and provide information about education-policy developments. The newspaper is intended to provide a forum for discussions that arise – some of which will probably also be controversial.” After 30 years, publication of the BUS and with it the previous university archive “Histörchen”, was discontinued. The BUS will remain in the collection – its successor is called “**update.**” and it is a magazine. You are holding it in your hands. \

UNIVERSITÄTSARCHIV BREMEN

Erst einmal Bilanz ziehen ...

Die Universität Bremen und einflussreiche Fachbereiche und Fakultäten haben in die Vergangenheit, die in diesem Jahr von breiten Medienberichten in Stellung gebracht wurden, nicht gerade rückblickend abgesehen. Viele haben darauf – je nach Konzeption – kritisch, erfrischend, sorgsam, schmerzhaft oder voller Sorge, was sich einen letzten und, selbst erst einmal eine breite interessierten Ansprache über Probleme und Chancen erforderlich. Über Neide, die wegen ihrer Nähe einer selbst und politisch ist, mit der Diskussion befragen.

Darf man länger hinstellen? Die Universität Bremen hat sich im 9. März in einer Sitzung mit der Verwaltung befasst und die von Bremen als Hochschulleitung (Hochschulleitung) beschlossen. Am 23. April wurde in der Versammlung der Hochschulleitung über die Fragestellung, in der Bremen die in der Verwaltung der Universität und am 23. April eine Sitzung der Fakultäten und anderen einflussreichen Fakultäten der Wissenschaften zum über die einzige Fassung der Hochschulrechtskommission, die eine auch von der Universität als Gegenüber der in der Hochschulrechtskommission.

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President Bernd

Scholz-Reiter was elected as a member of the Präsidium der Hochschulrektorenkonferenz (HRK, or German Rectors' Conference), in November 2018. He represents the specialization "International" there. The HRK is a voluntary combination of the state and state-approved higher education institutions in Germany. Its aim is to form a common opinion on issues facing higher education and to represent these towards



Photo credit: University of Bremen

policymakers and the public. The HRK deals with all issues that affect higher education: research, teaching and studies, academic continuing education, knowledge and technology transfer, internationalization and self-administration.

Computer Studies professors Rolf Drechsler, Dr. Daniel Große and Alireza Mahzoon were awarded the Best Paper Award at the International Conference on Computer Aided Design (ICCAD) in San Diego (USA), in November 2018. The ICCAD is

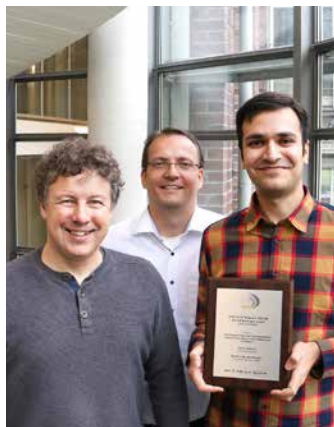


Photo credit: DFKI

one of the leading conferences in the field of circuit design. They received the prize for their research work on the verification of multipliers, a particularly efficient type of arithmetic circuit. It had previously been possible to prove the correct functioning of such multipliers fully automatically for somewhat small bit widths and simple architectures. The Bremen research work made it possible for the first time to guarantee the correctness of multipliers with more than one million gates.

In November 2018, Environmental Coordinator **Dr. Doris Sövegjarto-Wigbers** once again received the EMAS Certificate from the German Federal Ministry for the Environment, which honored the University of Bremen for exemplary environmental protection. "EMAS" stands for an environmental management system in accordance with the European standard "Eco Management and Audit Scheme" (EMAS) and is regarded as the premium system



Photo credit: Private

in operational environmental protection. The University of Bremen has been working with this system for 14 years. The EMAS system is reviewed by an independent auditor at regular intervals. From an environmental policy viewpoint, the EMAS is an important instrument for improving the potential of environmental and climate protection in society.

Daniel Gleichauf was awarded the 2018 Engineer Prize by the Bremen District Association of the Verein Deutscher Ingenieure (VDI, or Association of German Engineers) for his master's dissertation in November 20018.



Photo credit: Private

In his master's dissertation he dealt with the correction of systematic measurement errors in thermographic flow visualization in order to be able to better establish the efficiency of wind turbines. His master's dissertation, for which he received the top grade of 1.0, was supervised by Dr.-Ing. Christoph Dollinger. Gleichauf is currently a research assistant and graduate student at the Bremen Institution for Measurement Technology, Automation and Quality Science (BIMAQ) of the University of Bremen.

Professor Ingrid Darmann-Finck and her research assistant **Sabine Muths**, from the Institution for Public Health and Nursing



Photo credit: Private

Research (IPP) of the University of Bremen, were appointed to the Expert Commission for the German Nursing Profession Act in December 2018. The aim of the Commission is to draw up framework teaching and training plans for new nursing apprenticeships. Professor Darmann-Finck was elected as the Deputy Chair. The nursing educator researches the design of teaching plans and curricula for the nursing and other health care professions with her team at the University of Bremen. Sabine Muths, as an experienced teacher, has been employed at the IPP for 15 years on a variety of projects concerned with academic support for nursing and health care schools, focusing on internal and national curriculum development.

Professor Bernhard Karpuschewski, Head of the discipline of Manufacturing



Photo credit: Esther Beutz

Technology in the Faculty of Production Engineering of the University of Bremen and Director of the Main Department of Manufacturing Technology at the Leibniz Institution for Materials-Oriented Technologies (IWT), has been a new member of the Deutsche Akademie der Technikwissenschaften (acatech, National Academy of Science and Engineering) since December 2018. The Academy advises policymakers and society, supports innovation policy decision-making and represents engineering sciences internationally. Its members work with experts from business and society in interdisciplinary projects. Topics include digitalization and

Industry 4.0, securing skilled labor, energy supplies, technology communication and the mobility of the future.

Nina Heinrichs was appointed Professor for Clinical Psychology and Psychotherapy at the new Institute for Psychology of the University of Bremen in January. The focal point of her work is anxiety disorders, behavioral disorders in children and prevention and early intervention in couples and families. She graduated in Psychology at the Philipps University of Marburg and completed her doctorate



Photo credit: Private

at Boston University (USA). From 2007 to 2012, she was the University Professor for Child and Youth Psychology and Psychotherapy at the University of Bielefeld. She founded a university outpatient clinic there for children, young people and their families. At the end of 2012, she became Professor for Clinical Psychology and Psychotherapy at the Technical University of Braunschweig.

Since February 1, 2019, **Alexandra Baumkötter** has been employed as the Health Manager in the Human Resources Department of the University of Bremen. The staff position Health Management analyses working conditions with regard to their effects on health and develops actions to promote health. Alexandra Baumkötter studied Health Sciences at the University of Bremen. Before her move to Bremen, she was responsible for HR and Organi-



Photo credit: Private

zational Development for Operational Health Management at the University of Oldenburg for seven years. From 2012 to 2016, she built up health management and operational integration management at Jade University of Applied Sciences.

Professor Michael Beetz received an honorary doctorate from the University of Örebro, Sweden, in February for his outstanding work in the field of artificial intelligence, automatic learning and robotics. Beetz is Professor for Computer Science in the Faculty of Mathematics and Computer Science of the University of Bremen and Head of the Institution of Artificial Intelligence (IAI). He is also the spokesperson of the Collabora-

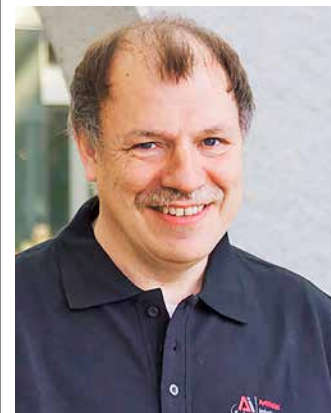


Photo credit: University of Bremen

tive Research Center 1320 EASE (Everyday Activity Science and Engineering). There, he works with his research team on improving the technical conditions for collaboration in robotics as a research area and on lowering the barriers to robot programming.

Professor Gerold Wefer received the Senate Medal for Art and Science of the Free Hanseatic City of Bremen in March. Gerold Wefer is a marine geologist and Professor for General Geology the University of Bremen. He is the founder of and, until 2012, was also the Director of the MARUM -



Photo credit: Volker Diekamp / MARUM - Center for Marine Environmental Sciences

Center for Marine Environmental Sciences. Gerold Wefer also deserves particular recognition for communicating science in public. The establishment of the Haus der Wissenschaft (house of research) in the heart of the city, which he heads as Chair, is also a result of his commitment. In 2001, he received the Communicator Prize of the Deutsche Forschungsgesellschaft (German Research Society) for his outstanding communication of the results of scientific work in the media and to the broad public.

Social and health scientist **Annelie Keil** received the Senate Medal of the Free Hanseatic



Photo credit: Private

City of Bremen in March. Annelie Keil was one of the first female professors of the University of Bremen and worked there for over 30 years in the fields of social work, health sciences and research of the sick, and applied biographical and living environment research. Beyond her continuing university commitments, she dedicates her time to a number of social projects, which include the hospice movement.

Professor Konstanze Plett from the University of Bremen received the Federal Cross of Merit in March. This award honors her special achievements in the recognition of the rights of intersex people. She played a



Photo credit: Hans-Joachim Rickel

leading role in the constitutional complaint requesting a third option as an additional gender category in addition to male and female. Since 1982, Konstanze Plett has researched and taught as Professor of Jurisprudence at the University of Bremen, initially at the Center of European Law and Politics (ZERP), and since 2003 at the Faculty of Law. She was a founding member of the Bremen Institution for Gender, Labor and Social Law (bigas). From 2002 to 2006, she was the spokesperson of the Center for Gender Studies. She formally retired in 2012, but continues to teach and research.

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Publisher

Public Relations Office of the University of Bremen
on behalf of the President
Responsibility of: Kristina Logemann

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update. is available from the
Public Relations Office,
Postbox 330440, 28334, Bremen
Phone: +49 421-218 60150
E-Mail: presse@uni-bremen.de

Translation

KERN AG Sprachendienste
www.e-kern.de

Anja Rademacher

Design

Jens Oertel Design Bremen,
www.jensoertel.net

Print

Girzig+Gottschalk GmbH Bremen,
www.girzig.de

Issue

5,500 German copies, 1,500 English copies



update. is available in both German and English

The German version can be found online at:
<https://www.uni-bremen.de/de/universitaet/presse/publikationen>

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